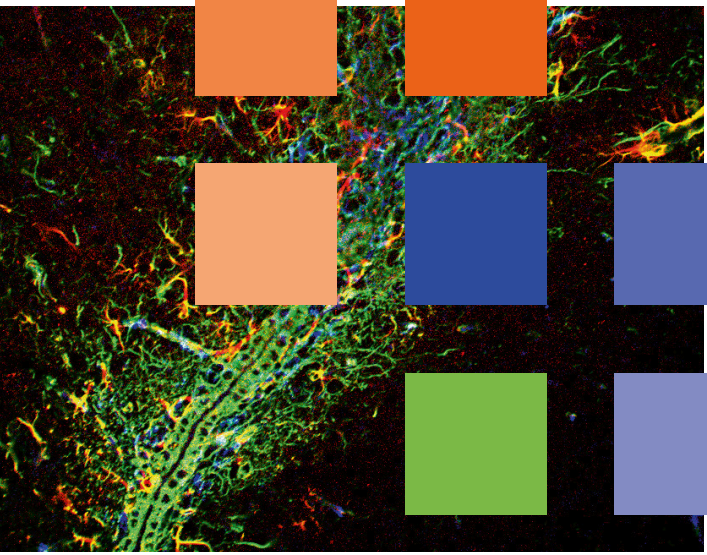

PROGRAM

15th Göttingen Meeting of the German Neuroscience Society

March 22–24, 2023

NWG

NeuroWissenschaftliche Gesellschaft

German Neuroscience Society

Program

15th Göttingen Meeting of the German Neuroscience Society

39th Göttingen Neurobiology Conference

March 22 - 24, 2023

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Table of Contents

Welcome Address	4
Acknowledgements	6
Exhibitors	8
Exhibition Floor Plan	14
List of Advertisers	16
Awards	18
Young Investigator Stipends	19
Young Investigator Orals in a Symposium	20
Young Investigator Orals in the Breaking News	21
Committees and Organization	22
General Information	24
Map of Göttingen	25
Neuro-Party	30
Scientific Program	31
Neurowissenschaftliche Gesellschaft e.V.	40
Plenary Lectures	42
Workshops	48
Satellite Symposia	56
Symposia	60
Explanation of Abstract Numbers	132
Poster Topics	133
Poster Contributions	137
Authors' Index	199
Keyword Index	223
Program at a glance	236

Welcome Address

Welcome to the 15th Göttingen Meeting of the German Neuroscience Society. With this meeting, we continue the long tradition of presenting and discussing the latest work in the broad field of neuroscience, ranging from basic neurobiology and to translational neuroscience.

As the president of the NWG and this year's chair of the programme committee, I am especially happy that we can meet again in person. The threat from COVID-19 is still not completely averted and some restrictions may apply to ensure everyone's safety and health. You may recall that in 2021, because of the COVID-19 pandemic, the Göttingen conference was held as an online-meeting, which was a really successful adventure at that time. Still, I am sure that you will agree with me that the personal contact and discussions in the lecture halls, during poster sessions, the commercial exhibitions and continuing later in one of the many nice bars and restaurants in town, cannot be replaced by any virtual environment.

And again, this meeting is an unusual one, as we had to shorten it by one day due to the defusing of unexploded bombs from 2nd World War in the city of Göttingen. As a result, the conference programme had to be completely changed at short notice. The Berlin office and the Göttingen organizers again mastered this challenge excellently and we are more than grateful and would like to thank them for their extra work and commitment. The removal of deadly remnants of the 2nd World War reminds us that peace and freedom cannot be taken for granted. The war of aggression against Ukraine shows how important it is to defend democracy and the freedom of expression and information. It moreover reminds us how privileged we are – also in our freedom to meet here and to discuss our work and scientific results.

I particularly welcome the many early-career neuroscientists presenting their thesis works or showing results from their postdoctoral projects. You are a driving, essential element in research and you are the future of neuroscience. While spinning your own network among your peers, I urge you to also approach, interact and challenge the established "late-career" researchers. Neuroscience can only profit from such interaction of young people with new ideas with more experienced researchers.

It is thus my great pleasure to invite you to life presenta-

tions of 7 internationally renowned plenary speakers, vivid debates in 36 symposia and to face-to-face discussions in front of poster boards. Be there to chat with good old friends and with interesting new colleagues at the buffet, and be part of the international neuroscience community. The core scientific programme will be flanked by satellite symposia and special interest workshops covering a broad range of topics. Moreover, different companies will showcase their latest products and developments. We are also delighted to award the second Loewi Medal to an outstanding scientist and dedicated member of the NWG. And last but not least, in 2023 we look back on 30 years of NWG, which was founded in 1993.

Get ready for a rich and exciting scientific programme that will give you the chance to present your own research in an inspiring atmosphere and to discover the latest scientific and technological developments in neuroscience! We are looking forward to your participation – and welcome your colleagues to join, too.

Finally, I would like to remind you that the Göttingen meeting is biannual and alternates with the FENS Forum. The next FENS Forum will be hosted by the Austrian Neuroscience Association and the Hungarian Neuroscience Society and will take place on 25-29 June 2024 in Vienna, Austria. The NWG, as a member of the FENS, would like to encourage you to contribute to this European neuroscience meeting as well. We also hope to see you in two years at the next meeting of the German Neuroscience Society, which will take place from 20-23 March 2025 in Göttingen.

Herzlich Willkommen (zurück) in Göttingen! Welcome (back) to Göttingen!

Christine Rose

Prof. Christine R. Rose

Prof. Dr. Christine R. Rose
President of the German Neuroscience Society

Acknowledgements

The German Neuroscience Society (NWG) and the organizers of this meeting gratefully acknowledge the collaboration and the financial support of the following partners:

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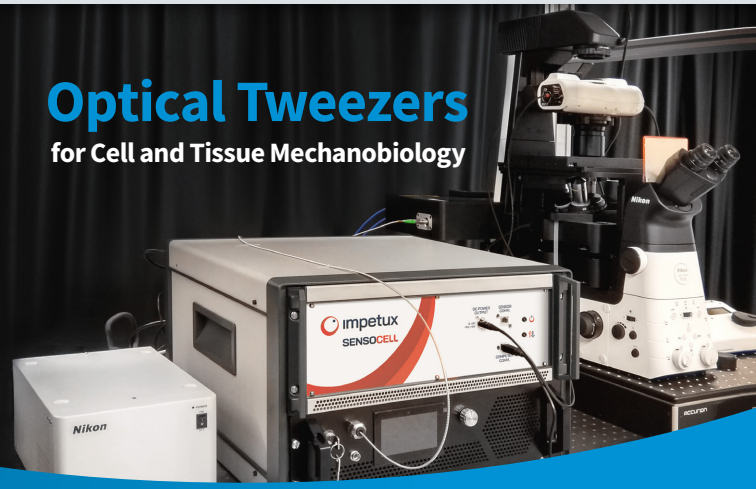

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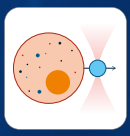

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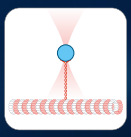

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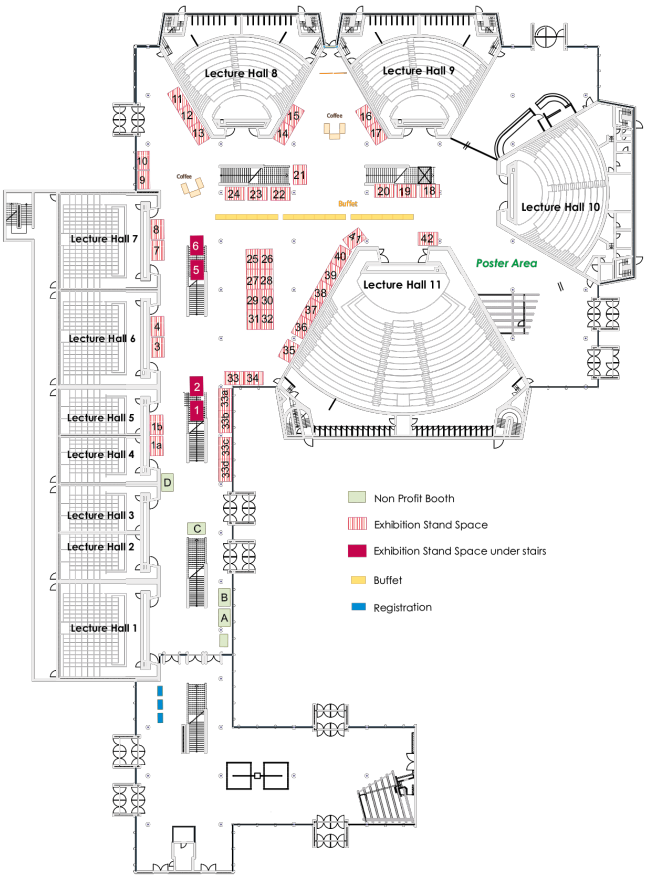

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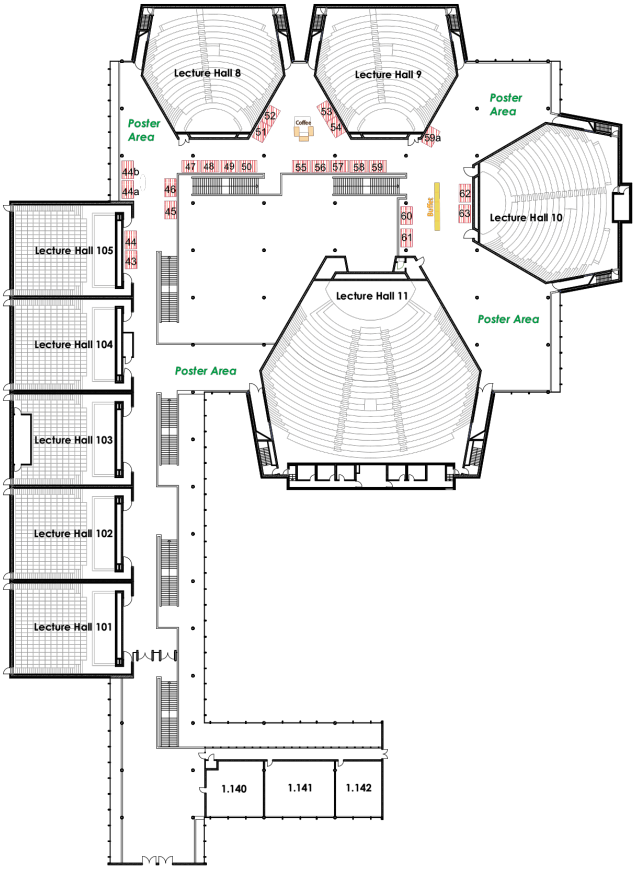
First Floor



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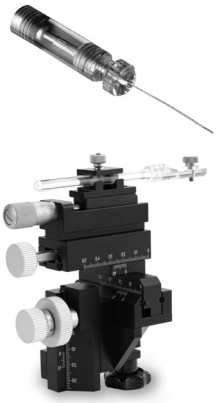

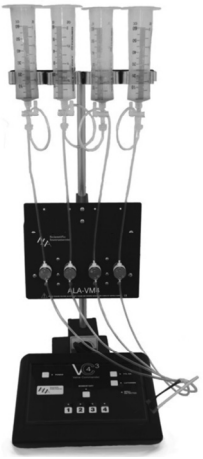

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This prize is awarded by the German Neuroscience Society for outstanding contributions in the field of brain research. The award supports young researchers up to 5 years after completion of their PhD or MD. The prize money amounts to 20.000 €. Qualified research is reflected in outstanding publications. The applicant can either work in a German laboratory or she/he is of German origin working abroad. The application can be submitted by the applicant her-/himself or the candidate can be nominated. Applications from all fields of neuroscience research are invited. Being a member of the German Neuroscience Society is not mandatory.
The prize was given for the first time in 2005 during the 6th conference of the German Neuroscience Society in Göttingen.

Stifterverband für die Deutsche Wissenschaft
Postfach 164460
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www.stifterverband.de

The prize winner 2023, Lukas Groschner (Martinsried) will present his work in a lecture on Wednesday March 22, between 14:30 and 15:00 h.

Otto Loewi Medal of the German Neuroscience Society 2023

With the Otto Loewi Medal the German Neuroscience Society pays tribute to members who have both committed themselves to the success of the GNS and whose scientific contribution made crucial impacts in their field. The prize consists of a medal plus a monetary prize of 10,000 Euro and is awarded approximately every four years.
The medal was awarded for the first time during a reception celebrating 25-years of the GNS, during the FENS Forum in July 2018 in Berlin.

The 2023 medal is bestowed upon Eckart Gundelfinger (Magdeburg) and will be awarded on Thursday, March 23, 2023 at the beginning of the Hertie Foundation lecture.

Young Investigator Stipends

Travel grants from the German Neuroscience Society

The following applicants were selected for a travel grant to attend the 15th Göttingen Meeting of the German Neuroscience Society (March 20 – 24, 2023) amounting to 300 Euros:

Brigid Chimoita Aliero (Magdeburg)
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Judith von Sivers (Berlin)
Isa Wernersbach (Mainz)

Young Investigator Orals in a Symposium

Each symposium has one slot reserved for a Young Investigator Presentations. This was selected from the submissions by the organizer(s) of the symposia:

The following students/young postdocs were selected to give a short communication:

Taha Abdulla (Jena, Germany) – Symposium S7

Zurna Ahmed (Goettingen, Germany) – Symposium S11

Fatima Amin (Magdeburg, Germany) – Symposium S6

Marcel Bausch (Bonn, Germany) – Symposium S35

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Jonas Elpelt (Frankfurt/Main, Germany) – Symposium S27

Rebecca Figge-Schlensok (Cologne, Germany) – Symposium S14

Camila L. Fullio (Freiburg/Breisgau, Germany) – Symposium S23

Vranda Garg (Goettingen, Germany) – Symposium S10

Svilen V. Georgiev (Goettingen, Germany) – Symposium S16

Ganesh Giri (Malmö, Sweden) – Symposium S20

Victoria Hunniford (Goettingen, Germany) – Symposium S22

Nare Karagulyan (Goettingen, Germany) – Symposium S32

Dimitrios Kleidonas (Freiburg, Germany) – Symposium S33

Ina Köhler (Bochum, Germany) – Symposium S3

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Corinna Langebrake (Wilhelmshaven, Germany) – Symposium S31
Anna Schulze (Mannheim, Germany) – Symposium S19
Sigrid Trägenap (Frankfurt/Main, Germany) – Symposium S36
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Young Investigator Orals in the Breaking News

Alisa Bakhareva (Cologne, Germany) – Symposium S13
Alexandra Barayeu (Tuebingen, Germany) – Symposium S13
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Homepage

www.nwg-goettingen.de

SCIENCE PRODUCTS GmbH

for Research in Life Sciences

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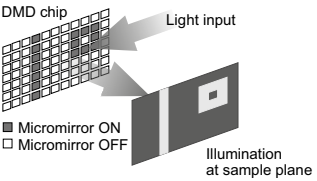

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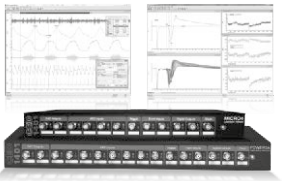
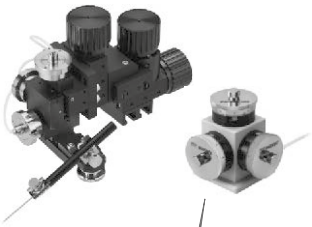
Patch-Clamp Amplifier Systems

Data Acquisition Interfaces

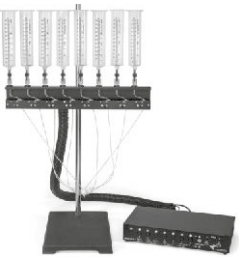


Micropipette Pullers

Micromanipulators



Perfusion Systems



Science Products GmbH
Hofheimer Strasse 63 · D-65719 Hofheim · Germany
Tel.: +49 (0) 6192 901396 · info@science-products.com

General Information

Venue

Central Lecture Hall Building (Zentrales Hörsaalgebäude, ZHG), Georg August University Göttingen, Platz der Göttinger Sieben 5, 37073 Göttingen

Conference Office

During the meeting the conference office is open on Wednesday (March 22) from 8 a.m. to 8 p.m, on Thursday (March 23) from 7:30 a.m. to 8 p.m., and Friday (March 24) from 7:30 a.m. to 3:30 p.m.

Phone: +49 551 39 29595
E-Mail: korthals@mdc-berlin.de

Exhibition

The exhibition is open on Wednesday, March 22 from 12 p.m. to 7 p.m., on Thursday, March 23 from 9 a.m. to 7 p.m. and on Friday, March 24 from 9 a.m. to 1.30 p.m.

Public Transportation and Travel

The meeting site is only about ten minutes walk from the center of the city as well as from the central train station. Bus lines in front of the train station to the Campus are No. 21, 22, 23, 31, 32, 34, 180 and 185. The bus stops are called Platz der Göttinger Sieben.

Please be aware that the city of Göttingen has announced that an undetonated Second World War bomb will be rendered harmless on Saturday, March 25.
This requires an evacuation within a 1.000 meter radius, an area where the Central Göttingen trains station is located. Therefore, no trains will run starting from Saturday morning 6 a.m. until the end of the operation. Departure should thus possible be planned for Friday afternoon or evening.

Registration

On site registration will be available. Please pay in cash or by Visa/Mastercard.

Students must show a copy of their student identity card!

Map of Göttingen

Registration fee ALL days:

EUR 250 - GNS or FENS **members**
EUR 340 - **non-members**

EUR 135 - **student members** of GNS or FENS
EUR 180 - **student non-members**

Registration fee PER day (max. 2 days):

EUR 90 - GNS or FENS **members**
EUR 120 - **non-members**

EUR 45 - **student members** of GNS or FENS
EUR 60 - **student non-members**

The registration fee includes:
- free access to the scientific program
- congress folder
- proceedings as download
- buffet with food and drinks at the meeting site on Wednesday and Thursday evening
- coffee breaks

Proceedings

The proceedings of the Göttingen Neuroscience Meeting 2023 are available as:

Supplement to Neuroforum 2023 VOLUME 29 ISSUE 1
e-ISSN 2363-7013

Food and Drinks

Lunch is available on the attendee's own expense from Wednesday to Friday in the Mensa in the same building. A buffet before the last lecture will be offered free of charge on Wednesday and Thursday.

Coffee, tea, water and other drinks will be available free of charge throughout the Göttingen Meeting. Since the GNS fosters the idea that an event should leave the minimum CO_2 footprint possible we strive to avoid the use of non-reusable cups as far as possible during the meeting. Thus, either bring along your own cup or buy a Göttingen Meeting Mug onsite (5 € for non-member, 3 € for members).

Internet Access

The building is equipped with WLAN. However, as extensive use of wireless usually slows down the internet connection drastically, we strongly recommend to download the program and the abstracts prior to the meeting on your mobile device.

Poster Presentations

Each poster will hang for one day. Posters with poster numbers containing A will hang on Wednesday, posters with poster numbers containing B will hang on Thursday, and posters with poster numbers containing C will hang on Friday (see also explanation on page 132).

The presenting author of each poster is requested to be present at her/his poster during the poster session. The poster sessions are divided into odd and even serial numbers. Each poster is presented in a session of 45 min.

Posters with numbers containing A
Wednesday, March 22, 2023
(hanging of posters: before 13:00)

13:00 - 13:45 odd serial numbers (e.g. T20-**1**A)
13:45 - 14:30 even serial numbers (e.g. T20-**2**A)

(all posters must be removed before 8 p.m.)

Posters with numbers containing B
Thursday, March 23, 2023
(hanging of posters: before 9:30)

09:30 - 10:15 odd serial numbers (e.g. T20-**1**B)
10:15 - 11:00 even serial numbers (e.g. T20-**2**B)

(all posters must be removed before 8 p.m.)

Posters with numbers containing C
Friday, March 24, 2023
(hanging of posters: before 10:30)

10:30 - 11:15 odd serial numbers (e.g. T20-**1**C)
11:15 - 12:00 even serial numbers (e.g. T20-**2**C)

(all posters must be removed before 3 p.m.)

Please be aware that the registration number you received is NOT corresponding to your poster number.

You can easily find your poster using the online itinerary planner (www.nwg-goettingen.de/2023) or with the authors' index in this program booklet.

The optimal size of the poster is 1 x 1 m, posters DIN A0 portrait fit as well. Pins to hang your poster will be available.

Projection

The standard equipment in all lecture rooms is ONE power point projector.

We therefore have to ask you to present your talk without double projection. Please be so kind and save your presentation in power point on a USB stick.

Language

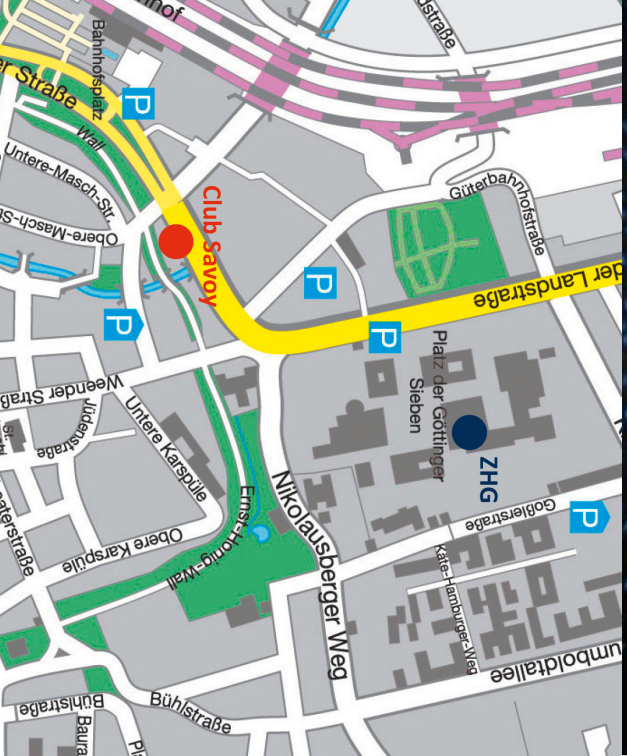
The official language of this meeting is English.

Insurance

The organizers do not take responsibility for individual medical, travel or personal insurance. Participants are advised to carry out their own insurance policies.

Electricity Supply

220 V - 50 Hz AC



Neuro-Party

Thursday, March 23rd

NWG
NeuroWissenschaftliche Gesellschaft
German Neuroscience Society

Come together after the scientific program at **9:00 p.m.**
Savoy Club Göttingen
www.club-savoy.de
Berliner Str. 5

Free entrance for all participants of the congress with badge, all others 5€.
Happy hour from 9-10 p.m.

Scientific Program

Tuesday, March 21, 2023

13:00 - 19:00 *Satellite Symposium (Sat1), Lecture hall, MPINAT City-Campus*
7th Schram Foundation Symposium „Building a functional nervous system: from different cellular players to epigenetic regulation"
Chairs: Carmen Ruiz de Almodovar and Tran Tuoc, Bonn and Bochum

Wednesday, March 22, 2023

09:00 - 11:45 *Satellite Symposium (Sat2), ZHG, Georg-August-University Goettingen, Hall 11*
GBM e.V. Study Group 'Molecular Neurobiology' - „Protein aggregates in neurodegenerative diseases: cause or symptom?"
Chairs: Jörg W. Bartsch and Stefan Kins, Marburg and Kaiserslautern

12:00 - 13:00 **Plenary Lecture, Hall 11**
- Opening Lecture -
Nathalie Rouach, Paris (France)
Astroglia: from stars to brain plasticity
Chair: Christine R. Rose, Duesseldorf

13:00 - 14:30 **Poster Session I: Posters A**
13:00 - 13:45 Odd serial numbers
13:45 - 14:30 Even serial numbers

14:30 - 15:00 **Awarding and Lecture, Hall 11**
- Schilling Award Lecture -
Lukas Groschner, Martinsried
Neural arithmetic
Chair: Ansgar Büschges, Cologne

15:15 - 17:15 **Symposia I (S1 - S7)**
15:15 - 17:15 *Symposium 1, Hall 8*
Gut-brain signalling: from sensory cell biology to animal behaviour
Chairs: Cordelia Imig and Benjamin Cooper, Copenhagen (Denmark) and Goettingen

15:15 - 17:15 *Symposium 2, Hall 105*
Novel functions and regulatory mechanisms of the neuronal actin cytoskeleton
Chair: Marco Rust, Marburg

15:15 - 17:15 *Symposium 3, Hall 10*
Developmental mechanisms regulating functional cortical networks
Chairs: Britta Eickholt and Zoltán Molnar, Berlin and Oxford (UK)

15:15 - 17:15 *Symposium 4, Hall 9*
Changing Memories
Chairs: Anni Richter and Christian Merz, Magdeburg and Bochum

15:15 - 17:15 *Symposium 5, Hall 104*
How cellular clocks spanning multiple time scales orchestrate biological timing
Chairs: Monika Stengl and Martin Garcia, Kassel

15:15 - 17:15 *Symposium 6, Hall 102*
Cerebellum and mushroom body: common circuit motifs for learning and adaptive behaviour?
Chairs: Dagmar Timmann, Johannes Felsenberg and Bertram Gerber, Essen, Basel (Switzerland) and Magdeburg

15:15 - 17:15 *Symposium 7, Hall 101*
Disease-specific autoantibodies against neuronal surface antigens disrupt synaptic function
Chairs: Christian Geis and Stefan Hallermann, Jena and Leipzig

17:30 - 18:30 **Plenary Lecture, Hall 11**
- Ernst Florey Lecture -
Valentina Emiliani, Paris (France)
Holographic manipulation of neuronal circuits: circuit optogenetics
Chair: Christiane Thiel, Oldenburg

18:30 - 19:30 **Buffet in the Foyer**
Reception partially hosted by Blackrock Neurotech

Blackrock Neurotech

19:30 - 20:30 **Plenary Lecture, Hall 11**
- Translational Neuroscience Lecture of the Gertrud Reemtsma Foundation -
Mathias Jucker, Tuebingen
Proteopathic seeds in neurodegenerative diseases
Chair: Mathias Bähr, Goettingen

Thursday, March 23, 2023

08:30 - 09:30 **Plenary Lecture, Hall 11**
- Norbert Elsner Lecture -
Randolf Menzel, Berlin
A neuroethological approach to the Honeybee brain
Chair: Sophie Seidenbecher, Nürnberg

09:30 - 11:00 **Poster Session II: Posters B**
09:30 - 10:15 Odd serial numbers
10:15 - 11:00 Even serial numbers

11:00 - 13:00 **Symposia II (S8 - S14)**
11:00 - 13:00 *Symposium 8, Hall 8*
Molecular mechanisms of synaptic brain disorders
Chairs: Dilja Krueger-Burg and Noa Lipstein, Mainz and Berlin

11:00 - 13:00 *Symposium 9, Hall 105*
New advances in the neuroscience underlying socio-emotional behaviour
Chairs: Oliver Bosch and Hanna Hörnberg, Regensburg and Berlin

11:00 - 13:00 *Symposium 10, Hall 104*
Membrane trafficking processes and presynaptic proteostasis
Chairs: Marijn Kuijpers and Anna Karpova, Nijmegen (Netherlands) and Magdeburg

11:00 - 13:00 *Symposium 11, Hall 102*
Neuroscience of naturalistic navigation and foraging in non-human primates
Chairs: Irene Lacal and Alexander Gail, Goettingen

11:00 - 13:00 *Symposium 12, Hall 103*
Epileptogenesis in mouse models of genetic epilepsies
Chair: Holger Lerche, Tuebingen

11:00 - 13:00 *Symposium 13, Hall 101*
Breaking News I
Chair: Marc Spehr, Aachen

11:00 - 13:00 *Symposium 14, Hall 9*
Plasticity in unexpected places: flexible circuits for instinctive behaviours
Chairs: Johannes Kohl and Vanessa Stempel, London (UK) and Frankfurt/Main

13:00 - 14:00 **Lunch Break**

13:00 - 14:00 **Annual General Meeting of the NWG Hall 11**

13:00 - 14:00 Workshop I
Workshop on communicating animal research, Hall 102
Roman Stilling and Laura Berg, Münster
Updates in Animal Research - Transparency, Communication and Hot Topics

14:00 - 15:00 **Meet the Companies** and their latest products & developments at the booths or in workshops

14:00 - 14:30 Workshop II
Angelini Pharma, Hall 103
Which ion channel? Precision medicine in treatment of epilepsy: from autoimmune encephalitis to Dravet
Nico Melzer and Konstantin Makridis, Duesseldorf and Berlin

14:00 - 15:00 Workshop III
LI-COR Biosciences, Hall 101
The path to quantitative and reproducible Western Blots
Stefanie Merfort and Maria Ercu, Bad Homburg

14:00 - 15:00 Workshop IV
Bruker Nano, Hall 104
Multi-Scale Imaging: from Molecules to Organisms using Bruker Super-Resolution and Light Sheet Microscopy
Romina Macco and Jürgen Mayer, Milano (Italy) and Berlin

14:00 - 15:00 Workshop V
Carl Zeiss Research Microscopy, Hall 105
Introducing high-throughput serial section acquisition for ZEISS MultiSEM
Anna Lena Eberle, Oberkochen

15:00 - 16:00 **Plenary Lecture, Hall 11**
- Otto Creutzfeldt Lecture -
Valentin Nägerl, Bordeaux (France)
Mind the gap! Super-resolution imaging of the extracellular space in the brain
Chair: Frank Kirchhoff, Homburg

16:15 - 18:15 **Symposia III (S15 - S21)**

16:15 - 18:15 *Symposium 15, Hall 101*
Breaking News II
Chair: Ivan Manzini, Gießen

16:15 - 18:15 *Symposium 16, Hall 102*
A new look at neuronal circuits after CNS injury: mechanisms for vulnerability and repair
Chairs: Francesco Roselli and Aya Takeoka, Ulm and Leuven (Belgium)

16:15 - 18:15 *Symposium 17, Hall 9*
Moving the body: communication, coordination and control in neuromechanical systems
Jan M. Ache and Corinna Gebehart, Wuerzburg and Lisbon (Portugal)

16:15 - 18:15 *Symposium 18, Hall 8*
Astrocyte control of neural circuit function and animal behaviour
Johannes Hirrlinger and Christian Henneberger, Leipzig and Bonn

16:15 - 18:15 *Symposium 19, Hall 104*
Impact of early traumatic stress on brain development, and mental and somatic health
Christian Schmahl and Katja Seitz, Mannheim and Heidelberg

16:15 - 18:15 *Symposium 20, Hall 105*
Hidden senses
Chairs: Kristina Corthals and Bart Geurten, Lund (Sweden) and Otago (New Zealand)

16:15 - 18:15 *Symposium 21, Hall 10*
Pushing and pulling: how the interplay of excitation and inhibition shapes network dynamics
Chairs: Mattia Chini and Sebastian H. Bitzenhofer, Hamburg

18:15 - 19:15 **Buffet in the Foyer**
Reception hosted by the Hertie Foundation

19:15 - 20:30 **Plenary Lecture and Awarding of the Otto Loewi medal 2022 of the GNS**
- Hertie Foundation Lecture - Hall 11
Peter Falkai, Munich
Translation in clinical neuroscience: a good story but not the end of the story
Chair: Ileana Hanganu-Opatz, Hamburg

Friday, March 24, 2023

08:30 - 10:30 **Symposia IV (S22 - S28)**
08:30 - 10:30 *Symposium 22, Hall 10*
Illuminating the brain – current applications and future developments of next-generation biosensors
Chairs: Olivia Masseck and Lutz Wallhorn, Bremen

08:30 - 10:30 *Symposium 23, Hall 105*
Neuroepigenetics: Epigenomic adaptations in CNS development
Tanja Vogel and Geraldine Zimmer-Bensch, Freiburg and Aachen

08:30 - 10:30 *Symposium 24, Hall 104*
Inflammatory mechanisms of epileptogenesis
Chairs: Felix Rosenow, Sven G. Meuth and Nico Melzer, Frankfurt/Main and Duesseldorf

08:30 - 10:30 *Symposium 25, Hall 102*
A comparative perspective on social communication
Chairs: Daniela Vallentin and Steffen Hage, Seewiesen and Tuebingen

08:30 - 10:30 *Symposium 26, Hall 101*
Phase separation in neuronal (patho)physiology
Chair: Dragomir Milovanovic, Christian Tetzlaff and Michael Fauth, Berlin and Goettingen

08:30 - 10:30 *Symposium 27, Hall 9*
From imprecision to robustness in neural circuit assembly
Chairs: Carsten Duch, Robin Hiesinger, Susanne Schreiber and Marion Silies, Berlin and Mainz

08:30 - 10:30 *Symposium 28, Hall 103*
Translational science in pediatric neurology – what we can learn!
Chairs: Florian Heinen, Munich

10:30 - 12:00 **Poster Session III: Posters C**
10:30 - 11:15 Odd serial numbers
11:15 - 12:00 Even serial numbers

12:00 - 13:00 **Lunch Break** and **Workshops**

12:00 - 13:00 Workshop VI
DFG, Hall 102 and 1.141 (consultations)
Starting your research career - DFG funding programs and application procedures
Thomas Baumgarten, Andreas Görlich and Michael Müller, Bonn

12:00 - 13:00 Workshop VII
IBRO, Hall 104
How and why to publish in neuroscience society journals?
Juan Lerma and Manfred Heckmann, Alicante, Spain and Wuerzburg

13:00 - 15:00 **Symposia V (S29 - S36)**
13:00 - 15:00 *Symposium 29, Hall 105*
Brain dysfunction upon energy failure: new insights into the role of astrocytes
Chair: Sara Eitelmann, Duesseldorf

13:00 - 15:00 *Symposium 30, Hall 9*
Alternatives to living animal models
Chairs: Kathrin Wicke and Akshay Kapadia, Hannover and Bonn

13:00 - 15:00 *Symposium 31, Hall 8*
Magnetoreception – the sixth sense
Chairs: Rabea Bartölke, Jingjing Xu and Henrik Mouritsen, Oldenburg

13:00 - 15:00 *Symposium 32, Hall 10*
Presynaptic calcium channels: key players in synaptic transmission and plasticity
Chairs: Tina Pangrsic Vilfan and Tobias Moser, Goettingen

13:00 - 15:00 *Symposium 33, Hall 101*
Bridging brain function and microglia signaling
Chairs: Anne Günther and Jastyn Anne Pöpplau, Hamburg

13:00 - 15:00 *Symposium 34, Hall 102*
Novel insights into hypothalamic mechanisms for adaptive control of homeostasis
Chairs: Jan Siemens and Henning Fenselau, Heidelberg and Cologne

13:00 - 15:00 *Symposium 35, Hall 103*
Insights into the neural basis of cognition from human intracranial electrophysiology
Chair: Caspar Schwiedrzik, Goettingen

13:00 - 15:00 *Symposium 36, Hall 104*
Transformations of visual representation from the retina to the cortex
Chairs: Norma Kühn and Helene Schreyer, Leuven (Belgium) and Basel (Switzerland)

15:15 - 16:15 **Plenary Lecture, Hall 11**
- Armin Schram Lecture -
Michael Kreutz, Magdeburg
Protein transport from NMDA receptors to the nucleus in health and disease
Chair: Veronica Egger, Regensburg

16:30 **Departure**

ANGELINI SYMPOSIUM

Which ion channel? Precision medicine in treatment for epilepsy: from autoimmune encephalitis to Dravet.

March 23, 2023 | 14:00 – 15:00 | Hall 103

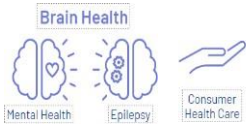
14:00 – 14:05: Welcome - PD Dr. Nico Melzer

The importance of the persistent current in the treatment of epilepsy and inflammation

14:05 – 14:25: Seizure and immunosuppressive spectrum of action of cenobamate in autoimmune encephalitis with focal seizures - PD Dr. Nico Melzer
14:25 – 14:45: The mechanism of action of cenobamate in LoF-Dravet variants - When are sodium channel blockers indicated or contraindicated? - Dr. Konstantin Makridis
14:45 – 15:00: Questions and Discussion
Closing remarks - PD Dr. Nico Melzer

ANGELINI PHARMA

Angelini Pharma is an international pharmaceutical company part of Angelini Industries. The company researches, develops and commercializes health solutions with a prevalent focus on the areas of **Central Nervous System (CNS)** and **Mental Health**, including pain, **Rare Diseases** and **Consumer Healthcare**, with highly successful self-medication drugs worldwide.



Following our commitment in **Brain Health**, our Discovery pipeline currently includes 2 projects, with particular focus on **epilepsy syndromes**, and several new projects are currently under review to start in the near future. We take advantage of the most recent advanced technologies, including computing and AI, for drug discovery and development projects. Currently, we are conducting **more than 20 clinical trials**, both interventional and observational, involving more than 2000 patients in more than a dozen countries. Most of them focus on **Brain Health (epilepsy and psychiatric disorders)**, while others involve some of our mature drugs such as **benzydamine**, **acetaminophen**, and **ThermaCare® heat wraps**, a medical device that was recently added to the Angelini non-pharma portfolio.

For further information, please visit www.angelinipharma.de and harmoniamentis.de

Neurowissenschaftliche Gesellschaft e.V. (NWG)
German Neuroscience Society

The goal of the NWG is to support neuroscience in research and education and to represent neuroscience research within Germany and abroad. The society strives to create political awareness for the necessity of neuroscience research, keeps contact to national research programs and private foundations, supports the neuroscience programs in the European Community and is a partner for funding agencies and the industry. The NWG favors interdisciplinary educational concepts in neuroscience and aims to spreading knowledge of neuroscience to the general public.

Training Courses
NWG members are entitled to attend the methodological courses organized by the NWG free of charge.

Conferences
In the odd years the NWG organizes the Göttingen Meeting which is one of the largest national neuroscience meetings in Europe.

FENS
NWG members are members FENS as well and take advantage from the FENS benefits, such as lower registration fee for the FENS Forum, FENS stipends, FENS training opportunities, and free online access to the European Journal of Neuroscience (EJN).

Stipends
The GNS offers stipends for the Göttingen Meeting, the FENS Forum, the Leopoldina symposia and supports the NeuroDoWo.

SfN Abstract slots
These abstract slots entitle NWG members to present a poster at the American Society for Neuroscience Meetings without being a SfN member, linked to a reduced registration fee.

Awards
The GNS presents several awards which honor neuroscientists in different stages of their career.

Email alerts
Members of the NWG receive an electronic newsletter announcing grants, calls for funding or awards and other news, and job ads monthly.

Website
The members' area on the website offers services for members such as job market, the membership directory or the online access to EJN and Neuroforum.

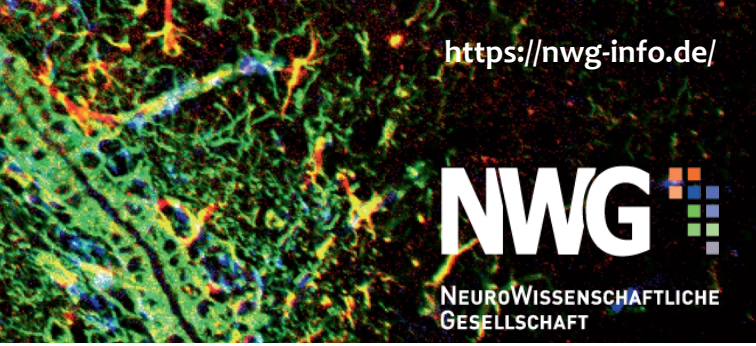
www.dasGehirn.info
This website, sponsored by the Gemeinnützige Hertiestiftung, provides state of the art information on all major topics in neuroscience for the general public.

Neuroforum
The journal is published online quarterly and offers review articles in English, book reviews, reports on research programs and on funding opportunities, and the GNS news. Members have free online access.

Outreach
Educational courses for school teachers are offered throughout the year.

The German Neuroscience Society is the voice of neuroscientists working in Germany and of German neuroscientists working abroad. As a non-profit organization the GNS is a founding member of FENS and of the German Brain Council and represents German neuroscientists in the International Brain Research Organization (IBRO).

Membership
The NWG has more than 2.200 members. Membership is available for everyone working in a field of neuroscience research or on related topics. Membership fee amounts to 40 Euro for students, 80 Euro for Postdocs and 100 Euro for seniors annually.



German Neuroscience Society

Vorstand der Amtsperiode 2023 - 2025:

Präsident: **Prof. Dr. Frank Kirchhoff**
Vizepräsident: **Prof. Dr. Ansgar Büschges**
Generalsekretär: **Prof. Dr. Gary Lewin**
Schatzmeisterin: **Prof. Dr. Veronica Egger**
Ehrenpräsidentin: **Prof. Dr. Christine R. Rose**

Sektionssprecher*innen:

Computational Neuroscience:
Prof. Dr. Tatjana Tchumatchenko
Entwicklungsneurobiologie/Neurogenetik:
Prof. Dr. Constance Scharff
Junge NWG (jNWG):
Jonas Fisch
Klinische Neurowissenschaften:
Prof. Dr. Sven Meuth
Kognitive Neurowissenschaften:
Prof. Dr. Christiane Thiel
Molekulare Neurobiologie:
Prof. Dr. Tobias Böckers
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Prof. Dr. Jochen Röper

Geschäftsstelle:
Neurowissenschaftliche Gesellschaft e.V.
Max-Delbrück-Center for Moleculare Medizin (MDC) Berlin-Buch
Robert-Roessle-Str. 10 | 13092 Berlin-Buch | Germany
Tel.: 030 9406 3336 | Fax: 030 9406 2813 | Email: korthals@mdc-berlin.de

Plenary Lectures

Nathalie Rouach (Paris, France) - P1
- Opening Lecture -
Astroglia: from stars to brain plasticity
Wednesday, March 22, 2023, 12:00 - 13:00 h

Lukas Groschner (Martinsried, Germany) - P2
- Schilling Award Lecture -
Neural arithmetic
Wednesday, March 22, 2023, 14:30 - 15:00 h

Valentina Emiliani (Paris, France) - P3
- Ernst Florey Lecture -
Holographic manipulation of neuronal circuits: circuit optogenetics
Wednesday, March 22, 2023, 17:30 - 18:30 h

Mathias Jucker (Tuebingen, Germany) - P4
- Translational Neuroscience Lecture of the Gertrud Reemtsma Foundation -
Proteopathic seeds in neurodegenerative diseases
Wednesday, March 22, 2023, 19:30 - 20:30 h

Randolf Menzel (Berlin, Germany) - P5
- Norbert Elsner Lecture -
A neuroethological approach to the Honeybee brain
Thursday, March 23, 2023, 08:30 - 09:30 h

Valentin Nägerl (Bordeaux, France) - P6
- Otto Creutzfeldt Lecture -
Mind the gap! Super-resolution imaging of the extracellular space in the brain
Thursday, March 23, 2023, 15:00 - 16:00 h

Peter Falkai (Munich, Germany) - P7
- Hertie Foundation Lecture -
Translation in clinical neuroscience: a good story but not the end of the story
Thursday, March 23, 2023, 19:15 - 20:30 h

Michael Kreutz (Magdeburg, Germany) - P8
- Armin Schram Lecture -
Protein transport from NMDA receptors to the nucleus in health and disease
Friday, March 24, 2023, 15:15 - 16:15 h

- All plenary lectures take place in hall 11. -

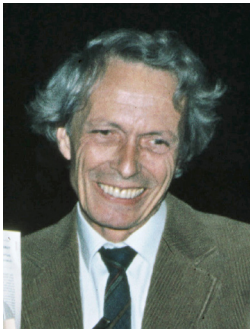
Otto Creutzfeldt Lecture

Who was Otto Creutzfeldt?

Otto Creutzfeldt was born in Berlin, Germany in 1927. He was the youngest son of Hans-Gerhard Creutzfeldt who described the Creutzfeldt-Jakob disease. He first studied humanities but soon switched to medicine and obtained his M.D. in the department of Richard Jung at Freiburg University in 1953. From 1953 and 1959 he was an assistant and trainee in physiology, neurophysiology, and neurology in Freiburg and in psychiatry in Bern, Switzerland. For two years he worked as a research anatomist at UCLA Medical School before he moved to the Max Planck Institute for Psychiatry in Munich in 1962, where he obtained his degree in clinical neurophysiology. In 1971 he became one of the nine directors of the Max Planck Institute for Biophysical Chemistry, as head of the Department of Neurobiology.

Otto Creutzfeldt was one of the pioneers of modern neurophysiology. He investigated the function of the visual cortex applying intracellular recording from cortical neurons and elucidated the neurophysiological principles of the EEG. He also made seminal contributions to the understanding of visual and speech cortices.

In 1973 he founded, together with Ernst Florey, the Göttingen "Neurobiologentagung". He was the mentor for a large number of neurobiologists: Nobel Prize winner Bert Sakmann, Henning Scheich, Wolf Singer, Heinz Wässle, to name a few, worked in his laboratory as doctoral students.



Otto Creutzfeldt (1927-1992)

Norbert Elsner Lecture

Who was Norbert Elsner?

Norbert Elsner was born in Hermsdorf, Poland in 1940 during the Second World War and grew up in Freudenberg in Southern Westfalia. He studied biology in Münster, Munich and Tuebingen where he met the neuroethologist Franz Huber. He followed Franz Huber to Cologne and completed his PhD thesis on "The neuromuscular basis of courtship in the grasshopper gomphocerippus rufus". After research stays in Kampala (Uganda) with Hugh Rowel, at the University of Copenhagen with Axel Michelsen, and at the University of Oregon with Graham Hoyle he did his habilitation in zoology at the University of Cologne in 1974. In 1978 he was appointed professor of zoology at the University of Göttingen, where he continued his research as the head of the department of neurobiology until his retirement in 2009.

Norbert Elsner's research focused on the acoustic communication in insects, especially grasshoppers. He investigated the neuronal and sensory basis of acoustic communication using different techniques such as laser vibrometry or electrophysiology.

Besides research, Norbert Elsner had many other interests. He organized the "Göttinger Neurobiologentagung" from 1982 to 2003. Henceforth the Göttingen meetings were under the auspice of the German Neuroscience Society. Between 1999 and 2010 he organized a series of public lectures, linking neuroscience to other scientific disciplines. The subjects of these lectures were published in nicely illustrated books which he edited himself. Norbert Elsner was a true polymath and a connoisseur of literature, music and theater who loved to inspire.

Norbert Elsner (1940-2011)

Armin Schram Lecture

Who was Armin Schram?

Armin Schram was born in 1929 in Prague, Czech Republic. He studied chemistry at the University of Vienna where he received his doctoral degree in chemistry in 1953. In the same year he joined the Deutsche Erdöl AG (from 1970 onwards "Deutsche Texaco AG"). Since 1968 he was a member of the managing board. During the seventies he was appointed as "General Manager International Refining" and spent two years in the US. Since 1979 he acted as CEO of the company. In 1988 the "Deutsche Texaco AG" was integrated into the RWE trust. Armin Schram became chair of the board of RWE Dea AG, a branch of the RWE responsible for the company's petrol and chemistry business. He also represented the company in the board of the "Stifterverband für die Deutsche Wissenschaft", a German Trust Foundation supporting science and research. Here he realized the importance of private commitment for basic research. All his life he had been interested in chemistry and biomedicine, and after his retirement in 1993 he finally found time to pursue his interests consequently. He was especially fascinated by brain research.

In 2000 he founded the Schram-Foundation with his private assets and with the goal to support research in basic neuroscience, especially in modern brain research. The aim of his foundation is to support research, which elucidates the molecular and cellular mechanisms of brain function, including information processing and learning & memory. The foundation capital amounts to 8.1 million Euro and the annual funding budget is about 400.000 Euro. In 2011 Armin Schram was elected as the first (and to date only) honorary member of the NWG.

Besides his interest for research and science Armin Schram was a passionate sailor and hunter and appreciated the company of people who shared his passion. He regularly participated in the NWG Göttingen Meetings and initiated the series of "Schram Symposia" as satellite events to the NWG biennial meetings. Aged 85, Armin Schram died in 2015 just a few weeks before the 4th Schram Symposium.

Armin Schram (1929-2015)

Ernst Florey Lecture

Who was Ernst Florey?

Ernst Florey was born in Salzburg, Austria in 1927. He studied philosophy, botany and zoology in Salzburg and Vienna. In 1950 he completed his PhD in neuropharmacology in Graz. As a postdoc he was awarded a Fulbright scholarship to work with Cornelis A.G. Wiersma at the California Institute of Technology on isolated crayfish stretch receptor neurons. After research stays in Göttingen, Wuerzburg and Montreal he was appointed professor at the University of Washington in Seattle in 1956. In 1969 he returned to Germany to the newly founded University of Konstanz where he investigated the biochemical properties of synapses and the effects of drugs until he was retired in 1992. From 1971 to 1972 he was president of the German Society of Zoology. In 1973 he founded, together with Otto Creutzfeldt, the Göttingen "Neurobiologentagung". Since 1982 he organized the Lindau Nobel Laureate Meetings at Lake Constance.

Ernst Florey discovered factor I as an agent causing inhibition, characterized as GABA in 1957. In the beginning there was doubt that GABA is indeed the transmitter substance of inhibitory neurons until it was recognized as the major inhibitory neurotransmitter in the mammalian brain. Ernst Florey was also the co-founder of the concept of neuromodulation.

Besides research, Ernst Florey was interested in philosophy and published books and essays on the history of science.

Ernst Florey (1927-1997)

Translational Neuroscience Lecture of the Gertrud Reemtsma Foundation

What is the Gertrud Reemtsma Foundation?

The Gertrud Reemtsma Foundation was established in 1989 by Gertrud Reemtsma. Gertrud Reemtsma's intension was to combine basic brain research with potential applications for the benefit of patients suffering from neurological diseases. The main goal of the Gertrud Reemtsma Foundation is to recognizing and rewarding international excellence in translational neuroscience that impacts human health by awarding the »International Prize for Translational Neuroscience« to outstanding neuroscientists and clinicians. The Foundation also supports speakers at neuroscience meetings as well as events for the next generation of neuroscientists and clinicians. The Gertrud Reemtsma Foundation is administered by the Max Planck Society as a trust.

TVV Workshop

Thursday, March 23, 2023
13:00 - 14:00, Lecture Hall 102

Updates in Animal Research - Transparency, Communication and Hot Topics

Roman Stilling and Laura Berg, Münster

Recent developments in Germany and the EU increase the pressure on science to reduce animal use and contribute to growing uncertainty within the scientific community. The general discussion about animal research crucially depends on information from and visibility of all stakeholders to become a factual and meaningful debate. Thus, open and transparent communication about animal-based research from within the scientific community is becoming increasingly important.

In Europe, Transparency Agreements were launched in nine countries before 2023 with exactly this goal: Transparent communication about animal experiments to inform the public and to help shape the public discussion. The German "Initiative Transparente Tierversuche" was launched in July 2021. More than 90 scientific institutions support this agreement since and have significantly added to comprehensive experience on and many good examples of successful communication about animals in research.

In this workshop we will give background information and updates on the most topical and pressing national and international developments regarding animal research and highlight activities from European and German stakeholders to address these issues. Importantly, communication activities like the recent German Transparency Agreement contribute to a culture of openness and shape the public debate. We offer an outlook on future actions, challenges and opportunities for the neuroscience community.

Tierversuche verstehen
Eine Informationsinitiative der Wissenschaft

Angelini Pharma

Thursday, March 23, 2023
14:00 - 15:00, Lecture Hall 103

Which ion channel? Precision medicine in treatment of epilepsy: from autoimmune encephalitis to Dravet

Nico Melzer and Konstantin Makridis, Duesseldorf and Berlin

The bedrock of accurate management of any disease is precision medicine; tailoring the treatment to that of a specific individual taking into account the genes, environment, lifestyle and the presenting condition. In this symposium, we take a look at two subtypes of epilepsy known to be drug resistant: autoimmune-induced encephalitis/epilepsies, and specific variants of the Dravet syndrome. In terms of seizure suppression and autoimmune encephalitis management, is there a correlation between the mechanism of action for Cenobamate and anti-inflammatory properties at the pathogenetic level? Likewise, could there be exceptions to the longstanding guideline of ruling out sodium channel blockers (SCBs) in any case of Dravet syndrome? Are there variants of this syndrome where SCBs could be efficacious?

These questions will be discussed extensively at this symposium featuring two speakers: PD Dr. Nico Melzer, a Senior Neurologist at the University Clinic in Duesseldorf and a specialist in autoimmune encephalitis with several publications in this topic, and Dr. Konstantin Makridis, a neuropediatrician at the Charite University Clinic Berlin with special interests in epilepsy, genetics and novel treatments.

14:00 **Welcome -** Nico Melzer, Duesseldorf
The importance of the persistance current in the treatment of epilepsy and inflammation

14:05 Nico Melzer, Duesseldorf
Seizure and immunosuppressive spectrum of action of cenobamate in autoimmunue encephalitis with focal seizures

14:25 Konstantin Makridis, Berlin
The mechanism of action of cenobamate in LoF-Dravet variants - When are sodium channel blockers indicated or contraindicated?

14:45 **Questions | Discussion**

14:55 **Closing Remarks** - Nico Melzer, Duesseldorf

Angelini Pharma

LI-COR Biosciences

Thursday, March 23, 2023
14:00 - 14:30, Lecture Hall 101

The path to quantitative and reproducible Western Blots

Stefanie Merfort and Maria Ercu

"Although originally a qualitative or at best a semi-quantitative method, with the rise of computational systems biology, Western blotting has become increasingly important for fully quantitative applications." (Degasperi et al, *PLoS ONE*, 2014)

"The development of the immunoblot to detect and characterize a protein with an antisera, even in a crude mixture, was a breakthrough with wide-ranging and unpredictable applications across physiology and medicine." (Mc Donough et al, *Am J Physiol Cell Physiol*, 2015)

What is a quantitative Western Blot?
A quantitative Western Blot makes relative comparisons between different treatments possible. The goal of a quantitative Western is to accurately measure changes in protein expression.

Why do we need quantitative Western Blots?
Life-altering therapeutics. Increased crop yields. All of us want to make a difference with our life's work. Quantitative Westerns can be a powerful tool to advance discovery and make the world a better place.

The following topics regarding quantitative Western Blot requirements will be addressed in our workshop:

- How to choose the best normalization strategy?
- How to find the combined linear range of detection for your proteins of interest?
- How to keep experimental variability as low as possible?

What steps can you take today to improve your Western Blot results?
LI-COR provides products, protocols, and support for Western blotting that help reduce variability and increase replicability.

Maria Ercu – Solutions and Support Scientist
Stefanie Merfort – Sr. Technical Sales Consultant

Bruker Nano

Thursday, March 23, 2023
14:00 - 15:00, Lecture Hall 104

Multi-Scale Imaging: from molecules to organisms using Bruker Super-Resolution and Light Sheet Microscopy

Romina Macco and Jürgen Mayer

LCS SPIM – Light Sheet Microscopy for Large Cleared Samples
Light sheet microscopy has become the state of the art methodology to address a wide variety of biological questions. Key features of this technique are the extremely minimized photo bleaching, the high-speed image acquisition, and the large imaging depth. In parallel, more and more sophisticated techniques for tissue clearing have been developed over the last years. Tissue clearing renders biological samples transparent, a prerequisite for optical imaging in large (e.g. mesoscopic) samples.
The combination of cleared tissues with light sheet microscopy is an ideal synergy that allows addressing new questions in biology. In this workshop, participants will be familiarized with tissue clearing, and preparation of large samples. Different imaging strategies will be discussed and participants will learn how to mount the sample accordingly, adjust all necessary parameters to achieve the best quality, acquire a tiled acquisition, process (i.e. stitch) and visualize the data.

Vutara VXL - Superresolution Microscopy
Modern fluorescence microscopy applications need to be performed under conditions that resemble the natural environments of the structures of interests. This requires using large samples, like tissue slices or even whole model organisms, instead of the classical cell cultures. One of the main limitations of most super-resolution microscopes is their weak ability to image structures in great depth of the sample.
The Bruker Vutara VXL system is different in that sense, as it allows to resolve structures in 3D at 20 nm resolution in up to 30 μm depth inside a neurobiological sample. This is ideal for studying the distribution of pre- and postsynaptic proteins or the cytoskeleton architecture of cells embedded in their native environment.

This part of the workshop will provide application examples from neurobiology and demonstrate the capabilities of the SRX software in data analysis and processing.

Romina Macco - European Application and Service Manager
Jürgen Mayer - Product Manager and Sr. Application Specialist

Carl Zeiss Research Microscopy

Thursday, March 23, 2023
14:00 - 15:00, Lecture Hall 105

Introducing high-throughput serial section acquisition for ZEISS MultiSEM

Anna Lena Eberle - Product Management
Carl Zeiss Research Microscopy GmbH

Over the past several years, scanning electron microscopy has become a standard method for 3D tissue volume-imaging experiments. However, all scanning technologies are inherently slow, so for large-scale experiments a faster acquisition workflow is needed. The multibeam SEM from ZEISS utilizes up to 91 electron beams in parallel to scan the sample. Of the various approaches existing for the acquisition of 3D tissue data, a workflow in which ultra-thin serial sections are obtained and then imaged sequentially is the most established one for the multibeam SEM. Here, we want to give an overview of the high-throughput serial section acquisition workflow with the ZEISS MultiSEM.

Visit us at ZEISS booth on the ground floor!

Our product and application specialists will introduce to you our new Artificial Intelligence (AI) powered Axiovert 5 digital as well as our latest software solutions for 3D imaging. In addition, do not hesitate to ask your questions about 3D tissue volume imaging.

Looking forward to meeting you at the conference!

Ultrastructural details in large volumes.

The world's fastest scanning electron microscope.

ZEISS MultiSEM

Enables the acquisition of 3D data with unprecedented speed, making imaging of an entire brain from a mouse possible.

www.zeiss.com/multisem

ZEISS

Seeing beyond

DFG Workshop

Friday, March 24, 2023
12:00 - 13:00, Lecture Hall 102 and 1.141 (consultations)

Starting your research career - DFG funding programs and application procedures

Thomas Baumgarten, Andreas Görlich and
Michael Müller
DFG Head Office, Bonn

This workshop intends to introduce the German Research Foundation (DFG), its funding programs and the application and review procedures to researchers at an early stage of their scientific careers. Among others, we will cover research grants, the Emmy Noether- and the Heisenberg Program and will give valuable tips and tricks for a successful application, with a focus on grants in the neurosciences.

After the workshop, appointments for individual consultations are available. For further information on these, please refer to the announcements given on site.

Topics:

The DFG –
Germany´s largest research funding organization

DFG funding programs

Application and review procedures

News from the DFG

Discussion

Deutsche
Forschungsgemeinschaft
DFG

Publishing Workshop

Friday, March 24, 2023
12:00 - 13:00, Lecture Hall 104

How and why to publish in neuroscience society journals?

Juan Lerma and Manfred Heckmann,
Alicante, Spain and Wuerzburg

Journals exist to disseminate new research findings and the latest new thinking to scholarly and professional communities worldwide. This is a rare opportunity for early career researchers and students to hear from the Editors of *Neuroscience* and ask them the questions they want answered in a friendly and collegiate environment. The aim is to train and inform early career researchers on various aspects of the scholarly research and communication process. One aspect of this is to help provide information on how to write and review for a scientific journal and give researchers an insight into how the publishing process works, taking as an example *Neuroscience*, the flagship journal of the International Brain Research Organization (IBRO). During this workshop, the following topics will be at least addressed:

What happens to your paper once submitted to a journal: what an editor looks for in a good paper, what makes a paper worthy of going into the peer-review process and, by extrapolation, what an editor considers a 'bad' paper or bad aspect of a paper.

The peer-review process: what Editors expect Reviewers to do. What editors expect from their reviewers and describe how we handle reviews once returned.

Preparing your Manuscript: it will outline the various important steps that, as an Author, you need to follow in preparing your manuscript for a successful publication.

Structuring an Article:
it will provide advice about how to properly structure your article. From the title and keywords, right through to the conclusion and references, all the essen-tial criteria are covered to make sure it can be a success.

INTERNATIONAL BRAIN IBRO RESEARCH ORGANISATION

Juan Lerma is Editor-in-Chief and Manfred Heckman is Senior Editor of *Neuroscience* - the flagship journal of IBRO.

Introductory Remarks to Satellite Symposium (Sat1)

7th Schram Foundation Symposium „Building a functional nervous system: from different cellular players to epigenetic regulation“

Carmen Ruiz de Almodovar and Tran Tuoc, Bonn and Bochum

The Schram Foundation, launched by Dr. Armin Schram, supports basic brain research since more than 20 years. The 7th Schram Foundation Symposium, traditionally held as a satellite event of the biennial meeting of the German Neuroscience Society, will present a selection of recently funded projects. Three eminent keynote speakers will enrich the scientific program. Highlighting the interdisciplinary nature of modern neuroscience, the program will feature research of functional nervous system spanning from cellular players to epigenetic regulation.

The symposium will start with a keynote lecture by Klaus Armin Nave (Goettingen) about myelinating glial cells in brain development, functions and psychiatric diseases. This will be followed by contributions from four grant holders: Cordelia Imig (Copenhagen) presenting the signaling mechanisms in the gut-brain Axis; Benjamin Cooper (Goettingen) delineating the ultrastructural imaging of activity-induced synaptic states in cultured brain slices; Eugenio Fornasiero (Goettingen) discussing link between presynaptic protein turnover and synaptic vesicle recycling; Mareike Albert (Dresden) reporting on epigenetic regulation in cortical neurogenesis. The symposium will be concluded with two keynote lectures by Michael Wegner (Erlangen), a former Schram grantee, and Amparo Acker Palmer (Frankfurt), who will discuss about molecular mechanisms underlying gliogenesis and about the molecular pathways involved in the crosstalk between vessels and nerves, respectively.

Attendance of the symposium is complimentary.

DEUTSCHES
STIFTUNGSZENTRUM

Satellite Symposium (Sat1)

Tuesday, March 21, 2023
13:00 - 19:00, Lecture Hall, MPINAT City-Campus
(Hermann-Rein-Str. 3, Goettingen)

Chairs: Carmen Ruiz de Almodovar and Tran Tuoc, Bonn and Bochum

13:00 **Welcome and Opening Remarks**
(Eckart D. Gundelfinger, Magdeburg)

13:10 Klaus Armin Nave, Goettingen
POWERING AXONS: NOVEL FUNCTIONS OF MYELINATING OLIGODENDROCYTES

13:55 Cordelia Imig, Copenhagen, Denmark
DISSECTING THE MECHANISMS MEDIATING NEUROTRANSMITTER AND PEPTIDE RELEASE FROM SENSORY CELLS IN THE GUT EPITHELIUM

14:25 Benjamin Cooper, Goettingen
ULTRASTRUCTURAL PERSPECTIVES OF PRESYNAPTIC FUNCTIONAL HETEROGENEITY AND ACTIVITY-DEPENDENT VESICLE POOL REMODELING

14:55 **Coffee Break and Poster Session**

15:50 Eugenio Fornasiero, Goettingen
A NANOBODY TOOLSET FOR ASSESSING SYNAPTIC VESICLE BIOGENESIS AND FUNCTION

16:20 Mareike Albert, Dresden
EPIGENETIC REGULATION OF NEURAL PROGENITOR CELLS IN THE DEVELOPING NEOCORTEX

16:50 Michael Wegner, Erlangen
MULTIPLE LAYERS: THE REGULATORY CIRCUITRY OF MYELINATION

17:35 **Coffee Break**

18:05 Amparo Acker Palmer, Frankfurt
NEUROVASCULAR INTERACTIONS DURING CNS DEVELOPMENT

18:50 **Closing Remarks**
(Dorothea Schulte, Frankfurt/Main)

Introductory Remarks to Satellite Symposium (Sat2)

GBM e.V. Study Group 'Molecular Neurobiology'

Protein aggregates in neurodegenerative diseases: cause or symptom?

Jörg W. Bartsch and Stefan Kins, Marburg and Kaiserslautern

Protein Aggregation is a common feature in neurodegenerative diseases including Parkinson's Disease, Alzheimer's Disease, or Prion diseases in humans. In this symposium, we will highlight the mechanistic knowledge on the correlation between protein aggregation and the pathological hallmarks. A scheduled Q&A session at the end of the symposium will allow you to ask questions and discuss with the speakers.

The satellite symposium is supported by the GBM (Gesellschaft für Biochemie und Molekularbiologie) and we invite everyone to join us!

Satellite Symposium (Sat2)

Wednesday, March 22, 2023
9:00 - 11:45, Hall 11

Chairs: Jörg W. Bartsch and Stefan Kins,
Marburg and Kaiserslautern

09:00 **Welcome and Opening Remarks**
(*Jörg W. Bartsch/Stefan Kins*)

09:15 Jan Pielage, Kaiserslautern
AXONAL TRANSPORT DEFECTS AND NEURODEGENERATION: CAUSE OR CONSEQUENCE

09:45 Frederike Zunke, Erlangen
α-SYNUCLEIN AGGREGATION IN PARKINSON'S DISEASE: CHALLENGES AND CHANCES

10:15 Roland Brandt, Osnabrück
TARGETING TAUOPATHIES: QUANTITATIVE LIVE CELL IMAGING TO IDENTIFY AGGREGATION INHIBITORS THAT RESTORE TAU'S PHYSIOLOGICAL FUNCTION

10:45 Markus Glatzel, Hamburg
PATHOLOGICAL PRION PROTEIN AND CREUTZFELDT JAKOB DISEASE: TOWARDS A MOLECULAR UNDERSTANDING OF NEURODEGENERATION

11:15 **Discussion and Closing Remarks**
(All speakers and Organizers)

Introductory Remarks to Symposium 1

Gut-brain signalling: from sensory cell biology to animal behaviour

Cordelia Imig and Benjamin Cooper, Copenhagen (Denmark) and Goettingen

Gut-brain signalling is important for the regulation of physiology and behaviour. This is particularly relevant in the context of brain states, including appetite and satiety, and consequential feeding behaviour. Important cellular components of the gut-brain axis are enteroendocrine cells (EECs) of the intestinal epithelium. EECs secrete various peptide hormones and neurotransmitters in response to a range of sensory stimuli (i.e. nutrients, force, microbes and their metabolites, toxins and pathogens). In addition to endocrine signalling, EECs are thought to communicate via synapse-like connections with neurons signalling to the brain. Strikingly, we are only beginning to understand the fundamental biological processes that determine gut-to-brain signalling in different physiological and pathophysiological contexts.

In this symposium, the speakers will focus on how i) distinct subclasses of cells register different sensory modalities in the periphery, ii) this information is relayed to the body and the brain, and iii) gut-to-brain signalling in health and disease modulates physiology, behaviour, and metabolism. The speakers will highlight various state-of-the-art methodologies for the study of gut signalling in flies, mice, and humans. The talks will cover molecular and cellular mechanisms that determine how cells detect and process modalities such as mechanical stimulation or nutrients in the gut or hemolymph, and how gut-brain communication modulates appetite and feeding behaviour *in vivo*. Together, the speakers will discuss their respective views on how fundamental molecular, cellular, and functional properties underlying directed information flow along the gut-brain axis in different physiological and neurobiological contexts will help to treat disorders associated with defective gut-brain signalling.

This symposium will receive financial support from the Schram-Stiftung as part of a joint grant awarded to the chairs.

Symposium 1

Wednesday, March 22, 2023
15:15 -17:15, Lecture Hall 8

Chairs: Cordelia Imig and Benjamin Cooper, Copenhagen (Denmark) and Goettingen

15:15 **Opening Remarks**

15:20 Constanza Alcaino, Cambridge, UK
TRUST YOUR GUT: AN INTESTINAL SPECIALISED EPITHELIAL SENSORY CELL IS LOOKING OUT FOR YOU (S1-1)

15:45 Van Lu, London, Canada
SIGNALLING CROSS-TALK BETWEEN GLUCAGON-LIKE PEPTIDE-1 (GLP-1) RELEASING ENTEROENDOCRINE CELLS AND VAGAL AFFERENT NEURONS (S1-2)

16:10 Rituja Bisen, Wuerzburg
EFFECTS OF DIET AND FOOD-RELATED OLFACTORY CUES ON THE ACTIVITY OF INSULIN PRODUCING CELLS IN *DROSOPHILA* (S1-3)

16:25 Lisa Beutler, Chicago, USA
OBESITY-MEDIATED DYSFUNCTION OF GUT-BRAIN DYNAMICS (S1-4)

16:50 Kim Rewitz, Copenhagen, Denmark
GUT SIGNALING IN THE REGULATION OF ANIMAL BEHAVIOuR (S1-5)

Introductory Remarks to Symposium 2

Novel functions and regulatory mechanisms of the neuronal actin cytoskeleton

Marco Rust, Marburg

The actin cytoskeleton is a major determinant of neuron morphology and function. Actin filaments (F-actin) are enriched in subcellular structures such as growth cones and dendritic spines that are relevant for the formation and function of neuronal networks. Consequently, F-actin dysregulation contributes to the pathogenesis of human brain disorders including neuropsychiatric and neurodegenerative diseases. While numerous signaling cascades and actin-binding proteins have been implicated in the organization and dynamics of the neuronal actin cytoskeleton, our knowledge of actin regulatory mechanisms in neurons is still fragmented. Moreover, neuronal structures such as dendritic F-actin patches, longitudinal actin fibers or periodic actin rings have been discovered more recently, and their regulation and function largely remained unknown.

Our symposium 'Novel functions and regulatory mechanisms of the neuronal actin cytoskeleton' will highlight some important progress made over the past years in the field. Marina Mikhaylova (Berlin, Germany) will present her work on dendritic F-actin patches that control transport and localization of secretory trafficking organelles. She will introduce molecules that link these organelles to F-actin, which ultimately control the formation of dendritic shaft excitatory synapses. The talks of Elena Marcello (Milan, Italy) and Marco Rust (Marburg, Germany) will focus on cyclase-associated proteins (CAP) - proteins with hitherto unknown neuronal functions that have been implicated in actin dynamics only recently. Elena Marcello will present a synaptic mechanism governed by CAP2 that is disrupted in Alzheimer's disease and significantly contributes to the disease pathogenesis. Marco Rust will introduce CAP1 as a crucial actin regulator relevant for both neuron differentiation and synapse morphology, and he will provide insights into CAP1-dependent molecular mechanisms. Complementary to these talks, the young investigator Kristina Ponimaskine (Hamburg, Germany) will introduce a novel approach that allows to analyze interactions of neighboring dendritic spines with high temporal and spatial resolution.

Symposium 2

Wednesday, March 22, 2023
15:15 -17:15, Lecture Hall 105

Chair: Marco Rust, Marburg

15:15 **Opening Remarks**

15:20 Marina Mikhaylova, Berlin
CYTOSKELETAL MAKEUP OF THE SYNAPSE: SHAFT VERSUS SPINE (S2-1)

15:50 Elena Marcello, Milan, Italy
CAP2 AT THE CROSSROADS OF ALZHEIMER'S DISEASE PATHOGENESIS PATHWAYS (S2-2)

16:20 Marco Rust, Marburg
CAP1 AND COFILIN1: AN INTIMATE DUET THAT GOVERNS NEURONAL ACTIN DYNAMICS (S2-3)

16:50 Kristina Ponimaskine, Hamburg
NOVEL APPROACH TO ANALYZE INTERACTIONS OF NEIGHBOURING SPINES (S2-4)

17:10 **Concluding Remarks**

Introductory Remarks to Symposium 3

Developmental mechanisms regulating functional cortical networks

Britta Eickholt and Zoltán Molnar, Berlin and Oxford (UK)

Many neurodevelopmental disorders characterized by abnormal behavioral or cognitive phenotypes originate in utero or during early postnatal life. Such disorders can be of diverse genetic and environmental origins, and manifest clinically as intellectual disability, epilepsy and/or autism. Whilst a number of genetic risk factors for neurodevelopmental disorders have been identified, the specific mechanisms engaged by these factors, which translate into temporal and cell type specific vulnerability and abnormal neuronal circuit development, remains largely unknown.

In this symposium, we aim to go further than basic principles of brain development, to focus on key neuronal processes that trigger neurodevelopmental disease. To explore these processes in detail, we will bring together experts in translational research, who employ a range of state-of-the-art genetic, cellular, and electrophysiological approaches applied to various model systems, including cellular and mouse models, and human induced-pluripotent stem cell-derived cultures to elucidate the etiology of complex neurodevelopmental diseases.

Symposium 3

Wednesday, March 22, 2023
15:15 -17:15, Lecture Hall 10

Chairs: Britta Eickholt and Zoltán Molnar, Berlin and Oxford (UK)

15:15 **Opening Remarks**

15:20 Zoltán Molnar, Oxford (UK)
REPURPOSED CELLS OF DEVELOPMENT IN THE ADULT BRAIN (S3-1)

15:40 Simone Mayer, Tuebingen
REVEALING MOLECULAR MECHANISMS OF ENVIRONMENTAL IMPACTS ON NEOCORTICAL DEVELOPMENT USING HUMAN BRAIN ORGANOIDS (S3-2)

16:00 Bryan Luikart, Hanover, USA
DENTATE GRANULE NEURON DEVELOPMENT AS A MODEL FOR AUTISM SPECTRUM DISORDER DUE TO *Pten* LOSS (S3-3)

16:20 Ina Köhler, Bochum
CHEMOGENETIC MODULATION OF ACTIVITY SHAPES DIFFERENTIATION OF CORTICAL NEURONS (S3-4)

16:30 Timothy Zolnik and Britta Eickholt, Berlin
THE ELECTROPHYSIOLOGY OF *Pten*-LAYER 6B CONDITIONAL KNOCKOUT MICE (S3-5)

16:55 **Discussion / Concluding Remarks**

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Einstein Stiftung Berlin
Einstein Foundation Berlin

Introductory Remarks to Symposium 4

Changing memories

Anni Richter and Christian Merz, Magdeburg and Bochum

After initial encoding, memories are stabilized during a process of consolidation. It has long been assumed that memory consolidation occurs only once, and that consolidated memories are stable and resistant to change - a view that has been challenged by findings suggesting that memories could be revised with each act of remembering. A memory may re-enter an unstable state after its reactivation, thus requiring another phase of stabilization, termed reconsolidation. Growing evidence suggests that the act of remembering could open a window of opportunity to change memory by pharmacological or behavioral manipulations. These manipulations have been used across memory domains, including emotional, episodic, and procedural memories. This line of research has significant implications for the adjustment of maladaptive thoughts and behaviors associated with memories in various mental disorders.

In this symposium, we will provide an overview on our current understanding of processes related to changing memories and present the most recent research in that field. We will furthermore report on the newest insights into the importance of such mechanisms for the treatment of mental disorders and discuss implications.
Wenbin Yang will highlight the importance of recovery effects of forgotten memories in the *Drosophila* model. Anni Richter will discuss how induced reconsolidation impairments can be rescued in instrumental learning tasks. Christian Merz will summarize how stress hormones can time-dependently change extinction memories, which is also critically relevant for extinction-based treatments such as exposure therapy. Daniela Schiller will show that focusing on the positive aspects after recall of negative events can lead to enhanced positive emotion and changes in memory content during recollection along with differences in brain activity. Bryan Strange will focus on pharmacological interventions following memory reactivation to selectively impair subsequent emotional episodic memory retrieval in a time-dependent manner, consistent with reconsolidation impairment.

Symposium 4

Wednesday, March 22, 2023
15:15 - 17:15, Lecture Hall 9

Chairs: Anni Richter and Christian Merz,
Magdeburg and Bochum

15:15 **Opening Remarks**

15:20 Wenbin Yang, Basel, Switzerland
RECOVERY OF A FORGOTTEN MEMORY IN *DROSOPHILA* (S4-1)

15:35 Anni Richter, Magdeburg
RESCUE OF RELEARNING INDUCED RECONSOLIDATION IMPAIRMENTS IN INSTRUMENTAL LEARNING TASKS (S4-2)

15:50 Christian J. Merz, Bochum
CHANGING EXTINCTION MEMORIES WITH STRESS HORMONES (S4-3)

16:10 Daniela Schiller, New York, USA
MEMORY RETRIEVAL FACILITATES SUPPRESSION AND RECONSOLIDATION UPDATE AT DIFFERENT TEMPORAL SCALES (S4-4)

16:40 Bryan Strange, Madrid, Spain
TARGETING EMOTIONAL EPISODIC MEMORY RECONSOLIDATION IN HUMANS (S4-5)

17:10 **Concluding Remarks**

Introductory Remarks to Symposium 5

How cellular clocks spanning multiple time scales orchestrate biological timing

Monika Stengl and Martin Garcia, Kassel

Geophysical rhythms like the dominant 24 h cycles of light and temperature or annual changes in the duration of light per day shaped organismic life on earth. Environmental oscillations selected for the evolution of endogenous biological clocks that allowed for survival-relevant predictions of environmental changes. An endogenous clock is an oscillator that generates rhythmic outputs like membrane potential oscillations and oscillations in gene transcription under constant conditions. The clock´s receptors detect cycling external signals allowing the organisms to embed into environmental rhythms and to predict environmental changes. It is not resolved yet how an organism´s biological clocks with different speeds interact to generate the organism´s "presence – past – and future" as a common, continuous biological time axis robustly embedded into environmental oscillations. Best studied are circadian clocks in insects and mammals that orchestrate sleep wake rhythms entrained to the 24 h light dark cycles. Less understood are clocks in other species and it is unresolved whether and how multiscale clocks interact. Thus, it remains an important research question to determine how biological clocks across different time scales functionally interact to orchestrate a biological web of timing in physiology and behavior. To resolve this challenging research question of biological timing the concerted interdisciplinary efforts of experimentally and theoretically working scientists are required.

Therefore, in our symposium we will cover multiscale timing in different species, studied by experimental and theoretical scientists. We cover the mammalian circadian system orchestrating sleep-wake patterns across the year, learn about multiscale clocks in the central pattern generators of the stomatogastric ganglion in crustaceans, hear about neuropeptides as important multiscale coupling factors in insect brains, and are introduced to the various timescales in the phototactic behavior of larval zebrafish. Thus, in our symposium "multiscale clocks" interdisciplinary speakers will present their studies in search for evolutionary conserved principles of biological timing.

Symposium 5

Wednesday, March 22, 2023
15:15 - 17:15, Lecture Hall 104

Chairs: Monika Stengl and Martin Garcia, Kassel

15:15 **Welcome and Opening Remarks**
Monika Stengl / Martin Garcia

15:20 Johanna Meijer, Leiden, The Netherlands
NEURONAL NETWORK ORGANIZATION OF THE CENTRAL CIRCADIAN CLOCK (S5-1)

15:45 Wolfgang Stein, Illinois, USA
ORCHESTRATING THE TIMING OF CHEWING AND DIGESTION - MECHANISMS, MODULATION, AND STABILITY OF NEURONAL COUPLING BETWEEN FAST AND SLOW STOMATOGASTRIC OSCILLATORS (S5-2)

16:10 Anna C. Schneider, Kassel
MULTISCALE RHYTHMS IN THE EXCITABLE MEMBRANE OF HAWKMOTH OLFACTORY RECEPTOR NEURONS (S5-3)

16:35 Hans-Peter Herzel, Berlin
ENTRAINMENT AND SYNCHRONIZATION IN COUPLED CIRCADIAN OSCILLATORS (S5-4)

17:00 Maxim Quirijn Capelle, Konstanz
THE VARIOUS TIMESCALES IN LARVAL ZEBRAFISH PHOTOTACTIC BEHAVIOR (S5-5)

multiscale clocks
Deutsche Forschungsgemeinschaft DFG
CINSaT Center for Interdisciplinary Nanostructure Science and Technology

Introductory Remarks to Symposium 6

Cerebellum and mushroom body: common circuit motifs for learning and adaptive behaviour?

Dagmar Timmann, Johannes Felsenberg and Bertram Gerber, Essen, Basel (Switzerland) and Magdeburg

The symposium will discuss the role of the cerebellum in reinforcement learning in rodents and humans and how the proposed circuit principles relate to the function of circuit motifs uncovered from the full connectome of a cerebellum-like structure in insects, the mushroom body.

Many beliefs about how the cerebellum works have recently been challenged. In particular, new evidence from animal studies suggests that the cerebellum contributes to reinforcement learning. Here, the difference between actual and expected reinforcement is used to guide learned behavior. In the appetitive domain, the required error signals have been found in dopaminergic neurons in the substantia nigra pars compacta and the ventral tegmental area. Interestingly, recent work showed that the climbing fiber signals recorded from cerebellar Purkinje cells in mice during eyeblink conditioning also follow these learning rules in the aversive domain and that the cerebellum receives reward-related information (Ohmae et al Nat Neurosci 2015, Hull eLife 2020). This parallels recent insights from the memory center in insect brains, the mushroom body. The full chemical-synapse connectome and the genetic access to the key components of the mushroom body allowed detailed analysis of the circuits that establish aversive and appetitive reinforcement learning in *Drosophila*. Functional studies have revealed that olfactory memories are established as dopamine-driven changes at synapses between odor coding Kenyon cells and distinct output neurons that drive appetitive or aversive behavior (Aso et al eLife 2014, Owald et al Neuron 2015, Eschbach et al eLife 2021). Notably, prominent feedback connections originate from these output pathways back towards the dopamine system, possibly underlying complex forms of learning including second order conditioning and extinction (Felsenberg et al Cell 2018, König et al Biol Lett 2019, Eschbach et al Nat Neurosci 2020). Despite the obvious differences in the morphology of cerebellum and mushroom body it is the specific aim of the symposium to explore whether and how far circuit and functional principles are shared.

Symposium 6

Wednesday, March 22, 2023
15:15 - 17:15, Lecture Hall 102

Chairs: Dagmar Timmann, Johannes Felsenberg and Bertram Gerber, Essen, Basel (Switzerland) and Magdeburg

15:15 **Opening Remarks**

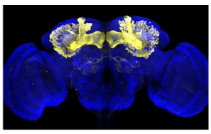
15:20 Dagmar Timmann, Essen
CEREBELLUM AND REINFORCEMENT LEARNING IN HUMANS AND RODENTS (S6-1)

15:45 Johannes Felsenberg, Basel, Switzerland
RECENT ADVANCES IN UNDERSTANDING THE NEURAL CIRCUITS OF ASSOCIATIVE LEARNING IN *DROSOPHILA MELANOGASTER* (S6-2)

16:10 Claire Eschbach, Saclay, France
THE FUNCTIONAL ORGANIZATION OF MUSHROOM BODY OUTPUT PATHWAYS IN LARVAL *DROSOPHILA* (S6-3)

16:35 Daniela Popa, Paris, France
THE FUNCTIONAL ORGANIZATION OF CEREBELLUM OUTPUT PATHWAYS IN RODENTS (S6-4)

17:00 Fatima Amin, Magdeburg
ACTION, VALENCE, DOPAMINE- *DROSOPHILA* AS A STUDY CASE (S6-5)



DFG Deutsche Forschungsgemeinschaft

Introductory Remarks to Symposium 7

Disease-specific autoantibodies against neuronal surface antigens disrupt synaptic function

Christian Geis and Stefan Hallermann, Jena and Leipzig

The discovery of pathogenic autoantibodies against central nervous system (CNS) synaptic antigens in patients with severe neuropsychiatric disorders was a breakthrough in neurology. This novel entity and expanding spectrum of CNS disorders has been termed "autoimmune encephalitis".

This symposium, under the umbrella of the DFG Research Unit SYNABS (FOR3004), will address how disease-specific human antibodies impact neuronal and synaptic function leading to severe brain disease and prototypical disease symptoms.
Josep Dalmau will report the discovery of NMDA receptor antibodies in patients with previously unknown autoimmune brain disorder and delineate pathogenic mechanisms and recent advances of target-specific therapeutic approaches. Sabine Liebscher will demonstrate how human NMDAR antibodies compromise dynamics of structural plasticity in the CA1 region of the hippocampus and affect circuit mechanisms as a potential basis of memory and cognitive deficits in disease. Dietmar Schmitz will outline cloning of human monoclonal antibodies to the synaptic linker protein LGI1 and their effects on excitability and glutamatergic synaptic transmission. The neuropathology of autoimmune encephalitis with neuronal surface antibodies will be demonstrated by Romana Höftberger and implications for disease pathophysiology will be discussed. Our student speaker, Abdulla Taha, will share insights in his current research project on autoantibody-NMDAR molecular and structural interaction.

In summary, the symposium will bring together interdisciplinary experts to highlight our current knowledge on antibody-induced CNS disease and synaptic pathology determining neuropsychiatric disease.

Symposium 7

Wednesday, March 22, 2023
15:15 – 17:15, Lecture Hall 101

Chairs: Christian Geis and Stefan Hallermann, Jena and Leipzig

15:15 **Opening Remarks**

15:20 Josep Dalmau, Barcelona, Spain
ANTI-NMDA RECEPTOR ENCEPHALITIS: FROM DISCOVERY TO NEW INSIGHTS (S7-1)

15:45 Sabine Liebscher, Martinsried
ANTI-NMDAR AUTOANTIBODIES DISRUPT CA1 PLACE CELL DYNAMICS (S7-2)

16:10 Dietmar Schmitz, Berlin
HUMAN CEREBROSPINAL FLUID MONOCLONAL LGI1 AUTOANTIBODIES INCREASE NEURONAL EXCITABILITY (S7-3)

16:35 Romana Höftberger, Vienna, Austria
NEUROPATHOLOGY OF ANTIBODY-ASSOCIATED ENCEPHALITIS (S7-4)

17:00 Abdulla Taha, Jena
HUMAN ANTI-GluNR1 AUTOANTIBODIES INFLUENCE NMDAR CHANNEL FUNCTION (S7-5)

17:10 **Concluding Remarks**

Introductory Remarks to Symposium 8

Molecular mechanisms of synaptic brain disorders

Dilja Krueger-Burg and Noa Lipstein, Mainz and Berlin

Synaptic dysfunction has long been known to result in human brain disorders, and in recent years the advent of genomic- and transcriptomic-based diagnostic methods has identified a plethora of potentially disease-causing variations in synaptic proteins. These findings raise urgent challenges that require novel scientific frameworks and technologies, particularly for faster diagnosis of pathogenicity, for incorporating aspects of synaptic diversity, and for closing the bench-to-bedside gap. Here, we invite the international synaptic community as well as scientists from clinical disciplines to discuss these issues and initiate new collaborations. The selected talks will highlight the strong involvement of synaptic function in neurological, neurodevelopmental, neuropsychiatric and neurodegenerative brain diseases, the diversity of molecules and mechanisms that contribute to disease, and the methodological advances that allow us to characterize and possibly combat such disorders.

Alexandros Poulopoulos (University of Maryland School of Medicine) will discuss the use of *in vivo* CRISPR genome editing techniques to study mechanisms of abnormal brain circuit formation and potential therapeutic interventions in neurodevelopmental disorders. Pietro Fratta (University College London) will then present recent work on how failures in alternative splicing of mRNA transcripts encoding synaptic proteins contribute to the pathology of neurodegenerative diseases such as ALS and FTD. Dilja Krueger-Burg (Mainz University Medical Center) will discuss the molecular diversity of GABAergic synaptic complexes and their role in the development of novel therapeutic strategies for psychiatric disorders. Matthijs Verhage (VU University Medical Center) will speak about human pluripotent stem cells as models for synaptic disease, with a focus on Munc18-1 (STXBP1) mutations in early infantile epileptic encephalopathy. Finally, Abderazzaq El Khallouqi (Mainz University) will present his PhD work on Cav2.1 channels in short-term hippocampal plasticity.

This session is supported by SFB1286: Quantitative Synaptology.

Symposium 8

Thursday, March 23, 2023
11:00 - 13:00, Lecture Hall 8

Chairs: Dilja Krueger-Burg and Noa Lipstein, Mainz and Berlin

11:00 **Opening Remarks**

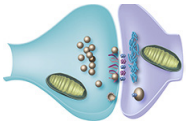
11:05 Alexandros Poulopoulos, Baltimore, USA
PERSONALIZED MEDICINE OF BRAIN WIRING? IN UTERO CRISPR TECHNOLOGIES FOR RAPID MODELING OF INDIVIDUAL PATIENTS (S8-1)

11:30 Pietro Fratta, London, UK
AMYOTROPHIC LATERAL SCLEROSIS: LOSS OF TDP-43 FROM THE NUCLEUS AND CONSEQUENCES AT THE SYNAPSE (S8-2)

11:55 Dilja Krueger-Burg, Mainz
GABAERGIC SYNAPSE DIVERSITY AS A MEANS TO DEVELOPING NOVEL THERAPEUTIC STRATEGIES FOR PSYCHIATRIC DISORDERS (S8-3)

12:20 Matthijs Verhage, Amsterdam, The Netherlands
DISEASE MECHANISMS AND INTERVENTION STRATEGIES FOR SNAREOPATHIES, SYNDROMES CAUSED BY MUTATIONS IN PRESYNAPTIC GENES (S8-4)

12:45 Abderazzaq El Khallouqi, Mainz
ORGANIZATION AND DYNAMICS OF CAV2.1 CHANNELS SHAPE THE SHORT-TERM PLASTICITY IN HIPPOCAMPAL SYNAPSES (S8-5)



SFB 1286 Quantitative Synaptology

Introductory Remarks to Symposium 9

New advances in the neuroscience underlying socio-emotional behaviour

Chairs: Oliver Bosch and Hanna Hörnberg, Regensburg and Berlin

Social behaviour is vital to the survival of all vertebrates, from reproduction to living in groups. Hence, socialllly living species are broadly influenced by interactions with conspecifics. There is a remarkable diversity of social interactions, including affiliative and co-operative behaviors as well as aggressive interactions. While most social encounters are pro-social with a positive influence, others might rather have a negative valence. In both cases, the emotional impact on the social output - and vice versa - are key to physiological and psychological well-being. Thus, it is important to understand the neurobiological basis of socio-emotional behaviour from molecular-cellular to behavioural levels, thereby applying classical behavioural observations to state-of-the-art methods. Using model systems such as mice and rats, the translational aspect of their socio-emotional behaviour is vital for further advances in the field.

In this joint symposium of the NWG and the European Brain and Behaviour Society (EBBS), the oldest society in the world focusing on the interrelationship between brain and behaviour, our speakers will present new developments in the fascinating neuroscience underlying socio-emotional behaviour. The symposium will begin with the latest findings on molecular mechanisms in the brain that affects social behaviours in rodents (Hanna Hörnberg). We will then move on to social learning in rodents and advance our knowledge of the underlying neural correlates with a special focus on rewards (Ewelina Knapska). As negative social experiences can cause social avoidance, we will learn from studies in mice how central neuropeptide systems in the lateral septum are involved in the manifestation of social fear (Rohit Menon). These findings will be complemented by a selected talk further demonstrating the involvment of septal somatostatin- and neurotensin-expressing cells in social as well as feeding-related behaviours (Francisco Javier de los Santos Bernal). Our final presentation will focus on social behaviour in humans, where a link between the body and the brain will be drawn based on current findings (Soyoung Park).

Symposium 9

Thursday, March 23, 2023
11:00 - 13:00, Lecture Hall 105

Chairs: Oliver Bosch and Hanna Hörnberg,
Regensburg and Berlin

11:00 **Opening Remarks**

11:05 Hanna Hörnberg, Berlin
MOLECULAR MECHANISMS OF SOCIAL BEHAVIOURS (S9-1)

11:25 Ewelina Knapska, Warsaw, Poland
NEURAL CORRELATES OF SOCIAL LEARNING ABOUT REWARDS (S9-2)

11:45 Rohit Menon, Regensburg
SEPTAL MECHANISMS REGULATING SOCIAL FEAR EXTINCTION: A ROLE FOR NEUROPEPTIDE SIGNALING (S9-3)

12:05 Francisco Javier de los Santos Bernal, Cologne
REGULATION OF SOCIAL BEHAVIOURS BY THE LATERAL SEPTUM (S9-4)

12:25 Soyoung Q. Park, Nuthetal
THE LINK BETWEEN BODY-BRAIN INTERACTION AND SOCIAL BEHAVIOUR (S9-5)

12:45 **Discussion / Concluding Remarks**

EBBS
European Brain and Behaviour Society

Introductory Remarks to Symposium 10

Membrane trafficking processes and presynaptic proteostasis

Marijn Kuijpers and Anna Karpova, Nijmegen (Netherlands) and Magdeburg

The molecular makeup of synapses is extraordinarily complex, and their distance from the cell body, where most protein synthesis occurs, can be enormous. Because neurons are both postmitotic and long-lived, maintaining the integrity of their proteome is of particular importance. Several hundred different proteins can be found in forebrain synapses and this complex proteome creates a unique situation with respect to the molecular dynamics of protein exchange, in particular at the presynapse. How protein turnover is regulated in axons and axon terminals, and whether this occurs locally (i.e. at the synapse) or in the soma is a key cell biological question. Currently there is a surprising paucity of data on necessities for, and mechanisms of protein replacement at presynapses. Gaps in our knowledge concern: which degradative pathways are involved, how different pathways contribute to the presynaptic proteome, which signals direct proteins into a given pathway, how proteins are sorted for certain degradative mechanisms, how synaptic activity affects degradation, how cross-talk is regulated, and which presynaptic sensor mechanisms identify protein 'damage'.

In this symposium we will look at the specific contribution of autophagy and axonal trafficking to axonal and presynaptic proteostasis and discuss how presynaptic function and plasticity is regulated by autophagy. Mechanisms that couple autophagosome biogenesis to synaptic activity will be presented (Daniel Colon-Ramos). We will discuss how non-canonical functions of autophagosomes (e.g. signalling) impact presynaptic development, maintenance and function (Natalia Kononenko). Autophagosomes fuse with late endosomes to undergo robust retrograde transport and the resulting amphisomes serve as signaling and sorting platforms while trafficking in a retrograde direction to the cell soma (Anna Karpova). We will also address defects in anterograde axonal transport in the neurodegenerative disorder Hereditary Spastic Paraplegia (Vranda Garg). Finally, loss of neuronal autophagy causes the selective accumulation of tubular Endoplasmic Reticulum (ER) in axons under physiological conditions, resulting in increased excitatory neurotransmission as a consequence of elevated calcium release from ER stores (Marijn Kuijpers).
The symposium is thematically linked to and financially supported by the DFG-funded Research Unit (FOR 5228) 'Syntophagy' (www.syntophagy.de)

Symposium 10

Thursday, March 23, 2023
11:00 - 13:00, Lecture Hall 104

Chairs: Marijn Kuijpers and Anna Karpova,
Nijmegen (Netherlands) and Magdeburg

11:00 **Opening Remarks**

11:05 Daniel Colon-Ramos, New Haven, USA
MECHANISMS OF LOCAL SYNAPTIC AUTOPHAGY VIA TRAFFICKING OF ATG-9 (S10-1)

11:30 Natalia Kononenko, Cologne
SURVIVAL-INDEPENDENT ROLES OF NEURONAL AUTOPHAGY (S10-2)

11:55 Anna Karpova, Magdeburg
AMPHISOME BIOGENESIS, TRAFFICKING AND SIGNALING AT PRESYNAPTIC BOUTONS (S10-3)

12:20 Vranda Garg, Goettingen
DEFECTIVE AXONAL TRANSPORTATION OF A CONTACT SITE PROTEIN CAUSING NEURODEGENERATION IN ZEBRAFISH (S10-4)

12:35 Marijn Kuijpers, Nijmegen, The Netherlands
AUTOPHAGY CONTROLS ER CALCIUM STORES TO REGULATE NEUROTRANSMISSION (S10-5)

Introductory Remarks to Symposium 11

Neuroscience of naturalistic navigation and foraging in non-human primates

Irene Lacal and Alexander Gail, Goettingen

A main aim of system neuroscience research in primates is to understand the neural underpinnings of goal directed behavior. With the advance in wireless technologies for neural recordings, video-based motion tracking and powerful tools for full-body behavior quantification, unprecedented opportunities arise for studying brain networks during naturalistic behaviours. In particular, ecologically highly relevant behaviors such as multi-source foraging, free exploration in complex environments and social interactions have become accessible for neurophysiological studies.

This symposium brings together international researchers pioneering the field of neurophysiology in non-human primates during unrestrained behaviors in complex environments.
Daniel Huber will present the latest development of EthoLoop, a novel tracking system able to follow movements and analyze complex behaviors of unrestrained mouse lemurs in real time in combination with wireless neural recordings. Dora E. Angelaki will show how hippocampal and cortical activity in unrestrained rhesus monkeys relate to foraging behavior both in freely moving and virtual reality environments. Zurna Ahmed will introduce the Exploration Room, a novel modular experimental setting encouraging unrestrained, yet repetitive full-body behaviors beyond walking in rhesus macaques while recording from the frontoparietal reach network. Irene Lacal and Neda Shahidi will highlight novel paradigms in the Exploration Room for studying spatial cognition during naturalistic solo or dyadic foraging and the frontoparietal representations of dynamic evaluation of choices. Jan Zimmermann will present how unconstrained behavior is organized across multiple spatial and temporal scales in rhesus monkeys and how electrophysiology experiments can give us a unique insight into these processes.

Symposium 11

Thursday, March 23, 2023
11:00 - 13:00, Lecture Hall 102

Chairs: Irene Lacal and Alexander Gail, Goettingen

11:00 **Opening Remarks**

11:05 Daniel Huber, Geneva, Switzerland
CLOSED-LOOP NEUROETHOLOGY IN FREELY RANGING MOUSE LEMURS (S11-1)

11:25 Dora E. Angelaki, New York, USA
ACTIVE SENSING AND FLEXIBLE NEURAL CODING DURING VISUALLY GUIDED VIRTUAL NAVIGATION (S11-2)

11:45 Zurna Ahmed, Goettingen
THE EXPLORATION ROOM (EXR) – A NOVEL ENVIRONMENT FOR NEUROPHYSIOLOGICAL RECORDINGS IN FREELY MOVING RHESUS MACAQUES EXHIBITING ECOLOGICALLY RELEVANT BEHAVIOURS (S11-3)

11:55 Irene Lacal & Neda Shahidi, Goettingen
NEW APPROACHES TO THE STUDY OF SENSORIMOTOR BASIS OF FORAGING BEHAVIOUR IN NON-HUMAN PRIMATES (S11-4)

12:15 Jan Zimmermann, Minneapolis, USA
TIMESCALES OF BEHAVIOUR AND NEURAL PROCESSING IN UNCONSTRAINED MACAQUES (S11-5)

12:35 **Discussion and concluding Remarks**

SFB1528
Cognition of Interaction

Introductory Remarks to Symposium 12

Epileptogenesis in mouse models of genetic epilepsies

Holger Lerche, Tuebingen

Epilepsy is a common and disabling disorder that represents a significant disease burden worldwide. Gene discovery and functional analysis of genetic defects have been instrumental in deciphering disease mechanisms and developing first personalized treatments. However, most of the genetic alterations underlying epilepsy remain to be elucidated. Genetic epilepsies exhibit a typical age-dependency, the cause of which is largely unknown. It is therefore likely that developmental factors play a central role in the epileptogenesis of genetic epilepsies. In addition, specific seizure phenotypes are frequently accompanied by comorbid neurodevelopmental phenotypes with potentially overlapping vulnerable periods that include motor and language delays, intellectual disability, attention-deficit/hyperactivity disorder, and autism spectrum disorder. Mouse models can be used to investigate whether and how genetic mutations trigger epileptogenic processes and how these interact with developmental processes that likely contribute to the age-dependent manifestation of seizure phenotypes in genetic epilepsies. The developing brain is particularly vulnerable to disruption and insults, but its plasticity also offers significant preventive and therapeutic potential. Using genetic mouse models, treatment of channel variants identified in humans has been shown to prevent epileptogenesis and neurodegeneration early in development (e.g., inducible KCNQ2 model of developmental and epileptic encephalopathy). Several other genes such as SCN2A or KCNA2 have been identified to be involved in severe genetic epilepsies accompanied by developmental delays. However, to develop targeted treatment options for these syndromes, it is important to know when and how to use them most effectively.

In this symposium, we will address the general concept of vulnerable periods in genetic mouse models and will show that brain-region specific vulnerability, miswiring in developing neural networks, and altered dendritic integration are involved in epileptogenesis and specific seizure types in genetic epilepsies. Possible treatment options targeting the disease cause and clinical data will be discussed.

Symposium 12

Thursday, March 23, 2023
11:00 - 13:00, Lecture Hall 103

Chair: Holger Lerche, Tuebingen

11:00 **Opening Remarks**

11:05 Andrea Merseburg, Cologne
DEVELOPMENTAL WINDOWS OF OPPORTUNITY IN MOUSE MODELS OF GENETIC EPILEPSIES (S12-1)

11:25 Thomas Wuttke, Tuebingen
BRAIN-REGION SPECIFIC EPILEPTOGENESIS IN DRAVET SYNDROME (S12-2)

11:45 Tony Kelly, Bonn
ABERRANT DENDRITIC HYPEREXCITABILITY AND DENDRITIC MATURATION OF CA3 PYRAMIDAL CELLS IN THE SCN2A^{A263V} GENETIC EPILEPSY MODEL (S12-3)

12:05 Ulrike Hedrich, Tuebingen
KCNA2-ENCEPHALOPATHY: FROM BENCH TO BEDSIDE (S12-4)

12:25 Eleonora Anna Loi, Jena
NMDA-RECEPTOR-FC-FUSION CONSTRUCTS NEUTRALIZE ANTI-NMDA RECEPTOR ANTIBODIES (S12-5)

12:35 **Discussion and Concluding Remarks**

Introductory Remarks to Symposium 13

Breaking News I

Marc Spehr, Aachen

Students had the choice to either register with a poster presentation or apply for an oral communication. The program committee has selected the young investigator presentations from these submissions and assigned them either to a symposium or to the Breaking News symposia.

For the third time, the NWG will award three prizes (500, 300, 200 €) for student participants at the Göttingen Meeting 2023 - the **Breaking News' Best Paper Awards.**

The prizes will be given to three young scientists who present the best talks in the Breaking News Symposia. Criteria for selection are the novelty of the findings which are presented and their potential impact on future research and the quality of the presentation, both the speech and the slides. A jury will pick the awardees, and the awards will be announced and bestowed during the conference after the last lecture on Friday.

The following students were selected to give a short communication in Symposium 13 – Breaking News I:

11:00 **Opening Remarks**

11:05 Francesco Monaca, London, UK
HORMONE-MEDIATED NEURAL REMODELLING ORCHESTRATES PARENTING ONSET DURING PREGNANCY (S13-1)

11:15 Fathima Mukthar Iqbal, Wuerzburg
CHARACTERIZATION OF DESCENDING AND MODULATORY NEURONS ENABLING ADAPTIVE WALKING IN *DROSOPHILA* (S13-2)

11:25 Lennart Roos, Goettingen
IN VIVO INVESTIGATION OF NOVEL CHANNELRHODOPSIN VARIANTS FOR OPTOGENETIC ACTIVATION OF THE AUDITORY PATHWAY BY BLUE LIGHT (S13-3)

Symposium 13

Thursday, March 23, 2023
11:00 - 13:00, Lecture Hall 101

Chair: Marc Spehr, Aachen

11:35 Berra Yildiz, Ulm
MOLECULAR ALTERATIONS UNDERLYING HYPOTONIA IN SHANK3 DEFICIENCY (S13-4)

11:45 Hung Lo, Berlin
BINGE EATING SUPPRESSES FLAVOR REPRESENTATIONS IN THE MOUSE OLFACTORY CORTEX (S13-5)

11:55 **Break**

12:05 Florian Zirpel, Oxford, UK
CIRCADIAN REGULATION OF TRIGEMINAL PAIN CIRCUITS (S13-6)

12:15 Alisa Bakhareva, Cologne
REGULATION OF SOCIAL BEHAVIOUR AND ANXIETY BY CORTICAL INPUTS TO LATERAL HYPOTHALAMUS (S13-7)

12:25 Andreas Franzelin, Hamburg
LIMITING FACTORS AND REGULATORY CONSEQUENCES OF cFos EXPRESSION (S13-8)

12:35 Alexandra Barayeu, Tuebingen
AN ELECTROSENSORY COCKTAIL PARTY PROBLEM (S13-9)

12:45 Petra Mocellin, Magdeburg
A SEPTAL-VTA CIRCUIT DRIVES EXPLORATORY BEHAVIOR (S13-10)

12:55 **Concluding Remarks**

Introductory Remarks to Symposium 14

Plasticity in unexpected places: flexible circuits for instinctive behaviours

Johannes Kohl and Vanessa Stempel, London (UK) and Frankfurt/Main

Instinctive behaviours such as mating, parenting and aggression can be performed without prior learning and likely rely on circuits that are pre-wired during development. However, these behaviours are not merely stereotyped fixed-action patterns. Rather, they can be highly flexible to accommodate external (environmental) and internal (physiological) changes and are profoundly modulated by experience. Recent advances in behavioural and circuit neuroscience now permit us to identify behaviour-specific cell types and circuits, and to interrogate their form and function with unprecedented resolution in the behaving animal.

This symposium will bring together researchers studying plasticity in circuits subserving behaviours ranging from parenting (Adi Mizrahi, ELSC Jerusalem), mating (Dhananjay Bambah-Mukku, UCSD) and social avoidance (Takuya Osakada, NYU) to hunger-driven social behaviour (Rebecca Figge-Schlensok, Cologne) and escape (Vanessa Stempel, MPI Frankfurt). Our goal is to identify plasticity mechanisms in instinctive behaviour circuits, to explore how they enable both behavioural robustness and flexibility, and to highlight an unexpected degree of malleability in neural systems often regarded as hardwired and static.

Symposium 14

Thursday, March 23, 2023
11:00 - 13:00, Lecture Hall 9

Chairs: Johannes Kohl and Vanessa Stempel,
London (UK) and Frankfurt/Main

11:00 **Opening Remarks**

11:05 Adi Mizrahi, Jerusalem, Israel
CORTICAL PLASTICITY OF INNATE BEHAVIOUR (S14-1)

11:25 Takuya Osakada, New York, USA
A DEDICATED HYPOTHALAMIC OXYTOCIN CIRCUIT CONTROLS SOCIAL AVOIDANCE LEARNING (S14-2)

11:45 Rebecca Figge-Schlensok, Cologne
DISTINCT LATERAL HYPOTHALAMIC CELL POPULATIONS RESIST HUNGER PRESSURE TO BALANCE NUTRITIONAL AND SOCIAL NEEDS (S14-3)

11:55 Dhananjay Bambah-Mukku, La Jolla, USA
IDENTIFICATION OF A HYPOTHALAMIC LOCUS GATING BEHAVIOURAL SEX-SPECIFICITY (S14-4)

12:15 Vanessa Stempel, Frankfurt/Main
MIDBRAIN CIRCUITS FOR FLEXIBLE INSTINCTIVE BEHAVIOURS (S14-5)

12:35 **Discussion and Concluding Remarks**

THE FRANCIS CRICK INSTITUTE

Introductory Remarks to Symposium 15

Breaking News II

Ivan Manzini, Gießen

Students had the choice to either register with a poster presentation or apply for an oral communication. The program committee has selected the young investigator presentations from these submissions and assigned them either to a symposium or to the Breaking News symposia.

For the third time, the NWG will award three prizes (500, 300, 200 €) for student participants at the Göttingen Meeting 2023 - the **Breaking News' Best Paper Awards.**

The prizes will be given to three young scientists who present the best talks in the Breaking News Symposia. Criteria for selection are the novelty of the findings which are presented and their potential impact on future research and the quality of the presentation, both the speech and the slides. A jury will pick the awardees, and the awards will be announced and bestowed during the conference after the last lecture on Friday.

The following students were selected to give a short communication in Symposium 15 – Breaking News II:

16:15 **Opening Remarks**

16:20 Melanie Scharr, Tuebingen
DKK1 – AN AMBIVALENT REGULATOR OF CELLULAR HOMEOSTASIS IN ENTERIC NERVOUS SYSTEM SIGNALLING (S15-1)

16:30 Sielke Caestecker, Ghent, Belgium
CHEMOGENETIC ACTIVATION OF THE LOCUS COERULEUS INCREASES NORADRENALINE LEVELS IN THE HIPPOCAMPUS AND MODULATES ITS HIPPOCAMPAL EXCITABILITY (S15-2)

16:40 Inés Hojas García-Plaza, Goettingen
INVESTIGATING ULTRASTRUCTURAL AND MOLECULAR CORRELATES OF SHORT-TERM FACILITATION AT HIPPOCAMPAL MOSSY FIBRE SYNAPSES (S15-3)

Symposium 15

Thursday, March 23, 2023
16:15 - 18:15, Lecture Hall 101

Chair: Ivan Manzini, Gießen

16:50 Nina Feller, Luebeck
CHARACTERIZATION OF TANYCYTES IN AN ALZHEIMER'S DISEASE MOUSE MODEL (S15-4)

17:00 Zeeshan Mushtaq, Kaiserslautern
MOLECULAR CHARACTERIZATION OF THE SEQUENTIAL PROCESSES UNDERLYING SYNAPTIC DEGENERATION (S15-5)

17:10 **Break**

17:20 Carmen Haider, Vienna, Austria
DE NOVO IMMUNOREACTIVITY AGAINST CENTRAL NERVOUS SYSTEM ANTIGENS AFTER HUMAN SPINAL CORD INJURY (S15-6)

17:30 Bernát Nógrádi, Szeged, Hungary
MOTONEURONAL INFLAMMASOME ACTIVATION TRIGGERS NEUROINFLAMMATION AND IMPEDES REGENERATION FOLLOWING SCIATIC NERVE INJURY (S15-7)

17:40 Bettina Habelt, Dresden
EVALUATION OF NEUROPHYSIOLOGICAL EFFECTS OF PSILOCYBIN IN CHRONIC ALCOHOLISM USING EPICORTICAL NEUROPROSTHETICS (S15-8)

17:50 Yannick Günzel, Konstanz
HOPPER BY NAME, HOPPER BY NATURE. DECISION-MAKING PROCESSES UNDERLYING THE LOCUST STARTLE RESPONSE (S15-9)

18:00 Yuebing Li, Bern, Switzerland
RHO-KINASE INVOLVEMENT IN SUBRETINAL FIBROSIS (S15-10)

18:10 **Concluding Remarks**

Introductory Remarks to Symposium 16

A new look at neuronal circuits after CNS injury: mechanisms for vulnerability and repair

Francesco Roselli and Aya Takeoka, Ulm and Leuven (Belgium)

Recovery, repair, and regeneration of circuits are critical steps toward the restoration of the brain and spinal cord functions after injury. Yet, patients with traumatic brain or spinal cord injury experience only limited recovery, incomplete repair, and often no regeneration. The present symposium reports i) on the mechanisms which drive vulnerability of neuronal or synaptic subpopulations upon trauma, ii) on the mechanisms enhancing or preventing effective re-growth of axons, iii) on the re-establishment of functional short- and long-range circuits, and iv) how to overcome obstacles toward the restoration of functions.

The symposium brings together investigators studying the optic nerve, cortical, and spinal cord injuries, providing both a unified view of the injury and repair processes and discussing the peculiarities of each site.
The speakers will introduce the cutting-edge biochemical, viral, and biotechnological tools they deploy to address recovery and regeneration in these settings, highlighting advantages and perspectives for their tools. Prof. Nawabi will show how proteomics and translatomics of the injured optic nerve reveal how to modulate regenerative axons path to form functional circuits. Prof. Roselli will show how chemogenetic manipulations of microcircuit activity produce beneficial or detrimental changes in neuronal vulnerability and neuroinflammation. Prof. Takeoka will introduce cell type specificity regulating spinal circuit remodeling after spinal cord injury and a viral approach to facilitate recovery. Dr. Puttagunta will introduce the use of engineered biomaterials and cell transplantation to foster repair and regrowth of neuronal circuits after spinal cord injury. Dr. Georgiev will introduce shared concepts related to the remodeling of neuronal extracellular matrix, a component of neuronal regeneration and regrowth that is growingly recognized as a major player in determining neuronal responses to injury.

Symposium 16

Thursday, March 23, 2023
16:15 - 18:15, Lecture Hall 102

Chairs: Francesco Roselli and Aya Takeoka, Ulm and Leuven (Belgium)

16:15 Homaira Nawabi, La Tronche, France
ADULT AXON GUIDANCE TO REFORM A FUNCTIONAL NEURONAL CIRCUIT IN THE VISUAL SYSTEM (S16-1)

16:40 Francesco Roselli, Ulm
CHEMOGENETIC CONTROL OF CIRCUIT VULNERABILITY AND NEUROINFLAMMATION IN TBI (S16-2)

17:05 Aya Takeoka, Leuven, Belgium
AGE OF INJURY-DEPENDENT LOCOMOTOR CIRCUIT PLASTICITY AFTER A SPINAL CORD INJURY (S16-3)

17:30 Radhika Puttagunta, Heidelberg
BRIDGING THE GAP AFTER SCI (S16-4)

17:55 Svilen Veselinov Georgiev, Goettingen
REMODELING OF THE NEURONAL EXTRACELLULAR MATRIX (S16-5)

Introductory Remarks to Symposium 17

Moving the body: communication, coordination and control in neuromechanical systems

Jan M. Ache and Corinna Gebehart, Wuerzburg and Lisbon (Portugal)

Taking a walk in the park is much more challenging than personal experience might suggest: moving through the world is demanding on multiple levels, and how nervous systems control adaptive locomotion is an area of intense research efforts. Many unanswered questions in motor control are found at systems interfaces, for example between the body and the environment, or between regions of the nervous system. Which sensory cues are needed for adaptive locomotion, and how are they integrated? Motor networks in the spinal or ventral nerve cord can maintain locomotor rhythms independent of the brain, but how is their activity modulated by descending commands to achieve adaptive locomotion? And how does the brain, in turn, integrate ascending feedback about body posture and internal states? The international NeuroNex consortium 'Communication, Coordination and Control in Neuromechanical Systems' (C^3NS) aims to tackle these questions by comparing motor control strategies across species.

Our symposium features five speakers, four of whom are associated with 'C^3NS'. Starting in the sensory periphery, Gesa F. Dinges will address how force feedback from leg mechanoreceptors is fed into the nervous system of *Drosophila*. Another key interface that has received little attention in the context of motor control and action-selection is that between neurons and glia, which will be discussed by Amber A. Krebs. Finally, three talks will cover interactions between the brain and motor networks. First, Jan M. Ache will discuss how sensory cues and internal states are integrated by descending neurons to drive adaptive locomotion in *Drosophila*. Second, Nicholas S. Szczecinski will discuss how motor circuits integrate descending commands and local mechanosensory feedback to control movements in synthetic nervous systems. Finally, Marie-Claude Perreault will speak about influences of descending systems on sensory processing in the mouse spinal cord.

Symposium 17

Thursday, March 23, 2023
16:15 - 18:15, Lecture Hall 9

Chairs: Jan M. Ache and Corinna Gebehart, Wuerzburg and Lisbon (Portugal)

16:15 **Opening Remarks**

16:20 Gesa F. Dinges, Cologne
DROSOPHILA STRAIN SENSORS: FROM MORPHOLOGY AND BIOMECHANICS TO FUNCTION (S17-1)

16:45 Amber A. Krebs, Münster
CONTRIBUTION OF GLIAL CELLS DURING ACTION SELECTION IN *DROSOPHILA* LARVAE (S17-2)

17:00 Jan M. Ache, Wuerzburg
NEURONAL MECHANISMS FOR SENSORIMOTOR FLEXIBILITY IN *DROSOPHILA* (S17-3)

17:25 Nicholas S. Szczecinski, Morgantown, USA
BIOMIMETIC ROBOTS AS TOOLS FOR UNDERSTANDING HOW THE NERVOUS SYSTEM MOVES THE BODY (S17-4)

17:50 Marie-Claude Perreault, Atlanta, USA
INTEGRATION OF DESCENDING AND PERIPHERAL SENSORY SIGNALS BY SPINAL CORD INTERNEURONS (S17-5)

Introductory Remarks to Symposium 18

Astrocyte control of neural circuit function and animal behaviour

Johannes Hirrlinger and Christian Henneberger, Leipzig and Bonn

Over the past few decades, fascinating new insights into astrocyte biology have solidified the idea that these cells are also indispensable for neural circuit development, operation, and adaptation throughout life. Astrocytes and other glial cells like microglia and oligodendroglial lineage cells together with neurons form neuron-glia assemblies in which all cell types work in unison to jointly fulfil the function of the brain or a specific brain region. These assemblies do not just increase the dimensionality of the potential cellular interactions, they also fundamentally change the properties of neural circuits, because glial cells and their networks have vastly different structural and functional properties. Consequently, accumulating evidence shows that astrocytes crucially contribute to controlling animal behavior on various time scales. Despite this progress and such exciting novel insights, many longstanding questions remain: How do astrocytes integrate and respond to diverse neuronal signals at the cellular and population levels? How do they convert this task- and animal state-dependent information into functional outputs that modulate neural circuit dynamics and animal behavior? How does this astrocytic influence on neurons augment/complement neural circuit properties? How does impairment of these functions contribute to disease? How can beneficial functions of astrocytes be boosted in disease to protect CNS cells from damage and promote regeneration? How do other glial cells like microglial cells affect neural circuit dynamics and animal behavior?

With this symposium, we aim at providing an up-to-date snapshot of astrocytes' role in regulating neural network function and animal behavior, and extend this view on the contribution of microglial cells. We will discuss that glial cells are an essential element in controlling animal behavior, and lay down the concept of neuron-glia assemblies as the fundamental computational units underlying brain function. This symposium will be a primer and inspiration for developing and/or refining new concepts that take a comprehensive view at brain function and animal behavior.

Symposium 18

Thursday, March 23, 2023
16:15 - 18:15, Lecture Hall 8

Chairs: Johannes Hirrlinger and Christian Henneberger, Leipzig and Bonn

16:15 **Opening Remarks**

16:20 Hajime Hirase, Copenhagen, Denmark
OPTOGENETIC ACTIVATION OF TRANSIENT ASTROCYTIC Gq SIGNALING IN FRONTAL CORTEX (S18-1)

16:45 Marie-Luise Brehme, Hamburg
CHEMOGENETIC ACTIVATION OF Gq IN MICROGLIA LEADS TO DEFICITS IN SYNAPTIC PLASTICITY AND REMOTE MEMORY (S18-2)

17:00 Christian Henneberger, Bonn
AN ASTROCYTIC SIGNALING LOOP FOR FREQUENCY-DEPENDENT CONTROL OF DENDRITIC INTEGRATION AND SPATIAL LEARNING (S18-3)

17:25 Stefanie Schirmeier, Dresden
THE ROLE OF GLIAL CELLS IN POST-INGESTIVE NUTRIENT SENSING AND FOOD CHOICE BEHAVIOR (S18-4)

17:50 Amit Agarwal, Heidelberg
STRUCTURAL AND FUNCTIONAL DYNAMICS OF MITOCHONDRIA IN ASTROCYTES *IN VIVO* (S18-5)

Introductory Remarks to Symposium 19

Impact of early traumatic stress on brain development, and mental and somatic health

Christian Schmahl and Katja Seitz, Mannheim and Heidelberg

The Research Training Group (GRK2350) investigates psychosocial, neurobiological, and somatic sequelae of adverse childhood experiences (ACE). ACE such as sexual and physical abuse or neglect constitute a massive stressor with long-lasting consequences for mental and somatic health. Despite their obvious relatedness, neither the causal relation nor the mechanisms involved are clear. Traumatic experiences are diverse, differing in type, timing, and intensity with social support and other protective factors contributing to this. ACE-related manifestations range from psychosocial to somatic problems such as heightened stress sensitivity, interpersonal problems, substance dependence, chronic pain, or inflammatory and metabolic diseases. Therefore, the central aims of the GRK are (1) investigation of the role of type, timing and intensity of ACE in the emergence of ACE-related disorders; (2) elucidation of the psychosocial, neurobiological and epigenetic mechanisms underlying ACE-related disorders; (3) development of novel treatment possibilities for ACE-related conditions.

In the first presentation (Schmahl) of this symposium, an overview of the research questions and methods of the GRK will be given. In addition, findings on critical periods in human and rodent brain development and brain function will be demonstrated. A second presentation (Krause-Utz) focuses on the association between heart rate variability (HRV) and working memory during emotional distraction in individuals with ACE. Severity of ACE predicted worse performance in this task, mediated by altered HRV. The third presentation (Seitz) reports on findings from an emotional face perception paradigm in humans with early traumatic experience. The fourth presentation (Atanasova) focusses on the impact of traumatic stress in patients with inflammatory bowel disease, demonstrating how disturbances in interoceptive processes contribute to alterations in emotion and cognition in individuals with ACE. In a student presentation (Schulze), a network analysis on ACE, Borderline Personality Disorder, attachment and social support will be presented.

Symposium 19

Thursday, March 23, 2023
16:15 - 18:15, Lecture Hall 104

Chairs: Christian Schmahl and Katja Seitz, Mannheim and Heidelberg

16:15 Christian Schmahl, Mannheim
INFLUENCE OF TYPE AND TIMING OF TRAUMATIC STRESS ON BRAIN STRUCTURE AND FUNCTION (S19-1)

16:35 Annegret Krause-Utz, Leiden, The Netherlands
SEVERITY OF CHILDHOOD MALTREATMENT PREDICTS REACTION TIMES AND HEART RATE VARIABILITY DURING AN EMOTIONAL WORKING MEMORY TASK IN BORDERLINE PERSONALITY DISORDER (S19-2)

16:55 Katja Seitz, Heidelberg
ASSOCIATION BETWEEN ADVERSE CHILDHOOD EXPERIENCES AND EMOTIONAL FACE PERCEPTION IN A TRANSDIAGNOSTIC SAMPLE (S19-3)

17:15 Konstantina Atanasova, Mannheim
BODY MATTERS IN EMOTION: INTEROCEPTIVE PROCESSING IN PATIENTS WITH INFLAMMATORY BOWEL DISEASE (S19-4)

17:35 Anna Schulze, Mannheim
ON THE INTERPLAY BETWEEN BORDERLINE PERSONALITY FEATURES, CHILDHOOD TRAUMA SEVERITY, ATTACHMENT TYPES, AND SOCIAL SUPPORT (S19-5)

17:55 **Discussion**

GRK 2350

Introductory Remarks to Symposium 20

Hidden senses

Kristina Corthals and Bart Geurten, Lund (Sweden) and Otago (New Zealand)

The human sensory percept encompasses many sensory modalities, but we are most keenly aware of the Aristotelian senses: vision, audition, taste, olfaction, and touch. Consequently, these senses are also in focus of neurosciences, thereby occluding the role of other senses crucial for the individual fitness in many species.
Fitness is directly dependent on functional navigation in all none-sessile organisms. Depending on the attributes of the habitat different modalities become essential. In cattered visual terrain, snakes enhance their prey detection by using their infrared sense to detect the heat profiles of their warm-blooded prey. In the flat dessert panes visual cues are scarce and ants augment their sensory percept using magneto-reception. To cross large distances in the absence of wings, spiders employ their elector receptors to initialize their wingless flight.
Even in more moderate habitats an unfavorable combination of temperature and humidity levels bear the danger of desiccation to small poikilothermic animals. Therefore hygrosensation is of utmost importance to many species and particularly to insects. Insects use hygro- and thermosensation not only to avoid adverse circumstance, but also to detect hosts. These sensory feats become even more important regarding global warming. Global warming threatens insect species with desiccation and loss of habitats, which extends the home ranges of known insect disease vectors to northern latitudes and higher altitudes.

In this symposium we want to shine light on a range of these occluded, "hidden senses" and discuss their neuronal mechanisms and the parallels uniting them. We have selected a range of scientists working on modalities outside of the Aristotelian senses. Their work illustrates the relevance of the sense to the organism's survival and characterizes the neuronal underpinnings of these rare modalities. The talks will cover hygro-sensation, lectroreception, magnetoreception and infrared sensing.

Symposium 20

Thursday, March 23, 2023
16:15 - 18:15, Lecture Hall 105

Chairs: Kristina Corthals and Bart Geurten,
Lund (Sweden) and Otago (New Zealand)

16:15 **Opening Remarks**

16:20 Maximilian Bothe, Graz, Austria
THERMORECEPTION IN RATTLESNAKES – HINDBRAIN PROCESSING AND SENSORY PERIPHERY (S20-1)

16:45 Kristina Corthals, Lund, Sweden
CHARACTERIZATION OF THE HUMIDITY RECEPTOR NEURONS IN *DROSOPHILA MELANOGASTER* (S20-2)

17:10 Ganesh Giri, Malmö, Sweden
UNDERSTANDING THE MECHANISM OF HYGROSENSATION (S20-3)

17:20 Pauline Fleischmann, Wuerzburg
HIDDEN SENSES: THE MAGNETIC COMPASS IN CATAGLYPHIS DESERT ANTS (S20-4)

17:45 Daniel Robert, Bristol, UK
ELECTRORECEPTION IN BEES AND OTHER ARTHROPODS (S20-5)

18:10 **Concluding Remarks**

Introductory Remarks to Symposium 21

Pushing and pulling: how the interplay of excitation and inhibition shapes network dynamics

Mattia Chini and Sebastian H. Bitzenhofer, Hamburg

Synaptic excitation and inhibition are temporally and spatially tightly coupled in neuronal networks. Even simple stimuli lead to the concomitant occurrence of excitation and inhibition, controlled by the interplay between pyramidal neurons and interneurons. This ultimately results in a delicate dynamic balance between the amount of excitatory and inhibitory postsynaptic currents (excitation-inhibition ratio). Theoretical work suggests that a balanced excitation-inhibition ratio stabilizes cortical networks and enables flexible processing of information. How the balance of excitation-inhibition ratio emerges during development and how it coordinates network functions are questions of open investigation.

The proposed symposium aims at providing a comprehensive overview of recent key findings on how excitation-inhibition ratio affects information processing and neuronal network dynamics by bringing together theoretical perspectives and experimental data from humans and animal models.
Anna Levina will address how self-organization of synaptic connections in neuronal cultures stabilizes the excitation-inhibition ratio to maintain stable and robust dynamics in neuronal networks. Julijana Gjorgjieva will discuss how spontaneous activity and the organization of synaptic inputs on the dendrites of cortical neurons affect excitation-inhibition balance and neuronal network dynamics in the developing mouse brain. Irina Pochinok will describe experimental and computational work highlighting how the developmental emergence of hippocampal ripples is promoted by a relative increase of inhibition. Richard Gao will present data on model-based inference of excitation-inhibition ratio and other physiological variables from multiscale neural data. Thomas Pfeffer will leverage multi-scale computational modeling and human EEG/MEG data to show how different neuromodulatory systems modulate the balance between excitation and inhibition in cortical circuits.

Symposium 21

Thursday, March 23, 2023
16:15 - 18:15, Lecture Hall 10

Chairs: Mattia Chini and Sebastian H. Bitzenhofer, Hamburg

16:15 Anna Levina, Tuebingen
NEURONAL CIRCUITS OVERCOME IMBALANCE IN EXCITATION AND INHIBITION BY ADJUSTING CONNECTION NUMBERS (S21-1)

16:40 Julijana Gjorgjieva, Munich
STABILITY AND LEARNING IN EXCITATORY SYNAPSES BY NONLINEAR INHIBITORY PLASTICITY (S21-2)

17:05 Irina Pochinok, Hamburg
A DEVELOPMENTAL INCREASE OF INHIBITION PROMOTES THE EMERGENCE OF HIPPOCAMPAL RIPPLES (S21-3)

17:20 Richard Gao, Tuebingen
MECHANISTIC MODEL INFERENCE FROM OBSERVED NEURODYNAMICS (S21-4)

17:45 Thomas Pfeffer, Barcelona, Spain
NEUROMODULATORY REGULATION OF LARGE-SCALE CORTICAL DYNAMICS AND BEHAVIORAL VARIABILITY IN HEALTHY HUMANS (S21-5)

18:10 **Concluding Remarks**

Introductory Remarks to Symposium 22

Illuminating the brain – current applications and future developments of next-generation biosensors

Olivia Masseck and Lutz Wallhorn, Bremen

Inferring correlations between the activity of neurons within a neuronal ensemble and the behavioral state of the animal is one of the key goals of systems neuroscience. Optical approaches have the necessary spatial resolution to record activity from hundreds of neurons simultaneously. With the development of genetically encoded calcium indicators (GECIs), it was possible to record Ca^{2+} influx (as a proxy for neuronal activity) with high spatial and temporal resolution. This advancement in neuroscience paved the way for a new line of research: Development of new genetically encoded biosensors.

In the last years, genetically encoded fluorescent sensors have emerged as versatile tools for imaging neurochemical release with high specificity and sensitivity. Most of the genetically encoded sensors use a specific G-Protein coupled receptor as sensing moiety fused to a circularly permuted fluorescent protein. Other biosensors are based on periplasmic binding proteins (PBP) from bacteria that have been modified to measure neurotransmitters.

Additionally, genetically encoded voltage indicators (GEVIs) can directly detect voltage changes across the membrane during spiking activity as well as during synaptic transmission. So far voltage imaging has remained demanding because of the fast nature of action potentials (i.e. typical length of 1 ms). However, protein engineering together with high-throughput screening as led to compelling improvements of currently available GEVIs.

As a complement to optical sensors for neural activity, molecules that permit optical control of selected aspects of neuronal signaling permit causal investigations in neuroscience. Photo-switchable tethered ligands have been established in this context as powerful tools to control various receptors with high precision or to obtain information on their activation state. Furthermore, modifying existing optogenetic tools, like ChRmine has potential for clinical use, for example in hearing restoration.

This symposium will cover different aspects of biosensor neurotechnology: from ultrafast neuromodulator and neurotransmitter imaging to all-optical assays and state-of-the-art voltage imaging.

Symposium 22

Friday, March 24, 2023
08:30 - 10:30, Lecture Hall 10

Chairs: Olivia Masseck and Lutz Wallhorn, Bremen

08:30 **Opening Remarks**

08:35 Tommaso Patriarchi, Zurich, Switzerland
NEW OPTICAL TOOLS FOR MONITORING AND CONTROLLING NEUROMODULATOR SIGNALING (S22-1)

09:00 Victoria Hunniford, Goettingen
IN VITRO AND *IN VIVO* CHARACTERIZATION OF IMPROVED CHANNELRHODOPSIN ChRmine VARIANTS FOR OPTOGENETIC ACTIVATION OF THE AUDITORY PATHWAY (S22-2)

09:15 Olivia Masseck, Bremen
NEXT GENERATION GENETICALLY ENCODED FLUORESCENT SENSORS FOR SEROTONIN AND BEYOND (S22-3)

09:40 Andreas Reiner, Bochum
OPTOCHEMICAL APPROACHES TO CONTROL AND SENSE GLUTAMATE RECEPTOR SIGNALING (S22-4)

10:05 Daan Brinks, Delft, The Netherlands
VOLTAGE IMAGING WITH GENETICALLY ENCODED VOLTAGE INDICATORS: DEVELOPMENT AND APPLICATIONS (S22-5)

Introductory Remarks to Symposium 23

Neuroepigenetics: Epigenomic adaptations in CNS development

Tanja Vogel and Geraldine Zimmer-Bensch, Freiburg and Aachen

Brain development and adult neuronal functions depend on properly executed transcriptional programs that include adaptive spatio-temporal adjustment of gene regulation integrating external information. This involves chemical modifications of DNA and chromatin, which all cells contributing to the CNS exploit for their proper development, function and adaptation, and which is termed neuroepigenetics, a recently emerging field of research.
Dissecting the impact of neuroepigenetic mechanisms on cellular processes will help to understand functional principles of the most complex organ system of the human body in health and disease.
Notably, the plasticity of epigenetic processes allows for the flexibility required for the developing and adult CNS to constantly adapt to a continuously changing environment. Communication with either the local microenvironment or signals from the periphery elicits adaptations in gene transcription that subsequently orchestrate cell physiological processes. Thus, epigenetic modifications are promising candidates for how environmental signals leave traces at the chromatin level that mediate adaptive short-term but also long-lasting changes in gene expression in CNS cells.

This symposium will discuss up- and downstream mechanisms of adaptive epigenomic remodeling in neurodevelopment, ranging from DNA methylation, histone modifications to adaptation of the 3D genomic architecture. We feature the most relevant and recent molecular mechanisms that control the development from neural stem cells to mature neuronal networks. Deepening our knowledge in this particular area is of major importance, as numerous neurodevelopmental and neuropsychiatric diseases have an environmental and epigenetic contribution in addition to genetic predisposition. As such, this symposium covers not only important questions of the basic neurosciences, but also has implications for arising potential for treating CNS diseases.

Symposium 23

Friday, March 24, 2023
08:30 - 10:30, Lecture Hall 105

Chairs: Tanja Vogel and Geraldine Zimmer-Bensch, Freiburg and Aachen

08:30 **Opening Remarks**
Tanja Vogel

08:35 Annalisa Izzo, Freiburg
EPIGENETIC MECHANISMS INVOLVED IN CEREBRAL CORTEX DEVELOPMENT (S23-1)

09:00 Geraldine Zimmer-Bensch, Aachen
CELL TYPE - SPECIFIC FUNCTIONS OF THE DNA METHYLTRANSFERASE 1 IN CORTICAL INTERNEURON DEVELOPMENT (S23-2)

09:25 Boyan Bonev, Munich
JOINT EPIGENOME PROFILING REVEALS CELL TYPE-SPECIFIC GENE REGULATORY PROGRAMS IN HUMAN CORTICAL ORGANOIDS (S23-3)

09:50 Tran Tuoc, Bochum
EPIGENOME REGULATION IN NEOCORTEX EXPANSION AND GENERATION OF NEURONAL SUBTYPES (S23-4)

10:15 Camilla Fullio, Freiburg
SPATIO-TEMPORAL DOT1L-MEDIATED REGULATION OF BASAL PROGENITOR CELLS DURING MOUSE CORTICAL DEVELOPMENT (S23-5)

10:25 **Concluding Remarks**

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Introductory Remarks to Symposium 24

Inflammatory mechanisms of epileptogenesis

Felix Rosenow, Sven G. Meuth and Nico Melzer, Frankfurt/ Main and Duesseldorf

Epilepsy is one of the most frequent chronic neurological diseases affecting more than 50 million people worldwide. It strikes people of all ages and is associated with a 2-3 fold increase in mortality, a high number of years lived with disability and life years lost. The burden of epilepsy is not only based on recurrent seizures but also on cognitive dysfunction and psychobehavioral comorbidities.
Currently, targeting epileptic seizures is the main focus of therapeutic efforts, underlined by the fact that nearly all of the >30 approved antiepileptic drugs act on neurons to suppress seizures without affecting the underlying brain pathology, and about one third of patients continue to have seizures while frequently also experiencing adverse effects. For decades, epilepsy research had a strong focus on neuronal pathomechanisms. However, causes and consequences of epilepsy extend well beyond neurons and seizures and involve adjacent biological systems. Recently, immune mechanisms and dysfunction of the neurovascular unit emerged as novel mechanisms contributing to epileptogenesis and thus promote initiation, perpetuation and progression of epilepsy. Likewise, these mechanisms appear to be involved in cognitive and psychobehavioral dysfunction.

The proposed symposium brings together international experts in translational investigation of epileptogenesis: Prof. Walker, London, will give a conceptual definition and overview on classical neuronal mechanisms of epileptogenesis in focal epilepsies. Prof. Aronica, Amsterdam, will give a talk on the precipitation of innate and adaptive immune responses through focal epileptic activity and their contribution to epileptogenesis. Vice versa, Prof. Vezzani, Milano, will provide an overview on the precipitation of epileptic activity and its perpetuation by focal innate and adaptive immune responses. Prof. Friedman, Halifax & Beer-Sheva, will report on the role of the neurovascular unit as master regulator of seizure-induced inflammation and inflammation-induced seizures. Completed by a short students talk of Josefine Sell, Jena, the proposed symposium will provide the audience with a timely overview of this expanding field.

Symposium 24

Friday, March 24, 2023
08:30 - 10:30, Lecture Hall 104

Chairs: *Felix Rosenow and Sven G. Meuth, Frankfurt/Main and Duesseldorf*
Organisation: Nico Melzer, Duesseldorf

08:30 **Opening Remarks**
Felix Rosenow, Sven G. Meuth

08:35 Mathew C. Walker, London, UK
CONCEPTUAL DEFINITION AND NEURONAL MECHANISMS OF EPILEPTOGENESIS IN FOCAL EPILEPSIES (S24-1)

09:00 Eleonora Aronica, Amsterdam, The Netherlands
NEUROINFLAMMATION IN HUMAN FOCAL EPILEPSIES (S24-2)

09:25 Annamaria Vezzani, Milano, Italy
NEUROINFLAMMATION INDUCED SEIZURES AND EPILEPSY: EXPERIMENTAL MODELS AND TARGETED PHARMACOLOGICAL TREATMENTS (S24-3)

09:50 Alon Friedman, Halifax, Canada
NEURO-GLIA-VASCULAR INTERACTIONS IN BRAIN DISORDERS: FROM BENCH TO BED (S24-4)

10:15 Josefine Sell, Jena
PATHOGENIC EFFECTS OF GABAB RECEPTOR ANTIBODIES FROM PATIENTS WITH AUTOIMMUNE ENCEPHALITIS ON NEURONAL SIGNALING AND MEMORY CONSOLIDATION (S24-5)

10:25 **Concluding Remarks**
Felix Rosenow, Sven G. Meuth

Angelini Pharma

Introductory Remarks to Symposium 25

A comparative perspective on social communication

Daniela Vallentin and Steffen Hage, Seewiesen and Tuebingen

Many animals, as well as humans, are able to modify their vocal output depending on the behavioral context. Some examples of these context-dependent vocalizations include the song of the zebra finch, which is more stereotyped when directed toward a female; calls of vervet monkeys, which can either serve as alarm or rivalry calls; and echolocation calls in bats, which are used for both hunting prey and intra-specific communication. Hereby, the capability to modulate vocal onset and patterns is not always dependent on whether animals produce learned or innate vocalizations. The underlying brain mechanisms that are controlling context-dependent changes in vocal output are still largely not well understood and it is a matter of debate, whether neural circuits underlying vocal pattern generation in vocal learners and non-learners share common neural coding properties.

The symposium will present different speakers that approach this issue in different animal models such as songbirds, bats, and monkeys, by using a wide range of behavioral observation, psychophysical approaches, and neurophysiological techniques. The goal is to uncover commonalities and disparities in behavioral strategies involved in initiating a context-dependent vocal modification. Our symposium will provide a new perspective on the behavioral and neural control of vocalizations produced within different contexts. It will give new and important insights into common mechanisms that might be shared across species. Furthermore, the symposium will provide new insight into different neural computations underlying contextual changes across a diverse subset of avian and mammalian species and will give an overview of recent advances in the study of context-dependent vocalizations.

Symposium 25

Friday, March 24, 2023
08:30 - 10:30, Lecture Hall 102

Chairs: Daniela Vallentin and Steffen Hage,
Seewiesen and Tuebingen

08:30 **Opening Remarks**

08:35 Lena Veit, Tuebingen
FLEXIBLE CONTEXTUAL CONTROL OVER BIRDSONG SEQUENCING AND STRUCTURE (S25-1)

09:00 Mirjam Knörnschild, Berlin
A COMPARATIVE PERSPECTIVE ON VOCAL PRODUCTION LEARNING IN BATS (S25-2)

09:25 Julio Hechavarria, Frankfurt/Main
A TOUR THROUGH THE BRAIN OF VOCALIZING BATS (S25-3)

09:50 Julia Löschner, Tuebingen
AUDIO-VOCAL INTEGRATION MECHANISMS IN MARMOSET MONKEYS (S25-4)

10:05 Andreas Nieder, Tuebingen
NEUROBIOLOGY OF COGNITIVE VOCAL CONTROL IN MACAQUES AND CROWS (S25-5)

Tucker-Davis Technologies

Introductory Remarks to Symposium 26

Phase separation in neuronal (patho)physiology

Dragomir Milovanovic, Christian Tetzlaff and Michael Fauth, Berlin and Goettingen

In the context of cell biology, liquid-liquid phase separation (LLPS) is a process where two or more molecules demix from the surrounding medium, forming so-called biomolecular condensates. During the last several years, a surge of papers suggests that LLPS underlies the organization and dynamics of synaptic vesicle clusters, presynaptic active zones, postsynaptic densities (of both excitatory and inhibitory synapses), endocytic sites, RNA granules, to name a few. Failure to regulate these condensates results in the formation of insoluble aggregates, a hallmark of many neurodegenerative diseases. As an emerging field, LLPS in neurons poses several critical challenges and opportunities. For instance, new methods are required to characterize and quantify the functional impact of these condensates in living cells. Furthermore, theoretical models and frameworks are needed to provide insights into how these condensates corroborate with neuronal depolarization and synaptic activity.

In this symposium, we plan to host five speakers addressing: (i) mechanisms how LLPS drives the synaptic architecture; (ii) the potential of LLPS to provide new insights into diseases mechanisms and therapeutic interventions in neurodegeneration; (iii) theoretical frameworks for modeling LLPS and coupling LLPS to synaptic plasticity; (iv) methods development required to characterize the LLPS in living neurons. Our invited speakers are leaders in a range of fields spanning from molecular biology, to genetics, to single-molecule imaging, and modeling.

Symposium 26

Friday, March 24, 2023
08:30 - 10:30, Lecture Hall 101

Chairs: Dragomir Milovanovic, Christian Tetzlaff and Michael Fauth, Berlin and Goettingen

08:30 **Opening Remarks**

08:35 Akihiro Kusumi, Okinawa, Japan
SINGLE-MOLECULE IMAGING STUDIES OF POSTSYNAPTIC RECEPTOR TURNOVER ON THE PSD PROTEIN CONDENSATES (S26-1)

08:55 Antoine Triller, Paris, France
A NANOSCALE DYNAMIC VIEW OF POST-SYNAPTIC RECEPTORS (S26-2)

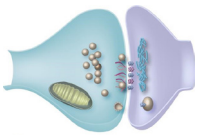
09:15 Pietro Vittorio De Camilli, New Haven, USA
THE ENIGMATIC SPINE APPARATUS OF NEURONAL DENDRITIC SPINES (S26-3)

09:35 Jakob Rentsch, Berlin
SINGLE MOLECULE IMAGING FOR INVESTIGATING PHASE SEPARATION OF SYNAPTIC VESICLES IN NEURONS (S26-4)

09:50 Jovica Ninkovic, Munich
TDP-43 CONDENSATES AND LIPID DROPLETS REGULATE THE REACTIVITY OF MICROGLIA AND REGENERATION AFTER TRAUMATIC BRAIN INJURY (S26-5)

10:10 **Joint Discussion**

10:25 **Concluding Remarks**



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Introductory Remarks to Symposium 27

From imprecision to robustness in neural circuit assembly

Carsten Duch, Robin Hiesinger, Susanne Schreiber and Marion Silies, Berlin and Mainz

Why imprecision and robustness? The specificity of synaptic connections is of central importance to the study of brain development and function. In contrast, terms like 'imprecision' and 'noise' are more commonly used in association with faulty development and reduced function. In most studies of neuronal circuits, imprecision only features as error bars and in the hope for significance between control and experimental averages. Yet, the development of neural circuits is in many aspects imprecise, and mature circuitry is often highly flexible and error-tolerant, i.e. robust. To understand how genetically encoded imprecisions can render neural circuit development and function robust is the stated goal of the DFG-funded research consortium RobustCircuit (FOR5289, robustcircuit.org). The core hypothesis of this research consortium is that imprecisions of distinct processes at lower scales (from molecules to cells) enable robustness of circuit assembly and function at higher scales (from cells to behavior).

The five speakers in this symposium will cover a wide range of neurobiological systems and questions, yet conceptually all presentations showcase robust systems that are based on noise in neural circuit development or function as an integral and necessary component. The goal is to identify the actual mechanisms and shared principles, across systems and across scales, for the utilization of noise as part of the genetically encoded programs that ensure the robustness of neural circuit development and function.

Symposium 27

Friday, March 24, 2023
08:30 - 10:30, Lecture Hall 9

Chairs: Carsten Duch, Robin Hiesinger, Susanne Schreiber and Marion Silies, Berlin and Mainz

08:30 **Opening Remarks**

08:35 Bassem Hassan, Paris, France
ROBUSTNESS FROM NOISE: TEMPORAL REGULATION OF NEURAL CIRCUIT DEVELOPMENT (S27-1)

09:00 Carlotta Martelli, Mainz
INTER-INDIVIDUAL WIRING VARIABILITY AND ITS FUNCTION IN THE *DROSOPHILA* OLFACTORY PATHWAY (S27-2)

09:25 Mathias Wernet, Berlin
PROCESSING OF NAVIGATIONAL CUES FROM THE FLY OPTIC LOBES TOWARDS THE CENTRAL COMPLEX (S27-3)

09:50 Marion Silies, Mainz
A VISUAL PATHWAY WITH VARIABLE RECEPTIVE FIELD PROPERTIES IS A KEY CONSTITUENT OF ROBUST MOTION COMPUTATION (S27-4)

10:15 Jonas Elpelt, Frankfurt
UNIVERSALITY OF MODULAR CORRELATED NETWORKS ACROSS THE DEVELOPING NEOCORTEX (S27-5)

RobustCircuit.org
Research Unit FOR5289

Introductory Remarks to Symposium 28

Translational science in pediatric neurology – what we can learn!

Florian Heinen, Munich

In pediatric neurology there is a growing knowledge about molecular mechanisms and pathophysiology in known diseases leading to new therapeutic options. Additionally, in the last years new phenotypes or diseases could be identified coming from clinical characterization and identification of new genes. Using this knowledge more individually addressed therapies are and will be developed so that in patients with neuropediatrc, even letal disorders life expectancy and quality of life dramatically improved and will be improved. Following aspects wiil be addressed in this symposium:

Katharina Vill, (AG Vill, LMU, Munich) will describe the journey for the autosomal recessive spinal muscular atrophy from new molecular findings to gene therapy leading to a change in treatment and an implementation in the newborn screening program, which causes a completely new situation for these patients and families: "Molecular neuroscience in neuropaediatrics - from Screening to intervention". Julia Wallmeier (AG Omras, Uniklinik, Münster) will present new genetic aspects in hydrocephalus, a symptom often caused by other different underlying disorders, but new are the genetic aspects, especially for the diagnostic-work-up and treatment in these patient group: Genetic mechanisms involved in hydrocephalus. Markus Schülke (Charité Berlin) will present a translational project, in which a pharmacological therapy was developed using iPSC-derived neuronal precursor cells of a patient with Leigh syndrome to identify a compound, which was already on the market for another purpose. Repurposing of EMA-approved drugs for rare neurogenetic disorders will greatly accelerate the journey from molecular diagnosis to custom tailored therapies. Niccolò Milani (AG Bader, MDC, Berlin) will present the project (EU Horizon 2020) with the aim to evaluate the contribution of extraembryonic sources of serotonin – via placenta – for embryonic brain development.

Symposium 28

Friday, March 24, 2023
08:30 -10:30, Lecture Hall 103

Chair: Florian Heinen, Munich

08:30 **Opening Remarks**

08:35 Katharina Vill, Munich
MOLECULAR NEUROSCIENCE IN NEURO-PAEDIATRICS - FROM INTERVENTION TO SCREENING (S28-1)

09:00 Julia Wallmeier, Münster
GENETIC MECHANISMS INVOLVED IN HYDROCEPHALUS FORMATION (S28-2)

09:25 Markus Schülke, Berlin
REPURPOSING FDA APPROVED DRUGS FOR MATERNALLY INHERITED LEIGH SYNDROME USING HUMAN IPSC DERIVED DISEASE MODELS (S28-3)

09:50 Niccolò Milani, Berlin
EXTRAEMBRYONIC SOURCE OF SEROTONIN INVOLVED IN NEURODEVELOPMENT (S28-4)

10:05 **Discussion / Concluding Remarks**

Introductory Remarks to Symposium 29

Brain dysfunction upon energy failure: new insights into the role of astrocytes

Sara Eitelmann, Duesseldorf

Ischemic stroke is one of the leading causes of death and disability. In this condition, the brain's energy demands vastly surpass its availability, causing cells to suffer a high level of metabolic stress. Ultimately, this can lead to permanent brain damage, and the main mechanisms of the underlying cell death are well described. Nonetheless, the initial implications of energy deprivation on neuronal and glial function and on the interaction between the two cell types are poorly understood.

In this symposium, researchers of the DFG-funded Research Unit "Synapses under stress" (FOR2975), supported by an international expert, will provide new insights into these early events upon metabolic stress at murine glutamatergic synapses, with a special focus on astrocytic function.
Stefan Passlick will open the symposium by introducing how extracellular dynamics and spread of synaptically released glutamate are altered during acute metabolic stress in the mouse hippocampus. Thereby, he will present results obtained by combining multiphoton imaging of extracellular glutamate with electrophysiology. Tim Ziebarth will proceed by reporting on glutamate events with "plume-like" characteristics in organotypic slices, which appear to drive extracellular glutamate accumulation during chemical ischemia. To complement this, Hil Meijer will present a computational model for ion fluxes at the tripartite synapse. The modelling allows him to relate experimental data of glutamate signals to changes in permeability strengths. His model simulations further suggest some critical factors for energy deprivation to cause pathological cell swelling. Next, Sara Eitelmann will focus on the dynamics of astrocytic gap junctional coupling upon acute energy failure in the mouse neocortex. Using an electrophysiological technique, she uncovered unexpected, rapid changes in astrocytic coupling strength following changes in ion homeostasis. Finally, Ákos Menyhárt will highlight the mechanisms underlying ischemia-induced brain edema formation *in vitro* and *in vivo*. Thereby, he will discuss the correlation between pathophysiological astrocyte swelling and lesion growth upon acute ischemic stroke.

Symposium 29

Friday, March 24, 2023
13:00 -15:00, Lecture Hall 105

Chair: Sara Eitelmann, Duesseldorf

13:00 **Opening Remarks**

13:05 Stefan Passlick, Bonn
SYNAPTIC AND PERISYNAPTIC GLUTAMATE SIGNALING DURING THE ONSET OF METABOLIC STRESS (S29-1)

13:30 Tim Ziebarth, Bochum
SF-IGLUSNFR IMAGING REVEALS "PLUME-LIKE" GLUTAMATE EVENTS DURING CHEMICAL ISCHEMIA IN MOUSE CORTICAL BRAIN SLICES (S29-2)

13:45 Hil Meijer, Enschede, The Netherlands
BIOPHYSICAL MODELLING OF ION DYNAMICS AT THE ENERGY-DEPRIVED TRIPARTITE SYNAPSE (S29-3)

14:10 Sara Eitelmann, Duesseldorf
RAPID CHANGES OF ASTROCYTIC GAP JUNCTIONAL COUPLING DURING ENERGY DEPRIVATION (S29-4)

14:35 Ákos Menyhárt, Szeged, Hungary
NEUROTOXIC ASTROCYTE SWELLING AND DYSFUNCTION UPON THE ACUTE PHASE OF ISCHEMIC STROKE (S29-5)

Introductory Remarks to Symposium 30

Alternatives to living animal models

Kathrin Wicke and Akshay Kapadia, Hannover and Bonn

The concept of replacement of animals in research was first discussed in 1957 by Charles Hume and William Russell at the Universities Federation for animal welfares (Balls, M., 1994). A strategy of 3Rs is being applied which stands for reduction, refinement and replacement of laboratory use of animals (Ranganatha, N. and Kuppast, I., 2012). *In vitro* 2D and 3D cell culture models, theoretical computational techniques, as well as artificial tissue engineering techniques (Balls, M., 2002); are proposed to reduce/refine/replace the animal experimentation. In this regard, this symposium aims to touch upon four different aspects of using alternative methods in the field of neuroscience research.

Dr. Berg will present different human neural cell systems generated via transcription factor overexpression from somatic cells or induced pluripotent stem cells, that are suitable for disease modeling. Ms. Catarina Costa will touch upon the subject of using induced pluripotent stem cells and therefrom generated organoids to uncover the mechanisms of agenesis in the corpus callosum and neuronal defects. Dr. Chansoria will present their pilot data which demonstrates striking similarities within the micro-architecture of acellular grafts and fascicular arrangement of axons within the nerves, wherein the hydrogel grafts feature longitudinal microfilaments along fascicles. Their innovative technology represents a significant advance towards reducing the cost and increasing the effectiveness of nerve grafts for peripheral nerve injury repair. Dr. Zierenberg will discuss the use of computer model systems and theoretical understanding of occurrences, development and circumventing pathological bursts in neuronal cultures. They aim to direct succeeding phases to evade such pathological behaviour in neuronal cultures. Dr. Yiu will talk about their model that offers a mechanistic explanation of theta sequences which combines extrinsic and intrinsic origins, providing insights into the role of internal hippocampal connectivity in spatial representation.

Combination and integration of these approaches offer multiple avenues to tackle a neuroscientific research question in a holistic manner.

Symposium 30

Friday, March 24, 2023
13:00 - 15:00, Lecture Hall 9

Chairs: Kathrin Wicke and Akshay Kapadia, Hannover and Bonn

13:00 **Opening Remarks**

13:05 Lea Berg, Bonn
FROM ANIMAL STUDIES TO *IN VITRO* MODELS: PROSPECTS OF DIRECTLY CONVERTED AND FORWARD PROGRAMMED HUMAN NEURAL CELL TYPES (S30-1)

13:20 Catarina Martins Costa, Vienna, Austria
ARID1B MUTATIONS IMPAIR THE MATURATION OF PROJECTION NEURONS AND BRAIN WIRING (S30-2)

13:35 Parth Chansoria, Zurich, Switzerland
FILAMENTED LIGHT (FLIGHT) PROJECTION FOR THE RAPID FABRICATION OF NERVE GRAFTS (S30-3)

13:50 **Break**

14:00 Johannes Zierenberg, Goettingen
USING COMPUTER MODELS TO UNDERSTAND PATHOLOGICAL BURSTS IN NEURONAL CULTURES (S30-4)

14:15 Yuk Hoi Yiu, Freiburg
A NETWORK MODEL FOR TWO-DIMENSIONAL HIPPOCAMPAL THETA SEQUENCES OF EXTRINSIC AND INTRINSIC NATURES (S30-5)

14:30 **Panel Discussion**

14:55 **Concluding Remarks**

Introductory Remarks to Symposium 31

Magnetoreception – the sixth sense

Rabea Bartölke, Jingjing Xu and Henrik Mouritsen, Oldenburg

Migratory birds sense the Earth's magnetic field for navigating precisely over thousands of kilometers each year. In contrast to other sensory systems, we are still at the beginning of understanding how the magnetic sense works. However, thanks in part to a strongly multidisciplinary approach ranging from biophysics and biochemistry to neuroscience, genetics and behavior pushed forward by SFB 1372, a lot of new scientific evidence related to this long-standing problem has been published in recent years. The leading hypothesis suggests that a spin-correlated radical pair in a protein called cryptochrome located in the retina is sensitive to Earth-strength magnetic fields. This sensory mechanism would be the first to rely on coherent quantum phenomena that indirectly allow magnetic interactions a million times smaller than the thermal energy barrier to affect a biological sensory system.

This symposium will present an overview of our current understanding of the magnetic sense from world-leading, established scientists and young researchers alike, all working at the forefront of their fields ranging from genetics, biophysics, biochemistry, neurobiology to behaviour. Peter Hore will explain the quantum physical effects on which the birds' magnetic compass sense seems to be based and how to measure these effects. We will then discuss the first protein from a night-migratory songbird that can create such a magnetically sensitive radical pair: cryptochrome 4 (Jingjing Xu) and recent findings of how this signal could then be further transduced within the cell (Rabea Bartölke). Corinna Langebrake will illustrate the potential involvement of cryptochromes in magnetoreception from a phylogenetic viewpoint. We will then zoom out to look at the retinal circuitry of birds (Karin Dedek) as well as the neuronal circuitry in the bird brain (Henrik Mouritsen) to understand how magnetic information is processed. Finally, we will present how quantum chemistry can predict the disruption of the magnetic compass by broadband electromagnetic noise in behavioural experiments (Bo Leberecht) and whether electrosmog affects free-flying migratory birds in the wild (Thiemo Karwinkel).

Symposium 31

Friday, March 24, 2023
13:00 - 15:00, Lecture Hall 8

Chairs: Rabea Bartölke, Jingjing Xu and Henrik Mouritsen, Oldenburg

13:00 **Opening Remarks**

13:05 Peter Hore, Jingjing Xu and Rabea Bartölke, Oxford, UK and Oldenburg
CRYPTOCHROMES AS PRIMARY MAGNETIC SENSORS IN MIGRATORY BIRDS (S31-1)

13:55 Corinna Langebrake, Wilhelmshaven
LOSS OF A POTENTIAL MAGNETORECEPTOR IN NIGHT MIGRATORY PASSERINES – A PHYLOGENETIC ANALYSIS OF CRYPTOCHROMES IN BIRDS (S31-2)

14:05 Henrik Mouritsen and Karin Dedek, Oldenburg
THE NEUROBIOLOGY OF LIGHT-DEPENDENT MAGNETORECEPTION IN MIGRATORY BIRDS (S31-3)

14:30 Bo Leberecht and Thiemo Karwinkel, Oldenburg and Helgoland
RADIOFREQUENCY EFFECTS ON MAGNETIC ORIENTATION BEHAVIOR IN BIRDS (S31-4)

14:55 **Concluding Remarks**

SFB 1372
Magnetoreception and Navigation in Vertebrates

QUANTUM BIRDS
ERC SYNERGY GRANT

Introductory Remarks to Symposium 32

Presynaptic calcium channels: key players in synaptic transmission and plasticity

Tina Pangrsic Vilfan and Tobias Moser, Goettingen

Voltage-gated calcium channels play a critical role in neuronal excitability, synaptic transmission, and excitation-contraction coupling. To support proper calcium signalling in different tissues, their biophysical properties are tailored to the cell-specific requirements via alternative splicing, RNA editing, as well as interaction with distinct auxiliary subunits and further channel modulators that exert their functions on one or the other calcium channel subtype. Channel interaction partners further determine the channel arrangement within the target membranes. At synapses, channels typically cluster in the presynaptic active zones where synaptic vesicles are released. The probability of vesicle release that is triggered by calcium entry through these channels is heterogeneous among synapses of different cells and even within the same cell. Furthermore, at least at some synapses, it may change dynamically over time and as a function of synapse' past activity. The research of the past years has revealed that the positioning of a channel in relation to other channels and synaptic vesicles is instructed via scaffolding proteins and further interaction proteins, including the proteins that directly link the channels to synaptic vesicles or presynaptic organelles. It however remains to be clarified how exactly these various factors regulate channel biophysical properties, abundance, topography, and mobility in distinct synapses to control and adjust the strength of synaptic function and tune it to the specific requirements of the particular synapse.

The symposium will address recent advances in our understanding of the underlying mechanisms revealed by various approaches including single active zone and synaptic bouton calcium imaging, and single channel imaging. The speakers will address the structural determinants of calcium channels and their interaction partners that critically influence their function, for example in sensory encoding. They will further discuss topographical arrangements of channels in different types of synapses, present scaffolding proteins that are involved in regulation of channel mobility and abundance upon homeostatic synaptic potentiation, and shed light on our current understanding of the possibly common mechanisms underlying the functional heterogeneity across synapses in different systems.

Symposium 32

Friday, March 24, 2023
13:00 - 15:00, Lecture Hall 10

Chairs: Tina Pangrsic Vilfan and Tobias Moser, Goettingen

13:00 **Opening Remarks**

13:05 Tina Pangrsic Vilfan, Goettingen
MODULATION OF CAV1.3 CHANNELS BY CALCIUM BINDING PROTEINS (S32-1)

13:30 Stephan Sigrist, Berlin
AN ACTIVE ZONE STATE SWITCH CONCENTRATES AND IMMOBILIZES VOLTAGE-GATED CA^{2+} CHANNELS TO BOOST VESICLE RELEASE (S32-2)

13:55 David A. DiGregorio, Paris, France
FUNCTIONAL SYNAPTIC DIVERSITY: FROM MOLECULES TO COMPUTATIONS (S32-3)

14:20 Tobias Moser, Goettingen
CAV1.3 CA^{2+} CHANNELS: KEY PLAYERS IN WIDE DYNAMIC RANGE SOUND ENCODING (S32-4)

14:45 Nare Karagulyan, Goettingen
UNDERSTANDING SYNAPTIC MECHANISMS OF SOUND INTENSITY CODING IN MICE WITH ALTERED CAV1.3 GATING (S32-5)

Introductory Remarks to Symposium 33

Bridging brain function and microglia signaling

Anne Günther and Jastyn Anne Pöpplau, Hamburg

The complex mechanisms underlying neuronal processing were long thought to rely solely on neurons as the central units of brain function. Consequently, glial cells were thought to mainly serve as metabolic and structural support of neuronal processes. However, in more recent years, far more diverse roles have been attributed to glial cells, identifying them as crucial modulators of neuronal communication within local circuits as well as across brain regions.
Microglia, the resident macrophages of the central nervous system, exemplify this functional diversity. They are able to actively monitor their environment and, based on their high sensitivity to signaling molecules, they can rapidly respond to changes in a temporally and spatially restricted manner. Due to their crucial role in fine-tuning synaptic connections, microglia are essential for neuronal circuits, especially during development. Immature microglia populate the brain already at early perinatal stages, where they are primed by their surroundings in a lasting and subpopulation-specific manner. Throughout development and even into late adulthood, microglia maintain their role as surveyors of neuronal health and connectivity.
However, on the downside, insults during development can result in permanently altered priming of microglia, which in turn might promote excessive pruning, apparent in neurodevelopmental disorders or in neurodegenerative diseases. Thus, a detailed understanding of microglia is key for a comprehensive picture of normal as well as pathological brain function.

This symposium will present recent insights into the manifold phenotypes and roles of microglia, addressing their functions in the context of small signaling molecules, all the way to brain-wide network interactions. Moreover, novel techniques for specific manipulation of microglia in the intact brain will be highlighted.
Overall, this symposium will enrich the current understanding of microglia and their diverse roles in shaping brain function, not only across lifespan and species, but also in health and disease.

Symposium 33

Friday, March 24, 2023
13:00 - 15:00, Lecture Hall 101

Chairs: Anne Günther and Jastyn Anne Pöpplau, Hamburg

13:00 **Opening Remarks**

13:05 Thomas Oertner, Hamburg
PHANTOM INFLAMMATION: A NEW PARADIGM TO INVESTIGATE MICROGLIA-TO-NEURON SIGNALING (S33-1)

13:30 Dimitrios Kleidonas, Freiburg
MICROGLIA ACTIVATION DETERMINES THE EFFECT OF TNFα ON SYNAPTIC PLASTICITY (S33-2)

13:45 Marco Prinz, Freiburg
THE MYELOID SIDE OF THE BRAIN (S33-3)

14:10 Marcus Semtner, Berlin
MICROGLIA SENSE NEURONAL ACTIVITY VIA GABA IN THE EARLY POSTNATAL HIPPOCAMPUS (S33-4)

14:35 Mikael Simons, Munich
ROLE OF MICROGLIA IN WHITE MATTER AGING (S33-5)

Introductory Remarks to Symposium 34

Novel insights into hypothalamic mechanisms for adaptive control of homeostasis

Jan Siemens and Henning Fenselau, Heidelberg and Cologne

Mammalian organism possess the remarkable ability to maintain a stable energy- and temperature-homeostatic landscape. This highly integrative neuro-regulatory feature is all the more impressive given that energy demand and supply as well as environmental temperatures and internal heat generating processes are constantly changing. The hypothalamus is the core region for homeostatic regulation. It senses caloric and thermal disturbances, integrates peripheral sensory and interoceptive information, and orchestrates in turn motivated behaviors and diverse physiological processes to maintain or re-establish homeostasis. Over the past years, research employing new neurobiological tools for cell type-specific manipulations, mapping, and monitoring has significantly advanced our understanding of the circuit and cellular mechanisms underlying hypothalamic control systems. Moreover, recent research has demonstrated that plastic changes –spanning glia, neuronal and synaptic levels– within these pathways are linked to both beneficial and pathological alterations in processing of energy- and temperature signals.

The symposium brings together experts, who have contributed to our current understanding of pathways mediating energy balance and body temperature. (1) Cristina Garcia Caceres will present her recent findings on hypothalamic astrocytes in food intake regulation. (2) Denis Burdakov will describe newly identified orexinergic pathways required for dietary homeostasis. (3) Mingran Cao will present her work on neuronal pathways that state-dependently connect hunger and parental behavior. (4) Silvana Valtcheva will show how rapid integration of hypothalamic oxytocin pathways coordinate behaviors and physiology. Finally, (5) Kazuhiro Nakamura, a renowned scientist from Japan, who has contributed on many levels to our understanding of body temperature regulation, will join our symposium. This symposium will stimulate a vivid exchange of ideas and future directions on the hypothalamic origins of homeostatic adaptions.

Symposium 34

Friday, March 24, 2023
13:00 - 15:00, Lecture Hall 102

Chairs: Jan Siemens and Henning Fenselau, Heidelberg and Cologne

13:00 **Opening Remarks**

13:05 Cristina Garcia Caceres, Neuherberg
HYPOTHALAMIC ASTROCYTES IN THE NEUROENDOCRINE CONTROL OF METABOLISM (S34-1)

13:30 Paulius Viskaitis, Schwerzenbach, Switzerland
SENSING AND CONTROL OF INGESTION BY OREXIN NEURONS (S34-2)

13:55 Mingran Cao, London, UK
NEURAL CIRCUIT BASIS UNDERLYING A HUNGER-GATED, HORMONE-PRIMED PARENTAL SWITCH (S34-3)

14:10 Silvana Valtcheva, Cologne
HYPOTHALAMIC CIRCUITS FOR OXYTOCIN RELEASE AND MATERNAL BEHAVIOR (S34-4)

14:35 Kazuhiro Nakamura, Nagoya, Japan
A CENTRAL PIVOTAL CONTROLLER FOR THERMAL HOMEOSTASIS AND FEVER (S34-5)

The symposium is supported by the ERC grants Acclimatize (to JS) and GuMeCo (to HF).

European Research Council
Established by the European Commission

Introductory Remarks to Symposium 35

Insights into the neural basis of cognition from human intracranial electrophysiology

Caspar Schwiedrzik, Goettingen

The human brain produces complex cognitive operations and behaviors, some of which are arguably uniquely human. The primary means to investigate their neural basis have been noninvasive techniques. However, the limited spatiotemporal resolution of noninvasive imaging hampers progress in understanding health and disease.
Human intracranial electrophysiology has emerged as a key technology in overcoming these difficulties. In particular, the high spatiotemporal resolution of intracranial EEG (iEEG) in epilepsy patients undergoing presurgical evaluation enables studying (sub)cortical dynamics underlying human cognition. With specialized research electrodes, it has become possible to extend these investigations across spatial scales, to the level of cortical layers and single cells. This allows unraveling the neural basis of complex behavior directly in the human brain in unprecedented detail.

This symposium aims to elucidate neural mechanisms underlying human cognitive processes using intracranial recordings. We will address different facets of cognition, taking complimentary perspectives from different recording and analysis techniques; as well as providing insight into ethical aspects and technical challenges when working with patients. H. Zhang will demonstrate how the reinstatement and transformation of stimulus-specific memories can be studied using multivariate analyses to identify meso- and macroscale networks. L. Melloni will show how continuous input is segmented into episodic memories using tasks involving sequences and visual narratives using electrocorticography. R. Helfrich will talk about how population dynamics of human prefrontal cortex integrate contextual cues and prior evidence to guide human goal-directed behavior. C. Schwiedrzik will present recordings with laminar resolution investigating neural computations underlying predictive processing in perception. M. Bausch will address the question how content and context are combined to process relevant memories using single neuron recordings in the medial temporal lobe. Together, these talks will provide an exciting overview of the burgeoning field of human intracranial electrophysiology.

Symposium 35

Friday, March 24, 2023
13:00 - 15:00, Lecture Hall 103

Chair: Caspar Schwiedrzik, Goettingen

13:00 **Opening Remarks**

13:05 Hui Zhang, Bochum
TRACKING MEMORY REPRESENTATIONS WITH IEEG (S35-1)

13:30 Lucia Melloni, Frankfurt/Main
FROM CONTINUOUS STREAMS TO SEGMENTED UNITS: UNDERSTANDING HOW EVENTS STRUCTURE COGNITION & MEMORY (S35-2)

13:55 Randolph Helfrich, Tuebingen
POPULATION CODING AND OSCILLATORY SUBSPACE SYNCHRONIZATION INTEGRATE CONTEXT INTO ACTIONS (S35-3)

14:20 Caspar M. Schwiedrzik, Goettingen
DISSOCIABLE MECHANISMS FOR "WHAT" AND "WHEN" PREDICTIONS IN THE HUMAN BRAIN (S35-4)

14:45 Marcel Bausch, Bonn
DISTINCT POPULATIONS IN HUMAN MTL COMBINE ITEMS AND CONTEXTS ACROSS TEMPORAL GAPS (S35-5)

14:55 **Concluding Remarks**

Introductory Remarks to Symposium 36

Transformations of visual representation from the retina to the cortex

Norma Kühn and Helene Schreyer, Leuven (Belgium) and Basel (Switzerland)

Vision is one of the most studied senses. Yet, we are still working to solve the intricate transformations that lead from the light-triggered signals in our photoreceptors to a neural representation of complex scenes in the cortex. In early visual processing, retina, primary visual thalamus and cortex were often studied in isolation, with very different concepts of cell types and visual representation. Anecdotal evidence about their connectedness led to misconceptions of their respective roles. However, recent technological advances allow the simultaneous recording of large populations of neurons and their inputs in the respective areas. Together with sequencing techniques these provide a more complete picture of how information is transformed along this major visual pathway. To embed these results into a coherent framework, dialogue between experts from these areas is essential.

In this symposium, we aim to explore the distinct perspectives and their intersection on cell types, circuits, and visual feature representation to build a coherent model of visual processing in the brain. Questions we aim to address: How are the features extracted by the retina used in the visual thalamus and cortex? How do the representations of visual information change? What are the underlying mechanisms? How are cell types and visual features defined in the respective areas? And what is the significance of a single neuron firing compared to a population when representing visual information?
We will start in the retina, looking at the retinal ganglion cell types and their distinctive projection patterns (G. Schwartz). From there, we turn to efficient coding theories as a tool to understand encoding and transfer of visual information (W. Młynarski). Next, we learn how visual inputs from the retina and colliculus are coordinated in the primary visual thalamus (L. Liang). We will end with exploring the feedforward mechanisms of the emergence of pattern selectivity in the visual cortex (L. Glickfeld) and the role of visual experience in the development of cortical orientation selectivity (S. Trägenap).
With these unique perspectives from the retina, primary visual thalamus, cortex and theory, we hope to stimulate new experimental ideas and analysis for hypothesis testing along this major visual pathway.

Symposium 36

Friday, March 24, 2023
13:00 - 15:00, Lecture Hall 104

Chairs: Norma Kühn and Helene Schreyer,
Leuven (Belgium) and Basel (Switzerland)

13:00 Gregory Schwartz, Chicago, USA
RETINAL GANGLION CELL TYPOLOGY AND PROJECTION PATTERNS IN THE BRAIN (S36-1)

13:25 Wiktor Młynarski, Klosterneuburg, Austria
NUANCES AND REFINEMENTS OF EFFICIENT CODING THEORIES (S36-2)

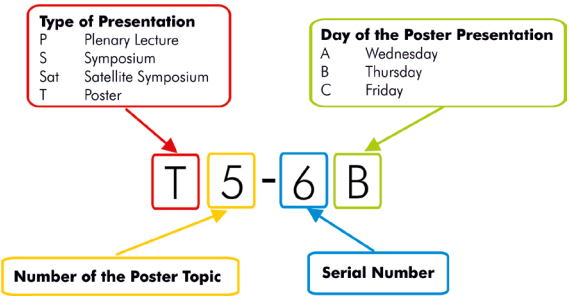
13:50 Liang Liang, New Haven, USA
CONVERGENCE OF DISTINCT VISUAL STREAMS IN THE MOUSE PRIMARY VISUAL THALAMUS (S36-3)

14:15 Lindsey Glickfeld, Durham, USA
FEEDFORWARD MECHANISMS OF CROSS-ORIENTATION INTERACTIONS (S36-4)

14:40 Sigrid Trägenap, Frankfurt/Main
EXPERIENCE DRIVES THE DEVELOPMENT OF NOVEL, RELIABLE CORTICAL SENSORY REPRESENTATIONS FROM ENDOGENOUSLY STRUCTURED NETWORKS (S36-5)

14:50 **Concluding Remarks**

Explanation of Abstract Numbers



There is one poster session on each day, i.e. on Wednesday, Thursday and Friday. The posters will hang all day long. Posters with poster numbers ending with an A are displayed on Wednesday, posters with a poster number ending with a B are displayed on Thursday and posters with a poster number ending with a C are displayed on Friday.

Each poster session (90 min) is divided into two parts (each 45 min): odd and even serial numbers. In the first part of the session posters with odd serial numbers will be discussed.

In the second 45 min of the session posters with even serial numbers will be discussed. During this time slots it is mandatory that the author is present at the poster.

Poster session A	Wednesday, March 22:	13.00 – 14.30 h
Poster session B	Thursday, March 23:	09.30 – 11.00 h
Poster session C	Friday, March 24:	10.30 – 12.00 h

Example

T21-2B
T = poster to a poster topic
21 = the poster topic is No. 21, i.e. "Motor Systems"
2 = serial number (even number, i.e. 45 min of the second part of the session)
B = indicates the day, i.e. Thursday

This means:
Poster T21-2B is a poster belonging to the topic "Motor Systems" and is presented on:

Thursday, March 23, 2023
10:15 -11:00 h in the poster area for Topic 21.

Poster Topics

Poster Topic	Wednesday	Thursday	Friday
T1: Stem cells, neurogenesis and gliogenesis	T1-1A – T1-7A	T1-1B – T1-6B	T1-1C – T1-6C
T2: Axon and dendrite development, synaptogenesis	T2-1A – T2-6A	T2-1B – T2-5B	T2-1C – T2-5C
T3: Developmental cell death, regeneration and trans-plantation	T3-1A – T3-2A	T3-1B – T3-2B	T3-1C - T3-1C
T4: Neurotransmitters, retrograde messengers and cytokines	T4-1A – T4-2A	T4-1B – T4-2B	T4-1C – T4-3C
T5: G Protein-linked and other receptors	T5-1A – T5-2A	T5-1B – T5-2B	T5-1C – T5-2C
T6: Ligand-gated, voltage-dependent ion channels and transporters	T6-1A – T6-5A	T6-1B – T6-4B	T6-1C – T6-5C

Poster Topic	Wednesday	Thursday	Friday
T7: Synaptic transmission, pre- and postsynaptic organization	T7-1A – T7-16A	T7-1B – T7-16B	T7-1C – T7-17C
T8: Synaptic plasticity, LTP, LTD	T8-1A – T8-8A	T8-1B – T8-7B	T8-1C – T8-7C
T9: Glia, glia-neuron interactions	T9-1A – T9-8A	T9-1B – T9-8B	T9-1C – T9-8C
T10: Aging and developmental disorders	T10-1A – T10-5A	T10-1B – T10-6B	T10-1C – T10-5C
T11: Alzheimer's, Parkinson's and other neuro-degenerative diseases	T11-1A – T11-11A	T11-1B – T11-12B	T11-1C – T11-11C
T12: Neuroimmunology, inflammation and neuro-protection	T12-1A – T12-10A	T12-1B – T12-9B	T12-1C – T12-9C
T13: Cognitive, emotional, behavioral state disorders and addiction	T13-1A – T13-7A	T13-1B – T13-6B	T13-1C – T13-6C

Poster Topic	Wednesday	Thursday	Friday
T14: Vision: invertebrates	T14-1A – T14-5A	T14-1B – T14-5B	T14-1C – T14-5C
T15: Vision: retina and subcortical pathways	T15-1A – T15-5A	T15-1B – T15-6B	T15-1C – T15-6C
T16: Vision: striate and extrastriate cortex, eye movement and visuomotor processing	T16-1A – T16-4A	T16-1B – T16-3B	T16-1C – T16-3C
T17: Auditory mechanoreceptors, vestibular, cochlea, lateral line and active sensing	T17-1A – T17-6A	T17-1B – T17-6B	T17-1C – T17-6C
T18: Auditory system: subcortical and cortical processing	T18-1A – T18-9A	T18-1B – T18-8B	T18-1C – T18-8C
T19: Chemical senses: olfaction, taste, others	T19-1A – T19-11A	T19-1B – T19-11B	T19-1C – T19-11C
T20: Somatosensation: touch, temperature, proprioception, nociception	T20-1A – T20-4A	T20-1B – T20-5B	T20-1C – T20-4C

Poster Topic	Wednesday	Thursday	Friday
T21: Motor systems	T21-1A – T21-9A	T21-1B – T21-8B	T21-1C – T21-9C
T22: Homeostatic and neuroendocrine systems, stress response	T22-1A – T22-7A	T22-1B – T22-8B	T22-1C – T22-10C
T23: Neural networks and rhythm generators	T23-1A – T23-10A	T23-1B – T23-10B	T23-1C – T23-10C
T24: Attention, motivation, emotion and cognition	T24-1A – T24-7A	T24-1B – T24-7B	T24-1C – T24-6C
T25: Learning and memory	T25-1A – T25-19A	T25-1B – T25-19B	T25-1C – T25-18C
T26: Computational neuroscience	T26-1A – T26-7A	T26-1B – T26-7B	T26-1C – T26-7C
T27: Techniques and demonstrations	T27-1A – T27-8A	T27-1B – T27-8B	T27-1C – T27-9C

T1: Stem cells, neurogenesis and gliogenesis-

Wednesday

T1-1A ANALYSIS OF THE ROLE OF THE HUMAN-SPECIFIC GENE *ZNF492* DURING NEOCORTEX DEVELOPMENT AND EVOLUTION BY GENETIC MODIFICATION OF HUMAN AND CHIMPANZEE CEREBRAL ORGANOIDS
Lidiia Tynianskaia, Neringa Liutikaite, Wieland B. Huttner, Michael Heide, Goettingen

T1-2A ASSESSING THE FUNCTIONAL ROLE OF NICHE ASTROCYTES IN REGULATION OF ADULT HIPPOCAMPAL NEUROGENESIS
Evangelia Masouti, Fellix Beyer, Ruth Beckervordersandforth, Erlangen

T1-3A CHROMATIN REMODELING BAF COMPLEX DEPENDENT MECHANISMS IN DEVELOPMENT OF CORTICAL INTERNEURONS
Xiaoyi Mao, Pauline Antonie Ulmke, Jochen F. Staiger, Tran Tuoc, Goettingen

T1-4A DEVELOPMENT OF MYELIN IN FETAL AND POSTNATAL NEOCORTEX OF THE EUROPEAN WILD BOAR, *SUS SCROFA*
Eric Sobierajski, German Lauer, Katrin Czubay, Hannah Grabietz, Christa Beemelmans, Christoph Beemelmans, Gundela Meyer, Petra Wahle, Bochum

T1-5A DOT1L CONFERS CELL-AUTONOMOUS EFFECTS ON DEVELOPING CORTICAL INTERNEURONS.
Marta Garcia Miralles, Arquimedes Cheffer, Ipek Akol, Tanja Vogel, Freiburg

T1-6A *DOT1L* DELETION IN CORTICAL GLUTAMATERGIC PROGENITORS IMPACTS THE PROPER DEVELOPMENT OF MOUSE GABAERGIC INTERNEURONS
Arquimedes Cheffer, Marta Garcia-Miralles, Camila Fullio, Tanja Vogel, Freiburg im Breisgau

T1-7A USING STEM CELLS TO MODEL HUMAN CORTICOGENESIS IN VIVO
Omer Revah, Felicity Gore, Kevin W. Kelley, Jimena Andersen, Noriaki Sakai, Xiaoyu Chen, Min-Yin Li, Fikri Birey, Xiao Yang, Nay L. Saw, Samuel W. Baker, Neal D. Amin, Shravanti Kulkarni, Rachana Mudipalli, Bianxiao Cui, Seiji Nishino, Gerald A. Grant, Juliet K. Knowles, Mehrdad Shamloo, John R. Huguenard, Karl Deisseroth, Sergiu P. Pascal, Rehovot, Israel

Thursday

T1-1B IDENTIFICATION OF CANCER-ASSOCIATED FIBROBLAST-LIKE CELLS IN A RAT MODEL OF GLIOBLASTOMA
Thibault Lootens, Christophe Mangodt, Bart Roman, Christian Stevens, Robrecht Raedt, Ghent, Belgium

T1-2B INDIVIDUAL AND COMBINED FUNCTIONS OF THE HUMAN-SPECIFIC GENES *NBPF14* AND *NOTCH2NLB* DURING NEOCORTICAL DEVELOPMENT
Nesil Esiyok, Christiane Haffner, Wieland B. Huttner, Michael Heide, Goettingen

T1-3B INNER-NUCLEAR RELOCATION OF GENE LOCI LINKED TO DEVELOPMENTAL NEURAL STEM CELL COMPETENCE OF *DROSOPHILA* IS DEPENDENT ON NUCLEAR ß-ACTIN ACTIVITY
Joachim Urban, Prasad Chikte, Mainz

T1-4B INVESTIGATING THE EFFECTS OF CNVS IN THE ADHD RISK GENE PARK2 ON TRANSCRIPT AND PROTEIN EXPRESSION IN IPSC-DERIVED NEURAL CELLS
Carolin Kurth, Rhiannon McNeill, Zora Schickardt, Sarah Kittel-Schneider, Wuerzburg

T1-5B LABEL-FREE FUNCTIONAL CHARACTERIZATION OF HUMAN BRAIN ORGANOIDS AT SINGLE-CELL RESOLUTION
Wei Gong, Zurich, Switzerland

T1-6B MODELLING TUBULINOPATHIES WITH HUMAN STEM CELLS
Thomas David Cushion, Romina Romaniello, David Anthony Keays, Cambridge, UK

Friday

T1-1C MOLECULAR DETERMINANTS OF NEOCORTICAL DEVELOPMENT
Elisa Pedersen, Ekaterina Epifanova, Paul Moritz Willecke, Marta Rosário, Berlin

T1-2C NOVEL SHH MODULATORS AND CANDIDATE MODIFIER GENES FOR CONGENITAL BRAIN DISORDERS – FUNCTIONAL STUDIES IN MOUSE AND HUMAN NEURONAL PRECURSORS
Gökce Nihan Yildirim, Tamrat Meshka Mamo, Izabela Kowalczyk, Annette Hammes, Berlin

T1-3C ROLE OF DNA TOPOISOMERASE IIß IN THE DIFFERENTIATION OF NEURAL STEM CELLS
Nina Trautwein, Melanie Grotz, Bodo Laube, Darmstadt

T1-4C SUGGESTION OF GENERAL MECHANISMS AND RELATIONSHIPS BETWEEN BRAIN, PANCREAS AND MYOCARDIUM BY APPLICATION OF DIFFERENT METHODS FOR ASSAY IN EXPERIMENTAL MODELS
Iskra Sainova, Sofia, Bulgaria

T1-5C STUDYING THE PROPERTIES OF HUMAN NEURAL CELLS AND NETWORKS USING CULTURED BRAIN ORGANOID SLICES (CBOS)
Laura Petersilie, Stephanie Le, Karl W. Kafitz, Alessandro Prigione, Christine R. Rose, Duesseldorf

T1-6C THE ROLE OF SOX9 IN REGULATING THE NEURON/GLIAL SWITCH OF ADULT HIPPOCAMPAL NEURAL STEM CELLS
Felix Beyer, Anne Peter, Michael Wegner, Ruth Becker-vordersandforth, Erlangen

T2: Axon and dendrite development, synaptogenesis

Wednesday

T2-1A CYTOSKELETON BASED LOCAL TRANSPORT VIA MYOSINS DURING SYNAPSE FORMATION
Sophie Marie Walter, Astrid Petzoldt, Berlin

T2-2A DEVELOPMENT OF DISTINCT DESCENDING CORTICAL PATHWAYS
Philipp Abe, Adrien Lavalley, Ilaria Morassut, Esther Klingler, Antonio Santinha, Randall Platt, Denis Jabaudon, Dresden

T2-3A DEVELOPMENT OF GABAERGIC SYNAPSES IN THE SENSORY CORTEX OF EARLY POSTNATAL MICE
Ahd Abusaada, Prof. Dr. Werner Kilb, Prof. Dr. Heiko Luhmann, Mainz

T2-4A DEVELOPMENTAL COMPETITION ENSURES CORRECT SYNAPSE NUMBERS FOR MOTOR CIRCUIT ASSEMBLY AND FUNCTION
Lion Huthmacher, Selina Hilgert, Silvan Hürkey, Stefanie Ryglewski, Carsten Duch, Mainz

T2-5A EMERGENCE OF CORTEX-WIDE CALCIUM DYNAMICS DURING POSTNATAL MOUSE DEVELOPMENT
Davide Warm, Mainz

T2-6A FLIES IN A CENTRIFUGE: REWIRING THE BRAIN WITH HYPER-GRAVITY
Felix Graf, P. Robin Hiesinger, Berlin

Thursday

T2-1B INFLUENCE OF DEVELOPMENTAL TEMPERATURE ON THE WIRING AND VARIABILITY OF THE *DROSOPHILA* OLFACTORY PATHWAY
Pascal Züfle, Leticia Batista, Carlotta Martelli, Mainz

T2-2B PHARMACOLOGICAL MODULATION OF THE GLUN2C/2D NMDA RECEPTOR SUBUNIT DOES NOT INFLUENCE INTERNEURON AND PYRAMIDAL CELL MATURATION IN VISUAL CORTEX OTC´S
Lisa Marie Rennau, Leon Hoffmann, Ina Köhler, Petra Wahle, Bochum

T2-3B ROBUSTNESS OF EARLY PATTERN FORMATION IN THE *DROSOPHILA* VISUAL MAP
Berna Melinda Nabavi, Charlotte B. Wit, Egemen Agi, P. Robin Hiesinger, Berlin

T2-4B SYSTEMATIC FUNCTIONAL ANALYSIS OF RAB GTPASES IN NEURONAL DEVELOPMENT AND MAINTENANCE
Ilsa-Maria Daumann, Friederike E. Kohrs, Hanna Stiedenroth, P. Robin Hiesinger, Berlin

T2-5B THE CELL SURFACE PROTEIN ROUGHEST MEDIATES NEURITE BRANCH COMPETITION DURING BRAIN WIRING
Abhishek Jayant Kulkarni, Thanh Thanh Tu Tran, Berlin

Friday

T2-1C THE DEVELOPMENT OF MC3R NEURONS, AGRP AND POMC NEURONAL PROJECTIONS AND THE MAINTENANCE OF INTRA-HYPOTHALAMIC NEURONAL CIRCUITS.
Selma Yagoub, Potsdam

T2-2C THE ROLE OF MAST2 IN NEURODEVELOPMENT AND DISEASE
Alexandra Catalina Vilceanu, Maria Sergaki, Fernanda Martinez-Reza, Florian Walter, David Keays, Munich

T2-3C VISUAL MAP FORMATION WITHOUT TARGET-DEPENDENT GUIDANCE IN *DROSOPHILA*
Egemen Agi, Eric Reifenstein, Charlotte Wit, Monika Kauer, Teresa Schneider, Max von Kleist, Peter Robin Hiesinger, Berlin

T2-4C CHRONO-ANATOMICAL DESCRIPTION OF DOPAMINERGIC NEURONS DURING METAMORPHOSIS IN *DROSOPHILA MELANOGASTER*
Anne Sophie Oepen, Jiajun Zhang, Oren Schuldiner, Kei Ito, Thomas Riemensperger, Cologne

T2-5C CYCLASE-ASSOCIATED PROTEIN 1 (CAP1) INHIBITS MRTF-SRF-DEPENDENT GENE EXPRESSION IN THE MOUSE BRAIN
Sharof Khudayberdiev, Anika Heinze, Uwe Linne, Marco B Rust, Marburg

T3: Developmental cell death, regeneration and transplantation

Wednesday

T3-1A ACTIVITY-DEPENDENT REGULATION OF THE BAX/BCL-2 PATHWAY PROTECTS CORTICAL NEURONS FROM APOPTOTIC DEATH DURING EARLY DEVELOPMENT
Jonas Schroer, Davide Warm, Heiko J. Luhmann, Anne Sinning, Mainz

T3-2A AN ANALYSIS OF TEMPERATURE DEPENDENCE DISCLOSES TWO DISTINCT PROCESSES IN AXON REGENERATION
Céline Rehrl, Alexander Hecker, Stefan Schuster, Bayreuth

Thursday

T3-1B CHROMATIN COMPACTION PRECEDES APOPTOSIS IN DEVELOPING NEURONS
Elena Nigi, Renata Rose, Nicolas Peschke, Márton Gelléri, Sandra Ritz, Christoph Cremer, Heiko J. Luhmann, Anne Sinning, Mainz

T3-2B PATTERNED ELECTRICAL ACTIVITY REGULATES NEURONAL APOPTOSIS IN IMMATURE CORTICAL NEURONS AND NETWORKS
Anne Sinning, Davide Warm, I. Emeline Wong Fong Sang, Jonas Schoer, Werner Kilb, Heiko J. Luhmann, Mainz

Friday

T3-1C RESTORATION OF MOTOR FUNCTION THROUGH INTRASPINAL DELIVERY OF HUMAN IL-10-ENCODING NUCLEOSIDE-MODIFIED MRNA AFTER SPINAL CORD INJURY
Antal Nógrádi, László Gál, Annamária Marton, Zoltán Fekécs, Drew Weissmann, Dénes Török, Rachana Biju, Csaba Vizler, Paolo Lin, Ying Tam, Norbert Pardi, Krisztián Pajer, Szeged, Hungary

T4: Neurotransmitters, retrograde messengers and cytokines

Wednesday

T4-1A AUTOPHAGOSOME TRANSPORT IN NORADRENERGIC AXONS IN-VIVO
Ahmed A. Aly, Micheal Kreutz , Matthias Prigge, Anna Karpova, Magdeburg

T4-2A DISSECTING FUNCTIONAL VESICLE POOLS AND SEROTONIN-RELEASE KINETICS FROM MOUSE ENTEROCHROMAFFIN CELLS
Ahmed Shaaban, Jaden Quale, Benjamin Cooper, Cordelia Imig, Copenhagen, Denmark

Thursday

T4-1B HISTAMINE IN THE *DROSOPHILA MELANOGASTER* LARVA - A COMPREHENSIVE OVERVIEW OF ITS ANATOMY
Astrid Rohwedder, Andreas S. Thum, Leipzig

T4-2B HUNTING OF POTENTIAL COUPLING FACTORS CONTROLLING CIRCADIAN AND ULTRADIAN RHYTHMS OF FEEDING BY NEUROPEPTIDOMICS AND MASS SPECTROMETRY IMAGING OF NEUROPEPTIDES FROM THE *DROSOPHILA* BRAIN
Deepika Bais, Susanne Neupert, Kassel

Friday

T4-1C NITRIC OXIDE SYNTHASE IN THE CNS AND IMMUNE SYSTEM OF MOSQUITOES
Stella Bergmann, Anne Schmitz, Celina Möller, Stefanie Becker, Michael Stern, Hannover

T4-2C ANALYSIS OF PARP INHIBITORS IN NMDAR-MEDIATED RADIO-RESISTANCE IN BREAST CANCER CELLS
Jannik Wempe, Raffaela van Heeck, Bodo Laube, Darmstadt

T4-3C SDARKEN – NEXT GENERATION GENETICALLY ENCODED SENSORS FOR SEROTONIN
Martin Claus Maria Kubitschke, Monika Müller, Lutz Wallhorn, Mauro Pulin, Manuel Mittag, Stefan Pollok, Tim Ziebarth, Svenja Bremshey, Jill Gerdey, Kristin Carolin Claussen, Kim Renken, Pascal Gneisse, Juliana Groß, Niklas Meyer, Simon Wiegert, Andreas Reiner, Martin Fuhrmann, Olivia Andrea Masseck, Bremen

T5: G Protein-linked and other receptors

Wednesday

T5-1A HETERODIMERIZATION AND INTERACTION OF THE SEROTONIN-RECEPTORS 5-HT1A AND 5-HT2C
Imandra Laura Kempe, Dr. Michael Koch, Dr. Olivia A. Masseck, Bremen

T5-2A LOVE ON A CELLULAR LEVEL: THE "LOVE-HORMONE" OXYTOCIN ACCELERATES TIGHT JUNCTION FORMATION IN 3D SPHEROIDS
Benjamin Jurek, Lucia Denk, Nicole Schäfer, Saied Salehi, Sareh Pandamooz, Silke Haerteis, Munich

Thursday

T5-1B MODULATION OF EMOTIONAL BEHAVIOR BY HCA2 RECEPTOR DEFICIENCY IN CHRONIC SKIN INFLAMMATION
Hagen Lange, Evelyn Gaffal, Magdeburg

T5-2B THE HYALURONAN RECEPTOR CD44 MODULATES SEROTONIN RECEPTOR 7 SIGNALING
Saskia Borsdorf, Josephine Labus, Andre Zeug, Evgeni Ponimaskin, Hannover

Friday

T5-1C THE ROLE OF BRAIN ENDOTHELIAL $G\alpha_{q/11}$ SIGNALING IN THE COGNITIVE FUNCTION OF MICE
Dimitrios Spyropoulos, Dorothea Ziemens, Anne-Sophie Gutt, Sonja Binder, Markus Schwaninger, Jan Wenzel, Luebeck

T5-2C USING PLURIPOTENT STEM CELLS AS A MODEL TO DETERMINING EXPRESSION, FUNCTION AND PHARMACOLOGY OF GLP-1 RECEPTOR IN HUMAN HYPOTHALAMIC POMC NEURONS
Simone Mazzaferro, Hsiao-jou Cortina Chen, Andrian Yang, Iman Mali, Matthew Livesey, Peter Kirwan, Sanya Aggarwal, Venkat Pisupati, Matthew Livesey, Florian Merkle, Cambridge, UK

T6: Ligand-gated, voltage-dependent ion channels and transporters

Wednesday

T6-1A CHARACTERIZATION OF A KCNA2 LOSS OF FUNCTION MOUSE MODEL
Peter Müller, Nikolas Layer, Ahmed Elthoki, Thomas Ott, Holger Lerche, Thomas Wuttke, Ulrike B. S. Hedrich, Tuebingen

T6-2A CHARACTERIZATION OF THE INTERACTION BETWEEN GEPHYRIN AND THE FULL-LENGTH GLYCINE RECEPTOR
Nele Marie Burdina, Theresa Schneider, Elmar Behrmann, Günter Schwarz, Cologne

T6-3A EFFECTS OF INCREASED $CA_V1.3$ CA^{2+} CURRENTS IN INNER HAIR CELLS OF $CA_V1.3$-$DCRD^{HA/HA}$ MICE ON PRE- AND POSTSYNAPSES, HEARING, AND THE CONSEQUENCES OF AN ACOUSTIC TRAUMA
Philipp Maximilian Fischer, Kerstin Blum, Fahmi Nasri, Simone Kurt, Jutta Engel, Mühlacker

T6-4A PUTATIVE ROLES OF NBCE1-KCC2 INTERACTION ON KCC2 ACTIVITY IN DISTINCT NEURONAL MATURATION STAGES
Abhishek Pethe, Anna-Maria Hartmann, Bernd Heimrich, Eleni Roussa, Freiburg

T6-5A INVESTIGATING PUTATIVE PACEMAKER CURRENTS IN THE *DROSOPHILA MELANOGASTER* CENTRAL NERVOUS SYSTEM
Anatoli Ender, Davide Raccuglia, David Owald, Berlin

Thursday

T6-1B LEPTIN DEFICIENCY LEADS TO FUNCTIONAL DYSREGULATION OF PACEMAKER CURRENTS IN THE SOMATOSENSORY THALAMUS OF THE MOUSE
Paula Patricia Perissinotti, Florencia Correa, Francisco Urbano, Buenos Aires, Argentina

T6-2B LOCALIZATION AND FUNCTION OF MUTUALLY EXCLUSIVE EXONS OF THE CAV2 CHANNEL CACOPHONY IN THE *DROSOPHILA* VISUAL SYSTEM
Veronica Pampanin, Tobias Rinas, Lukas Kilo, Carsten Duch, Stefanie Ryglewski, Mainz

T6-3B PROBING THE ROLE OF ION CHANNEL DEGENERACY FOR ROBUST NEURONAL EXCITABILITY
Selina Hilgert, Lion Huthmacher, Silvan Hürkey, Carsten Duch, Stefanie Ryglewski, Mainz

T6-4B RESURRECTED FROM OBSCURITY: THE FORGOTTEN GOLDMAN-HODGKIN-KATZ (GHK) CURRENT EQUATION: STABLE SPIKE FIRING IN ULTRATHIN AXONS
Oron David Kotler, Michael Gutnick, Ilya Fleidervish, Be'er Sheva, Israel

Friday

T6-1C REELIN-INDUCED MODULATION OF CHOLINERGIC SIGNAL TRANSMISSION AND POSTTRANSCRIPTIONAL PROTEIN MODIFICATION
Marie-Luise Kümmel, Eckart Förster, Bochum

T6-2C REGULATION OF THE ELECTROGENIC NA^+/HCO_3^- COTRANSPORTER 1 (NBCE1) AND THE VACUOLAR H^+-ATPASE (V-ATPASE) BY HYPOXIA AND ACIDOSIS IN GLIOBLASTOMA
Marina Giannaki, Katharina Everaerts, Christine R. Rose, Eleni Roussa, Freiburg

T6-3C SIMULATED ION CHANNEL VARIANTS EXPLAIN CONFLICTING EFFECTS ON FIRING RATES DEPENDING ON NEURON TYPE
Lukas Sonnenberg, Jan Benda, Tuebingen

T6-4C TGF-ß2 REGULATES EXPRESSION AND THR1007 PHOSPHORYLATION OF THE K^+-CL^- COTRANSPORTER 2 IN A NEURONAL MATURATION-DEPENDENT MANNER
Anastasia Rigkou, Eleni Roussa, Freiburg im Breisgau

T6-5C EXON SPECIFIC PROPERTIES OF VOLTAGE GATED CALCIUM CHANNELS
Lukas Kilo, Christopher Bell, Veronica Pampanin, Stefanie Ryglewski, Bonn

T7: Synaptic transmission, pre- and postsynaptic organization

Wednesday

T7-1A A NOVEL PLAYER IN SHAPING SYNAPSES, THE COXSACKIEVIRUS AND ADENOVIRUS RECEPTOR
Jacobo López Carballo, Rene Jüttner, Michael Götthardt, Berlin

T7-2A ALTERNATIVE SPLICING OF A VOLTAGE-GATED CALCIUM CHANNEL INCREASES SYNAPTIC FUNCTION IN *DROSOPHILA MELANOGASTER*
Christopher Bell, Lukas Kilo, Jashar Arian, Carsten Duch, Stefanie Ryglewski, Mainz

T7-3A ASTROCYTES REGULATE NETWORK ACTIVITY IN THE DEVELOPING SOMATOSENSORY CORTEX OF THE GLUTAMIC ACID DECARBOXYLASE 67 (GAD67)-GFP MOUSE
Timo Ueberbach, Clara Simacek, Sergei Kirischuk, Thomas Mittmann, Mainz

T7-4A CHARACTERIZING THE ROLE OF THE PRESYNAPTIC PROTEIN CAPS IN SEROTONIN RELEASE FROM ENTEROCHROMAFFIN CELLS
Sudeeksha Tyagi, Ahmed Shaaban, Sabine Beuermann, Frederike Maaß, Benjamin H. Cooper, Cordelia Imig, København N, Denmark

T7-5A COOPERATIVE PRESYNAPTIC FUNCTIONS OF SYNAPTOTAGMIN 7 AND CAV1 CHANNELS AT THE *DROSOPHILA* NEUROMUSCULAR JUNCTION
Jashar Arian, Selina Hilgert, Carsten Duch, Mainz

T7-6A DETERMINING THE NUMBER AND ORGANIZATION OF ACTIVE ZONE PROTEINS AT THE ROD RIBBON SYNAPSE WITH 3D-MINFLUX
Chad Grabner, Isabella Jansen, Christian Wurm, Tobias Moser, Goettingen

T7-7A DEVELOPMENTAL CHANGES IN FUNCTION OF VASOACTIVE INTESTINAL PEPTIDE (VIP)-POSITIVE GABAERGIC INTERNEURONS OF THE SOMATOSENSORY CORTEX IN MICE
Clara Anna Simacek, Thomas Mittmann, Mainz

T7-8A DIFFERENTIAL CONTRIBUTION OF MEC AND DCA1 TO SPATIAL AND VELOCITY CODING OF SUBICULAR PYRAMIDAL NEURONS
Hiroshi Kaneko, Dennis Dalügge, Stefan Remy, Magdeburg

T7-9A DISEASE-RELATED VARIATIONS IN THE UNC13A GENE CAUSE PRESYNAPTIC DYSFUNCTION
Siqi Sun, Aisha Ahmad, Mareike Lohse, Jonas D. Sommer, Judith J. Jans, Mišo Mitkovski, Holger Taschenberger, Nils Brose, Anita Rauch, Reza Asadollahi, Jeremy S. Dittman, Noa Lipstein, Berlin

T7-10A DYNAMIC INTERPLAY BETWEEN CAV2 CHANNELS AND THE PRESYNAPTIC CYTOMATRIX IN MECHANISMS OF NEUROTRANSMISSION
Michela Borghi, Stephan Weissbach, Anna Fejtova, Martin Heine, Mainz

T7-11A EFFECTS OF ACTIVIN A AND ENRICHED ENVIRONMENT ON GABAERGIC INHIBITION IN DORSAL VS. VENTRAL HIPPOCAMPUS
Maria Jesus Valero Aracama, Fang Zheng, Christian Alzheimer, Erlangen

T7-12A EFFECTS OF ACTIVIN ON INTRINSIC EXCITABILITY AND SYNAPTIC PLASTICITY OF CA1 PYRAMIDAL CELLS DIFFER BETWEEN DORSAL AND VENTRAL HIPPOCAMPUS
Marc Dahlmanns, Maria Jesus Valero-Aracama, Fang Zheng, Christian Alzheimer, Erlangen

T7-13A EXPLORATION OF MECHANISMS GOVERNING FORMATION OF POSTSYNAPTIC DENSITY USING THE PYRID SIMULATOR
Nahid Safari, Christian Tetzlaff, Goettingen

T7-14A GUT-TO-BRAIN SIGNALING - ENTEROCHROMAFFIN CELL COMMUNICATION WITH VAGAL SENSORY NEURONS
Esmira Mamedova, Ahmed Shaaban, Cordelia Imig, Copenhagen, Denmark

T7-15A HCN-CHANNEL MEDIATED FUNCTIONAL CHANGES IN PARVALBUMIN-POSITIVE INTERNEURONS IN THE SOMATOSENSORY CORTEX OF MICE FOLLOWING TRAUMATIC BRAIN INJURY
Qiang Wang, Thomas Mittmann, Mainz

T7-16A INVESTIGATING NANOSCALE MOLECULAR ORGANISATION AT CEREBELLAR SYNAPSES WITH SUPERRESOLUTION MICROSCOPY
Maureen McFadden, Gael Moneron, David DiGregorio, David DiGregorio, Paris, France

Thursday

T7-1B INVESTIGATING PRESYNAPTIC NANOARCHITECTURE USING PROXIMITY LABELING APPROACHES
Mareike Lohse, Siqi Sun, Sofia Elizarova, Olaf Jahn, Nils Brose, Noa Lipstein, Goettingen

T7-2B L-TYPE CA^{2+} CHANNELS MEDIATE REGULATION OF GLUTAMATE RELEASE BY SUBTHRESHOLD POTENTIAL CHANGES
Byoung Ju Lee, Seung Yeon Lee, Suk-Ho Lee, Won-Kyung Ho, Seoul, Korea (South)

T7-3B MAPPING THE ORIENTATION OF SYNAPTIC PROTEINS IN MAMMALIAN SYNAPSES AND *DROSOPHILA* NMJS BY TWO-PHOTON POLARIZATION MICROSCOPY
Maksim Galkov, Komal Patil, Gaia Tavosanis, Martin Fuhrmann, Dirk Dietrich, Susanne Schoch, Bonn

T7-4B MATURATION OF ACTIVITY-DEPENDENT ENDOCYTOSIS DURING TERMINAL DIFFERENTIATION OF COCHLEAR INNER HAIR CELLS
Guobin Huang, Stefan Münkner, Jutta Engel, Stephanie Eckrich, Homburg/Saar

T7-5B MOLECULAR MECHANISMS OF SYNAPTIC VESICLE RELEASE IN DORSAL ROOT GANGLION NEURONS
Lucia Rojas, Chungku Lee, JeonSeop Rhee, Goettingen

T7-6B MOLECULAR SUBGROUPS OF MOUSE CORTICAL VIP NEURONS – LAMINAR DISTRIBUTION, FIRING PATTERN AND OPTICAL STIMULATION
Mirko Witte, Flore Schork, Felicita Fischer, Philipp Kolligs, Jenifer Rachel, Felix Preuss, Sandra Heinzl, Martin Möck, Jochen Staiger, Goettingen

T7-7B NANOSCALE ARCHITECTURE OF THE SYNAPTIC RELEASE SITE
Sofia Elizarova, Siqi Sun, Noa Lipstein, Berlin

T7-8B NEURONAL ALTERNATIVE SPLICING OF GEPHYRIN C4 CASSETTES MODULATES CONDENSATE FORMATION *IN VITRO* AND SYNAPTIC SCAFFOLDING IN CULTURED NEURONS
Filip Liebsch, Anne Bodenhausen, Fynn Eggersmann, Anna Lütz, Peter Kloppenburg, Günter Schwarz, Cologne

T7-9B NOVEL MECHANISMS UNDERLYING SYNGAP SYNDROME AND NEW STRATEGIES TOWARD THERAPEUTIC INTERVENTION
Judith von Sivers, Benno Kuropka, Dietmar Schmitz, Sarah Shoichet, Nils Rademacher, Berlin

T7-10B N-TYPE CALCIUM CHANNELS SUSTAIN VESICLE RECRUITMENT AT A MATURE GLUTAMATERGIC SYNAPSE
Magdalena Wender, Grit Bornschein, Simone Brachtendorf, Stefan Hallermann, Jens Eilers, Hartmut Schmidt, Leipzig

T7-11B PENTAMERIC ASSEMBLY OF GLYCINE RECEPTOR INTRACELLULAR DOMAINS PROVIDES INSIGHTS INTO GEPHYRIN CLUSTERING
Guenter Schwarz, Cologne

T7-12B PRESYNAPTIC PRECURSOR VESICLES ORIGINATE FROM THE TRANS-GOLGI, PROMOTED BY THE SMALL GTPASE RAB2
Astrid G. Petzoldt, Torsten W. B. Götz, Dmytro Puchkov, Veronika Lysiuk, Stephan J. Sigrist, Berlin

T7-13B QUANTIFYING THE SYNAPTIC CA^{2+}-BINDING KINETICS OF SYNAPTOTAGMIN-1, THE CA^{2+} SENSOR FOR TRANSMITTER RELEASE IN THE FOREBRAIN
Grit Bornschein, Simone Brachtendorf, Abdelmoneim Eshra, Jens Eilers, Stefan Hallermann, Hartmut Schmidt, Leipzig

T7-14B RECEPTOR DIVERSITY IN CHOLINERGIC AND GABAERGIC SYNAPSES IN *DROSOPHILA*
Eleni Samara, Alexander Borst, Planegg

T7-15B REGULATION OF PRESYNAPTIC MEMBRANE HOMEOSTASIS BY BAR DOMAIN PROTEINS
Agata Witkowska, Tim Berneiser, Volker Haucke, Berlin

T7-16B REGULATORY FUNCTIONS OF EXTRACELLULAR-SIGNAL REGULATED KINASES (ERK) IN THE CONTRALATERAL HEMISPHERE OF THE MOUSE SOMATOSENSORY CORTEX ONE-WEEK AFTER TRAUMATIC BRAIN INJURY
Celine Gallagher, Natascha Ihbe, Thomas Mittmann, Mainz

Friday

T7-1C RELAXIN' CORTICAL CIRCUITS: UNDERSTANDING THE EFFECT OF RELAXIN ON SYNAPTIC TRANSMISSION WITHIN CORTICAL CIRCUITS
Sadat Hodzic, Therese Riedemann, Planegg-Martinsried

T7-2C ROLE OF ACTIVIN SIGNALING IN GABAERGIC INHIBITION IN HIPPOCAMPAL GRANULE CELLS AND ITS IMPLICATIONS IN DEPRESSION
Sriity Melley Sadanandan, Fang Zheng, Liubov S. Kalinichenko, Christian P. Müller, Christian Alzheimer, Erlangen

T7-3C ROLE OF SYNAPTIC VESICLE REFILLING ON ROBUST SYNAPTIC TRANSMISSION IN THE AUDITORY SYSTEM
Erika Pizzi, Jennifer Winkelhoff, Eckhard Friauf, Kaiserslautern

T7-4C SEX-DEPENDENT BDNF-MEDIATED EFFECTS OF FINGOLIMOD ON THE ARCHITECTURE OF MOUSE HIPPOCAMPAL NEURONS
Aiswaria Lekshmi Kannan, Martin Korte, Marta Zagrebelsky, Braunschweig

T7-5C SHORT-TERM PLASTICITY OF NON-CALYCEAL INPUTS IN THE MEDIAL NUCLEUS OF THE TRAPEZOID BODY
Laura Console-Meyer, Felix Felmy, Hannover

T7-6C SINGLE-MOLECULE IMAGING OF SYNAPTIC VESICLE CONDENSATES
Christian Hoffmann, Jakob Rentsch, Taka Tsunoyama, Akshita Chhabra, Gerard Aguilar Perez, Franziska Trnka, Marcelo Ganzella, Akihiro Kusumi, Helge Ewers, Dragomir Milovanovic, Berlin

T7-7C SPECIES-SPECIFIC ADAPTATION FOR ONGOING HIGH-FREQUENCY ACTION POTENTIAL GENERATION IN MNTB NEURONS
Nikolaos Kladisios, Kathrin D. Wicke, Christina Pätz, Felix Felmy, Hannover

T7-8C S-SCAM/MAGI2 IS ESSENTIAL FOR SYNAPSE FORMATION
Nina Wittenmayer, Sebastian Kügler, Jeong Seop Rhee, Julio S. Viotti, Thomas Dresbach, Hamburg

T7-9C HUMAN IPSC-DERIVED NEURONS HAVE LARGE PRESYNAPTIC ACTION POTENTIALS
Torsten Bullmann, Andreas Ritzau-Jost, Thomas Kaas, Anne Wöhner, Toni Kirmann, Sila Rizalar, Max Holzer, Jana Nerlich, Christian Geis, Jens-Karl Eilers, Robert Joahnnes Kittel, Thomas Arendt, Volker Hauke, Stefan Hallermann, Leipzig

T7-10C SYNAPTIC CLEFT PROTEINS FORM AN OUTER ENCLOSURE OF THE TRANS-SYNAPTIC NANOCOLUMN
Paulina Nemcova, Hannes Beckert, Julia Wolf, Susanne Schoch, Dirk Dietrich, Bonn

T7-11C SYNAPTIC TRANSMISSION IS AFFECTED BY THE LACK OF PLASMALOGENS
Bárbara Catarina Correia, Jaqueline Zortéa, Pedro Brites, Porto, Portugal

T7-12C THE ALANINE-SERINE-CYSTEINE-TRANSPORTER 1 PROVIDES GLYCINE FOR INHIBITORY GLYCINERGIC TRANSMISSION IN AN AUDITORY BRAINSTEM SYNAPSE
Lina Hofmann, Eckhard Friauf, Kaiserslautern

T7-13C THE ALTERNATIVE SPLICING OF P/Q-TYPE CALCIUM CHANNELS FINE TUNES PRESYNAPTIC PROPERTIES AND NEUROTRANSMITTER RELEASE
Ana Carolina Palmeira do Amaral, Abderazzaq El Khallouqi, Jennifer Heck, Arthur Bikbaev, Melanie Mark, Stefan Herlitze, Martin Heine, Mainz

T7-14C THE REGULATION AND IMPACT OF MICROTUBULE ABUNDANCE AT THE *DROSOPHILA* EUROMUSCULAR JUNCTION
Dario Andrea Lasser, Hannes Euler, Zeeshan Mushtaq, Jan Pielage, Kaiserslautern

T7-15C THE SECRETORY PATHWAY PROTEIN SEC31 CONTROLS COMPOSITION AND FUNCTION OF THE PRESYNAPTIC ACTIVE ZONE
Marius A. Lamberty, Kerstin Reim, Jutta Meyer, Olaf Jahn, Robert J. Kittel, Leipzig

T7-16C TRANSCRIPTIONAL PROFILING OF TWO NUCLEI IN THE MOUSE AUDITORY BRAINSTEM REVEALS GENE SETS IMPORTANT FOR AUDITORY PROCESSING
Mirjam Montag, Ayse Maraslioglu-Sperber, Kathrin Kattler, Eckhard Friauf, Kaiserslautern

T7-17C UNDERSTANDING THE SYNAPTIC BASIS OF DYSTONIA PATHOGENESIS TRIGGERED BY RIMBP1 MUTATIONS
Chiara Olmeo, Joaquin Campos, Niccolò Mencacci, Claudio Acuna, Heidelberg

T8: Synaptic plasticity, LTP, LTD

Wednesday

T8-1A A BIOPHYSICAL MODEL FOR SYNAPTIC TAGGING
Michael Fauth, Francesco Negri, Christian Tetzlaff, Goettingen

T8-2A ACTIVITY-DEPENDENT CHANGES OF THE SYNAPTIC NANOARCHITECTURE REVEALED BY STED MICROSCOPY
Katrin Ina Willig, Valérie Clavet-Fournier, Waja Wegner, Goettingen

T8-3A ALL-OPTICAL INTERROGATION OF SCHAFFER COLLATERALS SYNAPSES *IN VIVO*
Cynthia Rais, J. Simon Wiegert, Hamburg

T8-4A ALL-OPTICAL INVESTIGATION OF LONG-TERM PLASTICITY IN THE HIPPOCAMPUS
Rui Wang, Margarita Anisimova, Michaela Schweizer, Thomas G Oertner, Chrisitine E Gee, Hamburg

T8-5A ANALYSING THE SYNAPTIC PLASTICITY IN THE PROGRESSIVE PHENOTYPE OF MURINE TAUOPATHY
Jennifer Just, S. Ludewig, C. Bold, D. Baltissen, U. Müller, M. Korte, Braunschweig

T8-6A CALCIUM MEDIATED PRESYNAPTIC HOMEOSTATIC PLASTICITY AT THE *DROSOPHILA* NMJ
Lea Deneke, Jashar Arian, Niklas Krick, Carsten Duch, Mainz

T8-7A CELL-AUTONOMOUS CAMP SIGNALING IS NOT A PLASTICITY AND IMMEDIATE EARLY GENE EXPRESSION TRIGGER AT SCHAFFER COLLATERAL SYNAPSES
Oana-Maria Constantin, Daniel Udwari, Paul Lamothe-Molina, Lennart Beck, Christine Gee, Thomas Oertner, Hamburg

T8-8A C-TERMINAL BINDING PROTEIN 1 (CTBP1) REGULATES SYNAPTIC PLASTICITY AND ENERGY METABOLISM IN HIPPOCAMPUS
Enes Yagiz Akdas, Erlangen

Thursday

T8-1B GABAERGIC REGULATION OF TIMING-DEPENDENT LTP IN MOUSE CA1 PYRAMIDAL NEURONS ALONG THE LONGITUDINAL AXIS OF THE HIPPOCAMPUS
Babak Khodaie, Elke Edelmann, Volkmar Leßmann, Magdeburg

T8-2B *DROSOPHILA* RAB3 MEDIATES CYCLIC AMP-DEPENDENT PRESYNAPTIC PLASTICITY
Divya Sachidanandan, Aishwarya Aravamudhan, Isabella Maiellaro, Stefan Hallermann, Robert J. Kittel, Leipzig

T8-3B ELUCIDATING THE ROLE OF STIM PROTEINS IN MEDIATING PM-ER CONTACTS AND THEIR ROLE IN SYNAPTIC PLASTICITY AND SYNAPTIC ARCHITECTURE
Arun Chhikara, Filip Maciag, Karin Ruban, Martin Heine, Kay Grünewald, Mainz

T8-4B ENVIRONMENTAL ENRICHMENT INCREASES SPARSE CODING IN ADULT HIPPOCAMPUS
Ekaterina Verdiyan, Meredith Lodge, Jan Michael Schulz, Josef Bischofberger, Basel, Switzerland

T8-5B FULLY-PRIMED SLOWLY-RECOVERING VESICLES MEDIATE LTP AT NEOCORTICAL NEURONS
Jana Nerlich, Iron Weichard, Holger Taschenberger, Grit Bornschein, Andreas Ritzau-Jost, Hartmut Schmidt, Robert J. Kittel, Jens Eilers, Stefan Hallermann, Leipzig

T8-6B HOMEOSTATIC SYNAPTIC PLASTICITY RECRUITS COORDINATED STRUCTURAL AND FUNCTIONAL CHANGES IN SUPERFICIAL PYRAMIDAL NEURONS OF THE HUMAN NEOCORTEX
Maximilian Lenz, Pia Kruse, Amelie Eichler, Phyllis Stöhr, Jakob Straehle, Paul Turko, Imre Vida, Jürgen Beck, Andreas Vlachos, Freiburg im Breisgau

T8-7B HOMEOSTATIC SYNAPTIC PLASTICITY RESCUES NEURAL CODING RELIABILITY
Nadine Ehmann, Eyal Rozenfeld, Julia E. Maniom, Robert J. Kittel, Moshe Parnas, Leipzig

Friday

T8-1C INACTIVITY INDUCED HOMEOSTATIC SYNAPTIC PLASTICITY REQUIRES ECM REMODELING
Bartomeu Perello Amoros, Fabian Zmiskol, Rahul Kaushik, Constanze Seidenbecher, Alexander Dityatev, Renato Frischknecht, Erlangen

T8-2C INTERMITTENT THETA BURST REPETITIVE TRANSCRANIAL MAGNETIC STIMULATION (RTMS) INDUCES EXCITATORY SYNAPTIC PLASTICITY IN HUMAN NEOCORTICAL SLICES
Christos Galanis, Jakob Straehle, Elli Anna Balta, Dieter Henrik Heiland, Jürgen Beck, Andreas Vlachos, Freiburg

T8-3C LIGHT-INDUCED ULTRASTRUCTURAL SYNAPTIC PLASTICITY IN THE MUSHROOM BODY CALYCES OF HONEYBEES USING STEM TOMOGRAPHY
Nadine Kraft, Christian Stigloher, Wolfgang Rössler, Claudia Groh, Wuerzburg

T8-4C LONGITUDINAL IMAGING OF INDIVIDUAL HIPPOCAMPAL SYNAPTIC SUB-GROUPS
Alessandro Francesco Ulivi, Hannah Klimmt, Bhargavi K.B. Murthy, Rosa Eva Huettl, Jinhyun Kim, Alon Chen, Stefan Remy, Alessio Attardo, Magdeburg

T8-5C LTP-INDUCED DYNAMICS OF ACTIN AND SPINE GEOMETRY
Mitha Thomas, Michael Fauth, Goettingen

T8-6C OPTOGENETIC ACTIVATION OF MGLUR1 SIGNALING INDUCES SYNAPTIC PLASTICITY IN PURKINJE CELLS
Lennard Rohr, Tatjana Surdin, Bianca Preissing, Bochum

T8-7C THE MOLECULAR COMMUNICATION BETWEEN SYNAPSES INFLUENCES SYNAPTIC PLASTICITY
Shirin Shafiee, Christian Tetzlaff, Goettingen

T9: Glia, glia-neuron interactions

Wednesday

T9-1A A SUBSET OF OPCS DO NOT EXPRESS OLIG2 DURING DEVELOPMENT WHICH CAN BE INCREASED IN THE ADULT BY BRAIN INJURIES AND COMPLEX MOTOR LEARNING
Xianshu Bai, Lipao Fang, Qing Liu, Erika Meyer, Anna Welle, Wenhui Huang, Anja Scheller, Frank Kirchhoff, Homburg

T9-2A BUFFERING CALCIUM SIGNALS IN GLIA AND NEURONS: A NEW CONDITIONAL MOUSE LINE
Anne-Sophie Brauer, Julia Wolf, Ulrich Boehm, Dirk Dietrich, Susanne Schoch, Bonn

T9-3A CAMP SIGNALING EVOKED BY ADENOSINE AND DOPAMINE IN MOUSE OLFACTORY BULB ASTROCYTES
Marina Wendlandt, Levi von Kalben, Kristina Schulz, Daniela Hirnet, Christine Gee, Christian Lohr, Hamburg

T9-4A CHARACTERIZATION OF MACROGLIA RESPONSE DURING WOUND HEALING IN LASER-INDUCED MODELS OF RETINAL DEGENERATION
Laura Jahnke, Souska Zandi, Ahmed Elhelbawi, Nadia Mercader Huber, Federica Maria Conedera, Volker Enzmann, Bern, Switzerland

T9-5A DECIPHERING THE ROLE OF A NON-NEURONAL LNCRNA IN AGE-ASSOCIATED COGNITIVE DISEASES
Sophie Schröder, M. Sadman Sakib, André Fischer, Goettingen

T9-6A FROM INDICATOR TO BIOSENSOR: GCAMP FOR DECIPHERING THE COMPLEX CA^{2+} ACTIVITY OF ASTROCYTES
Andre Zeug, Franziska E. Müller, Evgeni Ponimaskin, Hannover

T9-7A FUNCTIONAL CHARACTERIZATION OF A NOVEL LNCRNA IN THE AGING BRAIN
Ranjit Pradhan, M. Sadman Sakib, Lalit Kaurani, Deborah Kronenberg-Versteeg, Dennis M. Krüger, Sophie Schröder, Andre Fischer, Goettingen

T9-8A ROLE OF GLIAL GAP JUNCTIONS IN THE DEVELOPMENT AND PROGRESSION OF TEMPORAL LOBE EPILEPSY
Oussama Kherbouche, Lukas Henning, Gerald Seifert, Pia Niemann, Bernd Fleischmann, Peter Bedner, Christian Steinhäuser, Bonn

Thursday

T9-1B GABAERGIC CALCIUM-SIGNALS IN ASTROCYTES OF THE MOUSE MEDIAL PREFRONTAL CORTEX
Alina Kürten, Jennifer Bostel, Antonia Beiersdorfer, Hamburg

T9-2B GLIOMA AND NATIVE CNS CELLS IN 3D ULTRAWEAK HYDROGELS: CELL-CELL AND CELL-MATRIX INTERACTIONS
Mateo Sebastian Andrade Mier, Carmen Villmann, Torsten Blunk, Wuerzburg

T9-3B IMPACT OF 5-HT4R SIGNALING ON MORPHOLOGY AND FUNCTION OF HIPPOCAMPAL ASTROCYTES
Franziska E. Müller, Evgeni Ponimaskin, Andre Zeug, Hannover

T9-4B IMPACT OF AMPA RECEPTORS IN NG2 GLIA ON SIGNAL TRANSMISSION IN THE HIPPOCAMPUS AND CEREBELLUM
Dario Tascio, Gerald Seifert, Nehal Gebril, Frank Kirchhoff, Ronald Jabs, Christian Henneberger, Christian Steinhäuser, Bonn

T9-5B MULTISCALE CORRELATIONAL IMAGING OF SEX-SPECIFIC STRUCTURAL BRAIN CHANGES DURING CHRONIC PAIN
Tabea Susanna Kampen, Amrita Das Gupta, Jennifer John, Claudia Falfán-Melgoza, Carlo A. Beretta, Wolfgang Weber-Fahr, Thomas Kuner, Johannes Knabbe, Heidelberg

T9-6B NG2 GLIA-SPECIFIC KIR4.1 KNOCKOUT AS A TOOL TO UNDERSTAND THE IMPACT OF NEURON-GLIA SYNAPTIC SIGNALING
Gerald Seifert, Dario Tascio, Ronald Jabs, Aline Timmermann, Anne Boehlen, Magdalena Skubal, Catia Domingos, Wenhui Huang, Frank Kirchhoff, Christian Henneberger, Andras Bilkei-Gorzo, Christian Steinhäuser, Bonn

T9-7B OPCS SHAPE THE MEDIAL PREFRONTAL CORTICAL INHIBITION BY REGULATING INTERNEURON APOPTOSIS AND MYELINATION EMPLOYING GABAB RECEPTOR
Lipao Fang, Na Zhao, Laura C Caudal, Renping Zhao, Ching-Hsin Lin, Hsin-Fang Chang, Nadine Heinz, Carola Meier, Wenhui Huang, Anja Scheller, Frank Kirchhoff, Xianshu Bai, Homburg

T9-8B QUANTIFICATION OF CELLULAR NA^+ EMPLOYING RAPIDFLIM IN THE MOUSE HIPPOCAMPUS
Jan Meyer, Karl W. Kafitz, Christine R. Rose, Duesseldorf

Friday

T9-1C MOVED TO T9-8A

T9-2C ROLE OF HEVIN IN DRUG ADDICTION
Vincent Vialou, Paris, France

T9-3C SEROTONIN1A-RECEPTOR MEDIATED SIGNALING IN ASTROCYTES AND ITS INFLUENCE ON DEPRESSION-LIKE BEHAVIOR
Svenja Bremshey, Dr. Michael Koch, Dr. Olivia A. Masseck, Bremen

T9-4C THE AXONAL VESICLE RELEASE MACHINERY AND MYELINATION
Julia Wolf, Silvia Cases-Cunillera, Susanne Schoch, Dirk Dietrich, Bonn

T9-5C THE IMPACT OF SYNAPTIC SIGNALING ACTIVITY ON HIPPOCAMPAL MICROGLIA
Frederieke Sophie Moschref, Nils Brose, Benjamin H. Cooper, Goettingen

T9-6C THE SYNAPTIC VESICLE PROTEIN MOVER/TPRG1L IS ASSOCIATED WITH LIPID DROPLETS IN ASTROCYTES
Jeremy Krohn, Florelle Domart, Thanh Thao Do, Thomas Dresbach, Berlin

T9-7C VIRAL APPROACHES TO ELUCIDATE THE FUNCTION OF DIFFERENT TANYCYTIC SUBPOPULATIONS
Vanessa Neve, Helge Müller-Fielitz, Frauke Spiecker, Anke Fähnrich, Ruben Nogueiras, Vincent Prevot, Markus Schwaninger, Luebeck

T9-8C *WRAPPING GLIA INFLUENCE ON* LARVAL REORIENTATION
Marit Praetz, Christian Klämbt, Muenster

T10: Aging and developmental disorders

Wednesday

T10-1A CHARACTERISATION OF MURINE L6B AND ITS ROLE IN MANIFESTATION OF ASD ASSOCIATED BEHAVIOUR
Aasha Meenakshisundaram, Timothy Zolnik, Britta Eickholt, Zoltán Molnár, Berlin

T10-2A COGNITIVE FLEXIBILITY AND FRONTAL THETA: EFFECTS OF AGEING
Margarita Darna, Christopher Stolz, Constanze I. Seidenbecher, Björn H. Schott, Anni Richter, Magdeburg

T10-3A MOVED TO T10-6B

T10-4A DIETARY SPERMIDINE PROTECTS FROM AGE-RELATED SYNAPTIC ALTERATIONS WHILE INDUCING NEURONAL AUTOPHAGY AND NPY IN THE AGING BRAIN
Marta Maglione, Gaga Kochlamazashvili, David Toppe, Giovanna Cazzolla, Volker Haucke, Stephan Sigrist, Berlin

T10-5A EPHRINA5 REGULATES NEURONAL MIGRATION BY REPRESSING THE LONG NON-CODING RNA *SNHG15* AND PERTURBING ITS INTERACTIONS WITH DNA METHYLTRANSFERASE 1
Can Bora Yildiz, Jannis Koesling, Julia Reichard, Philip Wolff, Julia Gehrmann, Ivan G. Costa, Mira Jakovcevski, Daniel Pensold, Geraldine Zimmer-Bensch, Aachen

Thursday

T10-1B GENE THERAPY TARGETING BRAIN ENDOTHELIAL CELLS IMPROVES NEUROLOGICAL SYMPTOMS IN A MODEL OF GENETIC MCT8 DEFICIENCY
Adriana Arrulo Pereira, Sivaraj M. Sundaram, Helge Müller-Fielitz, Hannes Köpke, Meri De Angelis, Timo D. Müller, Heike Heuer, Jakob Körbelin, Markus Krohn, Jens Mittag, Ruben Nogueiras, Vincent Prevot, Markus Schwaninger, Luebeck

T10-2B *IN VIVO* OPTOGENETIC INHIBITION OF STRIATAL PARVALBUMIN-REACTIVE INTERNEURONS INDUCED GENOTYPE-SPECIFIC CHANGES IN NEURONAL ACTIVITY WITHOUT DYSTONIC SIGNS IN DYT1 KNOCK-IN MICE
Anja Schulz, Franziska Richter, Angelika Richter, Leipzig

T10-3B INCREASE IN VASCULAR BAG NUMBERS IN THE WHITE MATTER OF THE HUMAN BRAIN WITH AGING BUT NOT IN ALZHEIMER'S DISEASE
Deniz Yilmazer-Hanke, Kameliya S. Georgieva, Najwa Ouali Alami, Ulm

T10-4B INHIBITORY TEMPORO-PARIETAL EFFECTIVE CONNECTIVITY IS ASSOCIATED WITH EXPLICIT MEMORY PERFORMANCE IN OLDER ADULTS
Björn Hendrik Schott, Joram Soch, Jasmin Kizilirmak, Anni Richter, Goettingen

T10-5B IS RETT SYNDROME ASSOCIATED WITH BRAIN REGIONAL ALTERATIONS IN MITOCHONDRIAL DENSITY AND NEURONAL REDOX STATUS?
Laura van Agen, Michael Müller, Goettingen

T10-6B DEVELOPMENTAL CHANGES IN THE ELECTROPHYSIOLOGICAL PROPERTIES OF PYRAMIDAL NEURONS IN THE AUDITORY CORTEX OF THE CNTNAP2 KO RAT MODEL OF AUTISM SPECTRUM DISORDER
Rajkamalpreet S. Mann, Brian L. Allman, Susanne Schmid, London, Canada

Friday

T10-1C MULTI-MODAL EPIGENETIC CHANGES AND ALTERED NEUROD1 CHROMATIN BINDING IN THE MOUSE HIPPOCAMPUS UNDERLIE FOXG1 SYNDROME
Ipek Akol, Annalisa Izzo, Thomas Manke, Tanja Vogel, Freiburg im Breisgau

T10-2C MULTIPLE FACETS OF HETEROZYGOUS FOXG1 LOSS ON NEURAL DEVELOPMENT AND FOXG1 SYNDROME OUTCOME IN DIFFERENT PATIENT-SPECIFIC BACKGROUNDS
Fabian Gather, Ipek Akol, Analia Rojas Caballero, Christos Galanis, Andreas Vlachos, Tanja Vogel, Freiburg im Breisgau

T10-3C PATHOPHYSIOLOGICAL AND STRUCTURAL CONSEQUENCES OF NOVEL MUTATIONS IN THE ASPARAGINE SYNTHETASE GENE (ASNS) ASSOCIATED WITH MICROCEPHALY
Dorit John, Ulrike Winkler, Tabea Junge, Maximilian Liebmann, Anja Reinert, Susanne Köhler, Johannes Hirrlinger, Leipzig

T10-4C TOGARAM1 MUTATION IN SPINA BIFIDA HIGHLIGHTS ALTERNATIVE MECHANISMS IN NEURAL TUBE CLOSURE DEFECTS
YanYan Wang, Nadine Krämer, Olaf Ninnemann, Joanna Schneider, Li Na, Hao Hu, Shyamala Mani, Angela Kaindl, Berlin

T10-5C TYPE-DEPENDENT DYSREGULATION OF MYELINATION IN FOCAL CORTICAL DYSPLASIA IN EXTRATEMPORAL LOBE REGIONS OF THE HUMAN NEOCORTEX
Catharina Donkels, Julia M. Nakagawa, Susanne Huber, Andreas Vlachos, Christian Scheiwe, Mukesh J. Shah, Andreas Schulze-Bonhage, Marco Prinz, Jürgen Beck, Carola A. Haas, Freiburg

T11: Alzheimer's, Parkinson's and other neurodegenerative diseases

Wednesday

T11-1A A MULTIMODAL PERSPECTIVE ON THE DOPAMINE HYPOTHESIS IN SCHIZOPHRENIA SPECTRUM DISORDERS – PRELIMINARY DATA
Sophie Pauline Fromm, Lara Wieland, Florian Schlagenhauf, Jakob Kaminski, Berlin

T11-2A ALZHEIMER'S DISEASE MIGHT BE ALSO A FAILURE OF INHIBITORY SYNAPSES AT EARLY AND LATE STAGES OF PATHOGENESIS THAT CAN BE RESCUED BY ARTEMISININS
Jochen Kuhse, Stefan Kins, Femke Groeneweg, Karin Gorgas, Joachim Kirsch, Eva Kiss, Targu Mures, Romania

T11-3A ANALYSIS OF THE INFLUENCE OF THE GLUTAMATE SIGNALING PATHWAY ON REPAIR OF RADIATION-INDUCED DNA DAMAGE IN TUMOR-INITIATING NEURONAL CANCER CELLS
Dario Macarron Palacios, Henrik Lutz, Bodo Laube, Darmstadt

T11-4A ANTIBODIES TO THE LOW-DENSITY LIPOPROTEIN-RECEPTOR-ASSOCIATED-PROTEIN LRPAP-1 ARE FOUND NOT IN CEREBROSPINAL FLUID OR BLOOD SERUM OF ALZHEIMER'S DISEASE PATIENTS, BUT IN SERUM OF HEALTHY CONTROLS
Bernhard Reuss, Niels Hansen, Jens Wiltfang, Goettingen

T11-5A APPSα RESCUES KINASE DYSREGULATIONS IN TAU TRANSGENIC MICE
Danny Baltissen, Charlotte Bold, Lena Rehra, Justus Fricke, Jennifer Just, Christian Buchholz, Martin Korte, Ulrike Müller, Heidelberg

T11-6A BIMODAL POTENTIATION OF CHOLINERGIC NEUROTRANSMISSION IN RATS TRANSGENIC FOR FAMILIAR ALZHEIMER´S MUTATIONS
Johanna Habermeyer, Fabio Canneva, Stephan von Hörsten, Erlangen

T11-7A CEREBELLAR NETWORK IN A MODEL OF PAROXYSMAL DYSTONIA
Fabiana Santana Kragelund, Denise Franz, Marco Heerdegen, Anika Lüttig, Stefanie Perl, Angelika Richter, Rüdiger Köhling, Rostock

T11-8A CHANGES IN INHIBITORY GLYCINE RECEPTORS FUNCTION IN THE NUCLEUS ACCUMBENS IN AN ALZHEIMER'S DISEASE ANIMAL MODEL
Luis Aguayo, Scarlet Gallegos, Anibal Araya, Alejandra Guzmán, Macarena Konar-Nie, Eduardo Fernandez-Perez, Lorena Armijo-Weingart, Concepcion, Chile

T11-9A DEVELOPMENTAL STAGE-SPECIFIC ANALYSIS OF MOLECULAR DISEASE MECHANISMS IN GENETIC EPILEPTIC ENCEPHALOPATHIES LINKED TO HCN1 CHANNELS
Jacquelin Kasemir, Andrea Merseburg, Bina Santoro, Dirk Isbrandt, Cologne

T11-10A DISTRIBUTION OF THE EFFECT OF BOTULINUM NEUROTOXIN-A IN THE RAT BRAIN AFTER ITS EXPERIMENTAL UNILATERAL INJECTION INTO THE STRIATUM FOR *EXPERIMENTAL PARKINSON'S DISEASE TREATMENT*
Alexander Hawlitschka, Oliver Schmitt, Andreas Wee, Friederike Schümann, Rostock

T11-11A EFFECTS OF THE MEDIAL SEPTUM ELECTRICAL STIMULATION ON OKADAIC ACID INDUCED SPATIAL LONG-TERM MEMORY IMPAIRMENT: A BEHAVIORAL AND HISTOLOGICAL EVALUATION
Mariam Chighladze, Maia Burjanadze, Manana Dashniani, Nino Chkhikvishvili, Lali Kruashvili, Tbilisi, Georgia

Thursday

T11-1B ELUCIDATING EARLY MOLECULAR EVENTS OF HUMAN CORTICAL ALS PATHOPHYSIOLOGY AT SINGLE CELL RESOLUTION
Zeynep Irem Gunes, Klara Magdalena Eglseer, Charlene-Annett Hurler, Sarah Jaekel, Eduardo Beltran, Thomas Arzberger, Sabine Liebscher, Martinsried

T11-2B EXITABILITY CHANGES IN HIPPOCAMPAL NEURONS IN THE RODENT MODELS OF ALZHEIMER'S DISEASE AND A WAY TO PREVENT IT
Liudmila Sosulina, Hiroshi Kaneko, Anja M. Oelschlegel, Katarzyna M. Grochowska, Guilherme M. Gomes, Carsten Reissner, Manuel Mittag, Martin Fuhrmann, Anna Karpova, Michael R. Kreutz, Stefan Remy, Magdeburg

T11-3B EXPRESSION PROFILING AND FUNCTIONAL CHARACTERIZATION OF CANDIDATE MICRORNA ASSOCIATED WITH FRONTOTEMPORAL DEMENTIA
Lalit Kaurani, Jiayin Zhou, Ranjit Pradhan, Aditi Methi, Susanne Burkhardt, Raquel Pinto, MD Rezaul Islam, Sophie Schröder, Peter Heutink, Farahnaz Sananbenesi, Andre Fischer, Goettingen

T11-4B EXTRACELLULAR MATRIX CHANGES IN SUBCELLULAR BRAIN FRACTIONS AND BIOFLUID OF ALZHEIMER'S DISEASE PATIENTS
Lukas Höhn, Wilhelm Hußler, Anni Richter, Karl-Heinz Smalla, Anna-Maria Birkl-Töglhofer, Christoph Birkl, Stefan Vielhaber, Stefan L. Leber, Eckart D. Gundelfinger, Stefanie Schreiber, Johannes Haybäck, Constanze I. Seidenbecher, Magdeburg

T11-5B HIPPOCAMPAL LOW-FREQUENCY STIMULATION SUPPRESSES EPILEPTIC ACTIVITY WITHOUT AFFECTING LEARNING AND MEMORY IN A MOUSE MODEL OF EPILEPSY
Enya Paschen, Piret Kleis, Jessica Link, Diego M Vieira, Katharina Heining, Ute Häussler, Carola A. Haas, Freiburg

T11-6B IDENTIFICATION OF OPTIMAL STIMULATION TARGETS AND PARAMETERS TO SUPPRESS SEIZURES IN A MOUSE MODEL OF MESIAL TEMPORAL LOBE EPILEPSY
Piret Kleis, Enya Paschen, Jessica Link, Diego M. Vieira, Katharina Heining, Ute Häussler, Carola A. Haas, Freiburg

T11-7B IMPACT OF FTY720 ON MEMORY PERFORMANCE AND HIPPOCAMPAL SPINES OF AGED APP/PS1 MICE
Lukas Schönwolf, Thomas Endres, Volkmar Leßmann, Magdeburg

T11-8B IMPACT OF TDP-43 PATHOLOGY AND ER STRESS ON CORTICAL NEURONAL HEALTH *IN VIVO*
Shenyi Jiang, Riddhi Sandeep Petkar, Monica Liliana Ziegler, Smita Saxena, Sabine Liebscher, Martinsried

T11-9B INVESTIGATION OF MITOCHONDRIAL PROTEIN-IMPORT STRESS INDUCED NEURONAL DEGENERATION
Johannes Ebding, Marlene Barth, Maximilian Goy, Adrian Gackstatter, Martin Simon, Johannes Herrmann, Jan Pielage, Kaiserslautern

T11-10B LOSS OF INTERNEURONS IN THE SUBICULUM IN A MOUSE MODEL FOR MESIAL TEMPORAL LOBE EPILEPSY
Nicole Barheier, Julia Franz, Henrike Wilms, Susanne Tulke, Carola A. Haas, Ute Häussler, Freiburg im Breisgau

T11-11B METABOLIC AND CELLULAR FACTORS DETERMINING THE THERAPEUTIC EFFECT OF DIMETHYL FUMARATE
Joanna Maria Kosinska, Julian Assmann, Julica Folberth, Markus Schwaninger, Luebeck

T11-12B PHOSPHORYLATION-STATE DEPENDENT INTRANEURONAL SORTING OF Aβ DIFFERENTIALLY IMPAIRS AUTOPHAGY-ENDO-LYSOSOMAL SYSTEM AND UBIQUITIN PROTEASOMAL MACHINERY
Akshay Kapadia, Sandra Theil, Sabine Opitz, Nàdia Villacampa, Susanne Schoch-McGovern, Michael. T. Heneka, Sathish Kumar, Jochen Walter, Bonn

Friday

T11-1C MODULATION OF PERIAQUEDUCTAL GREY DEFENSE CIRCUITRY BY LOCUS COERULEUS IN CONTEXT OF PARKINSON'S DISEASE
Alexia Lantheaume, Konstantin Kobel, Michael Schellenberger, Dennis Segebarth, Philip Tovote, Wuerzburg

T11-2C PHARMACOLOGICAL MODULATION OF SEROTONIN RECEPTOR 7 AS A POTENTIAL TREATMENT FOR TAU-ASSOCIATED NEURODEGENERATIVE DISEASES
Alina Brüge, Kathrin Jahreis, Sungsu Lim, Yun Kyung Kim, Marcello Leopoldo, Evgeni Ponimaskin, Josephine Labus Labus, Hannover

T11-3C PROBING ASTROGLIAL DYSFUNCTION IN MOTOR CORTEX OF BEHAVING ALS TRANSGENIC MICE
XiaoQian Ye, Zeynep Gunes, Sabine Liebscher, Planegg-Martinsried, Munich

T11-4C REGULATORY IMBALANCE BETWEEN LRRK2 KINASE, PPM1H PHOSPHATASE, AND ARF6 GTPASE DISRUPTS THE AXONAL TRANSPORT OF AUTOPHAGOSOMES
C. Alexander Boecker, Dan Dou, Erika L.F. Holzbaur, Goettingen

T11-5C ROLE OF BASSOON IN THE REGULATION OF PRESYNAPTIC PROTEOSTASIS
Carolina Montenegro Venegas, Anil Annamneedi, Armand Blondiaux, Judit Ozvár, Yi Lien, Thorsten Trimbuch, Christian Rosenmund, Craig Craig Curtis Garner , Eckart D Gundelfinger, Magdeburg

T11-6C SEROTONIN RECEPTORS CONTRIBUTE TO TDP-43 AGGREGATION IN NEURODEGENERATIVE DISEASES
Josephine Labus, Anna-Lena Vollbrecht, Julia Kleinert, Tilman Tiss, Sungsu Lim, Yun Kyung Kim, Thomas Gschwendtberger, Susanne Petri, Evgeni Ponimaskin, Hannover

T11-7C SYNAPTIC TRANSMISSION DEFECTS AT AN EARLY STAGE IN JUVENILE BATTENS DISEASE MOUSE MODEL
Masood Ahmad Wani, Benedikt Grünewald, Jakob von Engelhardt, Mainz

T11-8C THE PALLIDAL INHIBITORY TONE ON VENTROLATERAL THALAMIC NEURONS IN DYSTONIC DT^{SZ} MUTANT HAMSTER AFTER LONG-TERM DEEP BRAIN STIMULATION
Denise Franz, Marco Heerddegen, Fabiana Santana Kragelund, Anika Lüttig, Angelika Richter, Rüdiger Köhling, Rostock

T11-9C THE USE OF HUMAN GASTROINTESTINAL ORGANOIDS TO STUDY INTERACTIONS WITH THE NERVE SYSTEM AND THE INDUCTION OF NEUROINFLAMMATION BY PATHOGENS INCLUDING HELICOBACTER PYLORI
Marzieh Ehsani, Zeyang Sun, Huo Peng, David Holthaus, Saskia F. Erttmann, Thomas F. Meyer, Kiel

T11-10C 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, Frankfurt/Main

T11-11C TWO-PHOTON IMAGING IDENTIFIES BLOOD-BRAIN BARRIER ALTERATIONS IN A MURINE ALZHEIMER'S DISEASE MODEL
Amira S. Hanafy, Isabelle Paulußen, Alf Lamprecht, Dirk Dietrich, Bonn

T12: Neuroimmunology, inflammation and neuroprotection

Wednesday

T12-1A ACUTE EFFECTS OF HUMAN MONOCLONAL ANTI-GLUN1 AUTOANTIBODY ON NMDA RECEPTOR CHANNEL FUNCTION
Johanna Rosa Heckmann, Shang Yang, Jing Yu-Strzelczyk, Shiqiang Gao, Christian Geis, Manfred Heckmann, Jena

T12-2A ANTI-NMDAR AUTOANTIBODIES ALTER STRUCTURAL PLASTICITY AND IMPAIR PLACE CELL DYNAMICS
Steffan Pettengell Jones, Pavel Svelha, Sabine Liebscher, Munich

T12-3A ASTROCYTES, MICROGLIA AND BLOOD BRAIN BARRIER IN AN ANIMAL MODEL OF CEREBRAL MALARIA
Hanna-Marie Altjohann, Bastian Bennühr, Alexandros Hadjilaou, Thomas Jacobs, Daniela Hirnet, Christian Lohr, Hamburg

T12-4A ATTENUATION OF MICROGLIOSIS IS NOT SUFFICIENT TO ACHIEVE SUBSTANTIAL NEUROPROTECTION DURING THE EARLY PHASE OF TBI
Isa Wernersbach, Yong Wang, Michael K. E. Schäfer, Mainz

T12-5A ESTABLISHING INDUCED PLURIPOTENT STEM CELLS (IPSCS)-DERIVED SENSORY NEURONS FROM MIGRAINE PATIENTS TO INVESTIGATE SEX-SPECIFIC DIFFERENCES IN TRESK-TRPV1 SIGNALING
Beatrice A. Windmöller, Oliver Dräger, Wilfried Witte, Erhard Wischmeyer, Bielefeld

T12-6A FROM RARE DISEASES TO PANDEMICS: THE ROLE OF THE NF-KAPPA-B ESSENTIAL MODULATOR FOR BRAIN ENDOTHELIAL FUNCTIONS
Josephine Lampe, Jan Wenzel, Helge Müller-Fielitz, Ümit Özorhan, Markus Schwaninger, Luebeck

T12-7A HYPOXIC MICROGLIAL EXTRACELLULAR VESICLES CAN ABROGATE AQP4 DYSFUNCTION, ASTROGLIOSIS, AND NEUROINFLAMMATION AFTER STROKE
Wenqiang Xin, Yongli Pan, Wei Wei, Lars Tatenhorst, Irina Graf, Mathias Bähr, Thorsten R. Doeppner, Goettingen

T12-8A INCREASED NEURONAL RESISTANCE TO EXCITOTOXIC INSULTS DUE TO THE AMPA RECEPTOR AUXILIARY SUBUNIT CKAMP44
Benedikt Grünewald, Matthias Venyi, Jonas Schroer, Masood Ahmad Wani, Anne Sinning, Heiko Luhmann, Jakob von Engelhardt, Mainz

T12-9A INVESTIGATING ADAPTIVE RESPONSE MECHANISMS IN AUTOIMMUNE ENCEPHALITIS WITH AUTOANTIBODIES TO THE AMPA RECEPTOR
Tanvi Bhagwat, Holger Haselmann, Michael Kessels, Britta Qualmann, Christian Geis, Jena

T12-10A KNOCKDOWN OF NEAT1 PREVENTS LIPID DROPLET ACCUMULATION IN PRIMARY MICROGLIA AFTER ISCHEMIC STROKE VIA AUTOPHAGY PATHWAY
Yongli Pan, Wenqiang Xin, Wei Wei, Lars Tatenhorst, Irina Graf, Mathias Bähr, Thorsten R Doeppner, Goettingen

Thursday

T12-1B MECHANISTIC SINGLE-CELL INVESTIGATION OF NEUROINFLAMMATION INDUCED BY INFLUENZA A VIRUS INFECTION
Lea Gabele, Shirin Hosseini, Kristin Michaelsen-Preusse, Nele Rieke, Christian Sieben, Martin Korte, Braunschweig

T12-2B IAV REPLICATION KINETICS AND CELL TROPISM IN MOUSE PRIMARY HIPPOCAMPAL CULTURES
Nele Rieke, Lea Gabele, Shirin Hosseini, Martin Korte, Christian Sieben, Braunschweig

T12-3B MICROGLIA MEDIATE NEUROCOGNITIVE DEFICITS BY ELIMINATING C1Q TAGGED SYNAPSES IN SEPSIS-ASSOCIATED ENCEPHALOPATHY
Jonathan Wickel, Ha-Yeun Chung, Nina Hahn, Nils Mein, Meike Schwarzbrunn, Philipp Koch, Mihai Ceanga, Holger Haselmann, Carolin Baade-Büttner, Nikolai von Stackelberg, Nina Hempel, Lars Schmidl, Marco Groth, Nico Andreas, Juliane Götze, Sina M. Coldewey, Michael Bauer, Christian Mawrin, Justina Dargvainiene, Frank Leypoldt, Stephan Steinke, Zhao-Qi Wang, Michael Hust, Christian Geis, Jena

T12-4B NETWORK PHARMACOLOGY AS A NOVEL STRATEGY FOR TREATING ACUTE BRAIN ISCHEMIA
Sebastian Erik Vonhof, Rebecca Steubing, Sepideh Sadegh, Jan Baumbach, Svenja Christina Rohde, Anna Hamker, Harald Schmidt, Christoph Kleinschnitz, Ana Isabel Casas, Essen

T12-5B NEUROPROTECTION IN HUMAN CELLS: FUNCTIONS OF AN EVOLUTIONARY ANCIENT CYTOKINE RECEPTOR
Debbra Yasemin Knorr, Ignacio Rodriguez Polo, Hanna Sopie Pies, Nicola Schwedhel-Domeyer, Stephanie Pauls, Rüdiger Behr, Ralf Heinrich, Goettingen

T12-6B NEW INSIGHTS IN NEUROPATHOLOGY AND PATHOGENESIS OF AUTOIMMUNE GLIAL FIBRILLARY ACIDIC PROTEIN MENINGO-ENCEPHALOMYELITIS
Verena Endmayr, Frank Leypoldt, Katharina Hess, Christoph Röcken, Desiree De Simoni, Stefan Oberndorfer, Ellen Gelpi, Simon Robinson , Chad Guthrie, Simon Hametner, Romana Hoeftberger, Vienna, Austria

T12-7B NOVEL TARGETS OF GLYCINE RECEPTOR AUTOANTIBODIES IN STIFF PERSON SYNDROME
Anna-Lena Eckes, Inken Piro, Erdem Tüzün, Christian Werner, Claudia Sommer, Carmen Villmann, Wuerzburg

T12-8B PATHOLOGY OF CASPR2 AUTOANTIBODIES – INVESTIGATION OF PROTEIN EXPRESSION LEVEL AND PROTEIN-PROTEIN INTERACTIONS WITHIN THE VGKC
Patrik Greguletz, Maria Plötz, Michele Niesner, Carmen Villmann, Kathrin Doppler, Wuerzburg

T12-9B POSTSTROKE LIPID DROPLET ACCUMULATION IN RESIDING MICROGLIA AND ITS INFLUENCE ON INFLAMMATION AND PHAGOCYTOSIS
Wei Wei, Dirk Fitzner, Wenqiang Xin, Yongli Pan, Irina Graf, Lars Tatenhorst, Mathias Bähr, Thorsten R. Doeppner, Goettingen

Friday

T12-1C PRE-TRAUMATIC ANTIBIOTIC-INDUCED DEPLETION OF THE GUT MICROBIOME REDUCES NEUROINFLAMMATORY RESPONSE IN ACUTE MURINE TRAUMATIC BRAIN INJURY
Katharina Ritter, Diana Vetter, Michael KE Schaefer, Mainz

T12-2C ROLE OF BDNF/TRKB AND PRO-BDNF/P75^{NTR} SIGNALING IN MODULATING THE MICROGLIA FUNCTIONAL STATE IN THE AGING BRAIN
Yesheng Sun, Marta Zagrebelsky, Martin Korte, Braunschweig

T12-3C SERUM ANTI-AGO1 ANTIBODIES IDENTIFY A PATIENT SUBGROUP OF SENSORY NEURONOPATHY RESPONDING BETTER TO IMMUNOMODULATORY TREATMENT
Christian Moritz, Yannick Tholance, Pierre-Baptiste Vallayer, Le-Duy Do, Sergio Muñiz-Castrillo, Véronique Rogemond, Karine Ferraud, Coralie La Marca, Jérôme Honnorat, Martin Killian, Stéphane Paul, Jean-Philippe Camdessanché, Jean-Christophe Antoine, Saint-Étienne (Saint-Priest-en-Jarez), France

T12-4C SPATIAL TRANSCRIPTOMICS IDENTIFIES LOCAL AND CELL TYPE-SPECIFIC PATHOPHYSIOLOGICAL CHANGES IN A MOUSE MODEL OF SEPSIS-ASSOCIATED ENCEPHALOPATHY
Nina Hahn, Martin Bens, Marco Groth, Christian Geis, Jena

T12-5C SYNAPTIC NETWORK DYSFUNCTION AND INCREASED INTRINSIC NEURONAL EXCITABILITY IN GLUA2 AUTOIMMUNE ENCEPHALITIS
Yang Yuan, Christian Geis, Holger Haselmann, Jena

T12-6C TAUROURSODEOXYCHOLIC ACID AS A TREATMENT OF SPINAL CORD INJURY
Jörg Mey, Lorenzo Romero-Ramírez, Concepción García-Rama, Siyu Wu, Boris W. Kramer, Toledo, Spain

T12-7C THE ASTROCYTIC-MICROGLIAL CROSSTALK LEADS TO A HIF-1α-NITRIC OXIDE POSITIVE FEEDBACK LOOP DURING HYPOTHALAMIC INFLAMMATION
Francesco Arioli, Olaf Jöhren, Luebeck

T12-8C THE POTENTIAL THERAPEUTIC ROLE OF ITACONATE AND MESACONATE ON THE DETRIMENTAL EFFECTS OF NEUROINFLAMMATORY PROCESSES IN THE BRAIN
Melanie Ohm, Shirin Hosseini, Karsten Hiller, Martin Korte, Braunschweig

T12-9C THE ROLE OF POLYINOSINIC:POLYCYTIDYLIC ACID (POLY I:C) AS A VIRAL MIMETIC ON GLUTAMATE CLEARANCE BY ASTROCYTES AND MICROGLIA
Xizi Shi, Shirin Hosseini, Kristin Michaelsen-Preusse, Martin Korte, Braunschweig

T13: Cognitive, emotional, behavioral state disorders and addiction

Wednesday

T13-1A ADOLESCENT SOCIAL STRESS: NEUROIMMUNOLOGICAL SIGNATURES OF STRESS SUSCEPTIBILITY
Tobias Tilmann Pohl, Hanna Hörnberg, Berlin

T13-2A AN INTEROCEPTIVE ROLE FOR GLYCINERGIC PERIAQUEDUCTAL GREY NEURONS DURING DEFENSIVE STATES
Sara Cristina Lourenço dos Reis, Jérémy Signoret-Genest, Philipt Tovote, Wuerzburg

T13-3A ANALYSIS AND COMPARISON OF DENDRITIC SPINE DENSITY OF PYRAMIDAL NEURONS IN NEX-CRE AND C57BL/6J MICE
Kim Laura Renken, Olivia Andrea Masseck, Bremen

T13-4A ASSESSING SEX DIFFERENCES AND EFFECTS OF REPETITIVE ACUTE STRESS ON AN ANIMAL MODEL OF DEPRESSION
Lisa Ratz, Volker Arnd Coenen, Máté Daniel Döbrössy, Freiburg im Breisgau

T13-5A BOTANICALS CAN INDUCE RESILIENCE TO A DEPRESSION-LIKE STATE IN *DROSOPHILA MELANOGASTER*
Helen Holvoet, Burkhard Poeck, Doris Kretzschmar, Amala Soumyanath, Roland Strauss, Mainz

T13-6A DOES CHRONIC STRESS ALTER THE HIPPOCAMPAL STRESS ENGRAM?
Jonas Cornelius, Kristin Michaelsen-Preusse, Martin Korte, Braunschweig

T13-7A ENHANCED AMYGDALA ACTIVITY BY SOCIAL FEAR CONDITIONING BUT NOT OBJECT FEAR CONDITIONING
Sukwon Lee, Juno Yeo, Daegu, Korea (South)

Thursday

T13-1B HEAVY ALCOHOL DRINKING DURING ADOLESCENCE COMPROMISES GABAERGIC INHIBITION IN ADULT MOUSE DENTATE GYRUS GRANULE CELLS
Fang Zheng, Christian Alzheimer, Erlangen

T13-2B IMPACT OF BRAIN SEROTONIN DEFICIENCY IN DEVELOPMENT AND BEHAVIOUR IN POSTNATAL LIFE
Laura Boreggio, Niccolò Milani, Berlin

T13-3B *IN VIVO* NORADRENALINE RELEASE FOLLOWING MEDIAL FOREBRAIN BUNDLE DEEP BRAIN STIMULATION IN RODENTS: THE IMPACT OF DIFFERENT STIMULATION PARAMETERS
Zhuo Duan, Lidia MiguelTelega, Yixin Tong, Volker Arnd Coenen, Máté Dániel Döbrössy, Freiburg

T13-4B ITBS CHANGES IN FRONTOPARIETAL FUNCTIONAL AND STRUCTURAL CONNECTIVITY CORRELATED WITH CLINICAL IMPROVEMENT IN DEPRESSION
Asude Tura, Roberto Goya-Maldonado, Goettingen

T13-5B NEUROFEEDBACK BASED INTERVENTIONS FOR EMOTIONAL STATES REGULATION
César Redondo, Jérémy Signoret-Genest, Philip Tovote, Wuerzburg

T13-6B PSYCHOSTIMULANT-INDUCED NEUROINFLAMMATION: CLARIFYING ASTROCYTE-MICROGLIA CROSSTALK UNDER IL-10
Carolina Pinto, Ana Isabel Silva, Margarida Saraiva, Teresa Summavielle, Hamburg

Friday

T13-1C QUANTIFYING SOCIAL BEHAVIORS IN JUVENILE SHANK3 MICE USING ANIMAL POSE ESTIMATION TOOLS
Rosalba Olga Proce, Madhu Nagathihalli Kantharaju, Hanna Hörnberg, Berlin

T13-2C RETRACTED

REPEATED ADMINISTRATION OF N-ACETYLCYSTEINE COULD REDUCE THE EXTINCTION RESPONDING AND REINSTATEMENT IN THE MORPHINE-CONDITIONED RATS
Seyedeh-Najmeh Katebi, Abbas Haghparast, Anahita Torkaman-Boutorabi, Tehran, Iran

T13-3C SOCIAL STRESS AS A DEPRESSION INDUCED FACTOR IN SUBMISSIVE RATS
Tamar Domianidze, Tamar Matitaishvili, Keso Kozmava, Tbilisi, Georgia

T13-4C THE INPUT-OUTPUT RELATIONSHIP OF VENTRAL TEGMENTAL AREA IN A RODENT MODEL OF DEPRESSION
Yixin Tong, Seonghee Cho, Volker Arnd Coenen, Mate Daniel Döbrössy, Freiburg

T13-5C TRAINING AND PHARMACOLOGICAL MODULATION ENHANCE LEARNING IN RATS OVEREXPRESSING THE DOPAMINE TRANSPORTER
Nadine Bernhardt, Henriette Edemann-Callesen, Maximilian Glienke, Esther Olubukola Akinola, Maike Kristin Lieser, Christine Winter, Dresden

T13-6C UTILIZING CHEMOGENETIC STRATEGIES IN NONHUMAN PRIMATES TO ASSESS THE ROLE OF AMYGDALA ACTIVATION IN THE EXPRESSION OF ANXIETY-RELATED BEHAVIORS
Sascha Mueller, Jonathan A. Oler, Nakul Aggarwal, Patrick H. Roseboom, Marissa K. Riedel, Victoria R. Elam, Miles E. Olsen, Alexandra H. DiFilippo, Bradley T. Christian, Xing Hu, Adriana Galvan, Matthew A. Boehm, Michael Michaelides, Ned Kalin, Madison, Wisconsin, USA

T14: Vision: invertebrates

Wednesday

T14-1A A VERSATILE MULTI-COLOUR SPATIAL VISUAL STIMULUS PROJECTOR FOR *IN VIVO* TWO-PHOTON IMAGING
Christopher Schnaitmann, Mainz

T14-2A BEHAVIORAL EXPLORATION OF LUMINANCE INVARIANCE IN *DROSOPHILA*
Annika Celine Bast, Madhura D Ketkar, Marion Silies, Mainz

T14-3A DISTINCT CELLULAR AND CIRCUIT PROPERTIES DRIVE DIFFERENTIAL FEATURE EXTRACTION IN FIRST ORDER VISUAL INTERNEURONS
Neel Wagh, Katja Sporar, Junaid Akhtar, Marion Silies, Mainz

T14-4A EXPLORING DENSITY-DEPENDENT DESERT LOCUST MARCHING WITH IMMERSIVE VIRTUAL REALITY
Sercan Sayin, Konstanz

Thursday

T14-1B HETEROGENEITY OF SYNAPTIC CONNECTIVITY IN THE FLY VISUAL SYSTEM
Jacqueline Cornean, Sebastian M. Molina Obando, Jonas Chojetzki, Lena Heike Lörsch, Marion Silies, Mainz

T14-2B IMPLEMENTATION OF STABLE CONTRAST COMPUTATION IN THE VISUAL CIRCUITS
Burak Gür, Marion Silies, Mainz

T14-3B NO DIRECTION HOME: HOW ANTS PERFORM SYSTEMATIC SEARCHES
Patrick Schultheiss, Wuerzburg

T14-4B PERSISTENT IDIOSYNCRATIC BEHAVIORAL TRAITS IN *DROSOPHILA MELANOGASTER* DEPEND ON INDIVIDUAL VARIABILITY AND BEHAVIORAL CONTEXT
Gerit Arne Linneweber, Thomas Mathejczyk, Cara Knief, Muhammad Haidar, Mathias Wernet, Berlin

T14-5B RESPONSES OF CENTRAL-COMPLEX NEURONS OF THE DESERT LOCUST TO NATURAL SKY PRESENTATION
Erich M. Staudacher, Keram Pfeiffer, Uwe Homberg, Marburg

Friday

T14-1C SIX POPULATIONS OF LOCAL MOTION DETECTORS REPRESENT OPTIC FLOW GENERATED DURING FLIGHT
Miriam Henning, Azize Karakut, Burak Gür, Joachim Urban, Marion Silies, Mainz

T14-2C TEMPERATURE EFFECTS ON WIDE-FIELD MOTION SENSITIVE NEURONS IN THE CENTRAL BRAIN OF BUMBLEBEES
Bianca Jaske, Keram Pfeiffer, Wuerzburg

T14-3C THE COCKROACH CENTRAL COMPLEX: PHYSIOLOGY AND MORPHOLOGY OF SINGLE NEURONS IN THE BRAIN OF *RHYPAROBIA MADERAE*
Stefanie Jahn, Vanessa Althaus, Naomi Takahashi, Juliana Schott, Mona Janning, Uwe Homberg, Marburg

T14-4C THE DYNAMIC PROPERTIES OF SKY-COMPASS NEURONS IN BUMBLEBEES DURING NATURALISTIC STIMULATION
Lisa Rother, Keram Pfeiffer, Wuerzburg

T14-5C WALKING BUMBLEBEES SEE FASTER
Keram Pfeiffer, Robin Müller, Erwin Kirschenmann, Markus Thamm, Lisa Rother, Wuerzburg

T15: Vision: retina and subcortical pathways

Wednesday

T15-1A ANALYSIS OF THE RECEPTIVE FIELD SUBSTRUCTURE OF RETINAL GANGLION CELLS WITH ARTIFICIAL NEURAL NETWORKS
Margaret Young, Tim Gollisch, Goettingen

T15-2A COMPLEXIN 3 AND 4 PLAY A MAJOR ROLE IN RETINAL DARK AND LIGHT ADAPTATION IN MICE: AN ELECTRORETINOGRAPHIC STUDY
Nina Martina Stallwitz, Anneka Joachimsthaler, Jan Kremers, Erlangen

T15-3A CONNECTIVITY OF PHOTORECEPTORS AND BIPOLAR CELLS IN TWO AVIAN RETINAS
Anja Günther, Paul Watkins, Karin Dedek, Silke Haverkamp, Stephan Irsen, Henrik Mouritsen, Kevin Briggman, Bonn

T15-4A DOES BASSOON MAINTAIN CONE PHOTORECEPTOR SURVIVAL BY REGULATING RETINAL HOMEOSTASIS?
Miriam Ryl, Enes Yagiz Akdas, Sophia Bayer, Kaspar Gierke, Julia von Wittgenstein, Anna Fejtová, Johann Helmut Brandstätter, Erlangen

T15-5A FEATURE SELECTIVITY OF COLLICULAR WIDE-FIELD NEURONS IS GENERATED BY STRATIFIED INPUTS AND NONLINEAR DENDRITIC FILTERING
Norma Kühn, Chen Li, Bram Nuttin, Natalia Baimacheva, Arnau Sans Dublanc, Katja Reinhard, Vincent Bonin, Karl Farrow, Leuven, Belgium

Thursday

T15-1B HORIZONTAL CELLS IN DIFFERENT AVIAN SPECIES
Vaishnavi Balaji, Henrik Mouritsen, Karin Dedek, Oldenburg

T15-2B INDIVIDUAL INHIBITORY INTERNEURONS IN THE THALAMUS ARE FUNCTIONALLY SPECIALIZED TOWARDS DISTINCT VISUAL FEATURES
Fiona Elisabeth Müllner, Botond Roska, Basel, Switzerland

T15-3B INFERENCE OF FUNCTIONAL NETWORK STRUCTURE USING MATRIX FACTORIZATION
Sören J. Zapp, Tim Gollisch, Goettingen

T15-4B INFERRING MECHANISMS OF VISUAL SIGNAL PROCESSING IN THE VERTEBRATE RETINA USING BIOLOGICALLY INSPIRED CNNS
Shashwat Sridhar, Michaela Vystrcilová, Alexander Ecker, Tim Gollisch, Goettingen

T15-5B INTERROGATING A PUTATIVE CIRCUIT IN THE INNER RETINA
Juan Diego Prieto, Tim Gollisch, Goettingen

T15-6B MODEL-BASED ANALYSIS OF TEMPORAL ADAPTATION IN RESPONSES OF RETINAL GANGLION CELLS TO SPATIOTEMPORAL STIMULATION
Robert Mihai Haret, Tim Gollisch, Goettingen

Friday

T15-1C NEURAL BASIS OF VISUAL INFORMATION INTEGRATION AND DECISION-MAKING
Katja Slangewal, Max Capelle, Florian Kämpf, Armin Bahl, Konstanz

T15-2C PROTEIN INTERACTION NETWORK OF THE COMPLEXIN 4 - SNARE COMPLEX IN THE RETINA
Jutta Meyer, Uwe Lux, Olaf Jahn, Nils Brose, Johann Helmut Brandstätter, Kerstin Reim, Goettingen

T15-3C RESPONSE PROPERTIES OF SUPPRESSED-BY-CONTRAST CELLS IN THE EARLY MOUSE VISUAL SYSTEM
Florentyna Debinski, Simon Renner, Emma Müller-Seydlitz, Yuyang Huang, Timm Schubert, Laura Busse, Thomas Euler, Tuebingen

T15-4C SUPER-RESOLUTION IMAGING IN THE MOUSE RETINA
Timm Schubert, Kseniia Sarieva, Leon Kremers, Thomas Euler, Tuebingen

T15-5C TOWARDS A LIGHT-MEDIATED GENE THERAPY FOR THE EYE - RETINAL TRANSGENE EXPRESSION THROUGH PHOTOACTIVATION OF CAGED TAMOXIFEN AND THE INDUCIBLE CRE/LOX SYSTEM
Sidney Cambridge, Frankfurt/Main

T15-6C VISUAL ENCODING BY RETINAL GANGLION CELLS IN OPTOGENETIC MODELS FOR VISION RESTORATION
Varsha Ramakrishna, Tim Gollisch, Sonja Kleinlogel, Goettingen

T16: Vision: striate and extrastriate cortex, eye movement and visuomotor processing

Wednesday

T16-1A A SYNAPTIC COROLLARY DISCHARGE SIGNAL IN THE OPTIC TECTUM INHIBITS VISUAL PROCESSING DURING SELF-MOTION
Johann H. Bollmann, Mir Ahsan Ali, Katharina Lischka, Chintan A. Trivedi, Stephanie J. Preuss, Freiburg

T16-2A COMPROMISED BINOCULAR INTEGRATION AND REDUCED DIRECTION SELECTIVITY IN THE VISUAL CORTEX OF POSTSYNAPTIC DENSITY PROTEIN 95 (PSD-95) KNOCK-OUT MICE
Masoud Kargar, Nikolaos Aggelopoulos, Susanne Dehmel, Oliver M. Schlüter, Cornelia Schöne, Siegrid Löwel, Goettingen

T16-3A CONTEXT-DEPENDENT INTERAREAL SYNCHRONIZATION IN MOUSE VISUAL CORTEX
Chockalingam Ramanathan, David Eriksson, Julia Veit, Freiburg

T16-4A CORTICO-CORTICAL NEURONS PROVIDE DIRECT INTERHEMISPHERIC COMMUNICATION BETWEEN LAYER 6 OF THE MONOCULAR PRIMARY VISUAL CORTICES
Simon Weiler, Mateo Velez-Fort, Troy W. Margrie, London, UK

Thursday

T16-1B EXPERIENCE-DEPENDENT CHANGES IN VISUOSPATIAL SELECTIVITY IN VISUAL CORTEX AND HIPPOCAMPUS
Tom Flossmann, Nathalie Rochefort, Edinburgh, UK

T16-2B ISOLATING THE ONGOING IMPACT OF SPECIFIC CELL-TYPES ONTO RECURRENT CIRCUITS IN-VIVO
David Henning Eriksson, Chockalingam Ramanathan, Julia Veit, Freiburg

T16-3B LOSS OF POSTSYNAPTIC DENSITY-95 (PSD-95) LEADS TO IMPAIRED PREY CAPTURE BEHAVIOUR IN MICE
Subhodeep Bhattacharya, Susanne Dehmel, Cornelia Schöne, Oliver M. Schlüter, Siegrid Löwel, Goettingen

Friday

T16-1C NEURONAL REPRESENTATION OF COLOR IN THE PIGEON VISUAL WULST
Simon Nimpf, Harris Kaplan, Gregory Charles Nordmann, Laura Busse, David Anthony Keays, Planegg-Martinsried

T16-2C OREXIN KNOCK-OUT DISRUPTS JUVENILE OCULAR DOMINANCE PLASTICITY IN THE MOUSE VISUAL CORTEX
Jaya Sowkyadha Sathiyamani, Tejas Shaji Nair, Siegrid Löwel, Cornelia Schöne, Goettingen

T16-3C ORIGINS OF FEATURE MAPS IN THE VISUAL CORTEX
Young Jun Jung, Michael Ibbotson, Carlton, Australia

T17: Auditory mechanoreceptors, vestibular, cochlea, lateral line and active sensing

Wednesday

T17-1A ANALYZING THE TRP CHANNEL INTERACTOMES IN THE *DROSOPHILA* HEARING ORGAN
Majid Bahader, Martin Göpfert, Goettingen

T17-2A AUTOSOMAL DOMINANT AUDITORY NEUROPATHY TYPE 2 IS CAUSED BY LOSS OF SPIRAL GANGLION NEURONS DUE TO A MUTATION IN ATP11A
Nicola Strenzke, Shashank Chepurwar, Sarah von Loh, Daniela Wigger, Jakob Neef, Dirk Beutner, Ruth Lang-Roth, Christian Kubisch, Alexander E. Volk, Goettingen

T17-3A CABP2 AND 1 TOGETHER PREVENT INACTIVATION OF CAV1.3 CHANNELS AT THE IHC RIBBON SYNAPSES AND ENABLE SUSTAINED NEUROTRANSMISSION
Shashank Sharad Chepurwar, David Oestreicher, Tatjana Pallinger, Kathrin Kusch, Vladan Rankovic, Sangyong Jung, Nicola Strenzke, Tina Pangrsic, Goettingen

T17-4A CHARACTERIZATION OF PROMOTER EXPRESSION IN SPIRAL GANGLION NEURONS AND HAIR CELLS *IN VITRO*
Mara Uhl, Dominik Simon Botermann, Tabea Quilitz, Burak Bali, Lennart Roos, Lena Lindner, Alica Blenkle, Tobias Moser, Christian Wrobel, Kathrin Kusch, Goettingen

T17-5A CHOLESTEROL METABOLISM AND TRAFFICKING IN THE ORGAN OF CORTI
Yuna Werchner, Roos Voorn, Christian Vogl, Tobias Moser, Lina Maria Jaime Tobon, Goettingen

T17-6A DEVELOPMENT OF EARPHONE-TYPE NONINVASIVE AUDITORY PROSTHESES WITH INFRARED LASER-BASED TECHNOLOGY
Yuta Tamai, Miku Uenaka, Aya Okamoto, Keito Hosokawa, Shizuko Hiryu, Kohta I. Kobayasi, Tuebingen

Thursday

T17-1B IMAGING AUDITORY PROCESSING IN CRICKETS USING EXTRACELLULAR LOADING OF CA^{2+} TRACERS
Berthold Hedwig, Xinyang Zhang, Darron Cullen, Fernando Montealegre-Z, Cambridge, UK

T17-2B IMPACT OF CONVENTIONAL NEONICOTINOID INSECTICIDES AND A NOVEL ALTERNATIVE ON AUDITORY PROCESSING IN THE DESERT LOCUST *SCHISTOCERCA GREGARIA*
Marcelo Christian, Michelle Kraft, Paul Wilknitz, Manuela Nowotny, Stefan Schöneich, Jena

T17-3B THE POTASSIUM CHANNEL EAG CONTRIBUTES TO VARIANCE ADAPTATION IN PRIMARY AUDITORY NEURONS OF *DROSOPHILA MELANOGASTER*
Julian Rafael Rottschäfer, Jan Clemens, Goettingen

T17-4B OPTOGENETIC STIMULATION REDUCES SPECTRAL SPREAD OF COCHLEAR IMPLANTS – A MODELING STUDY
Lakshay Khurana, Daniel Keppeler, Lukasz Jablonski, Tobias Moser, Goettingen

T17-5B PARALEMMIN-3 – AN ESSENTIAL CONSTITUENT OF THE PLASMA MEMBRANE OF AUDITORY HAIR CELLS
Victoria Christine Halim, Iman Bahader, Thomas Effertz, Kathrin Kusch, Nicola Strenzke, Manfred Kilimann, Christian Vogl, Goettingen

T17-6B QUANTIFICATION OF COCHLEAR NEURONS BASED ON LIGHT SHEET MICROSCOPY
Anupriya Thirumalai, Tabea Quilitz, Antoine Huet, Tobias Moser, Goettingen

Friday

T17-1C RECONSTITUTION OF SYNTHETIC RIBBON-TYPE ACTIVE ZONES IN A HETEROLOGOUS SYSTEM: IN PURSUIT OF DISSECTING THE MOLECULAR ORGANIZATION AND DYNAMICS OF *PRESYNAPTIC* CA^{2+} CHANNELS
Rohan Kapoor, Niko Schwenzer, Thomas Dresbach, Tobias Kohl, Stefan Lehnart, Tobias Moser, Goettingen

T17-2C SENSITIVITY TUNING OF *DROSOPHILA* HEARING
Philip Hehlert, Thomas Effertz, Ruo-Xu Gu, Bert De-Groot, Dirk Beutner, Martin C. Göpfert, Goettingen

T17-3C SOUND PROCESSOR AND DRIVER FOR OPTICAL COCHLEAR IMPLANTS ENABLING BEHAVIOURAL EXPERIMENTS IN FREELY MOVING ANIMALS
Lukasz Jablonski, Tamas Harczos, Gerhard Hoch, Tobias Moser, Goettingen

T17-4C THE ROLE OF VISION FOR FREQUENCY DISCRIMINATION AND PATH INTEGRATION IN AN ACTIVE LISTENING PARADIGM
Annalenia Malzacher, Tobias Hilbig, Michael Pecka, Dardo N. Ferreiro, Planegg-Martinsried

T17-5C TOWARDS BEHAVIORAL EVALUATION OF A MULTICHANNEL OPTOGENETIC COCHLEAR IMPLANT
Bettina Julia Wolf, Lukasz Jablonski, Tamas Harczos, Alexander Dieter, Christian Dullin, Patrick Ruther, Tobias Moser, Goettingen

T17-6C VGLUT3-DEPENDENT GLUTAMATERGIC QUANTAL TRANSMISSION IN PERIPHERAL VESTIBULAR FUNCTION
Mohona Mukhopadhyay, Aizhen Yang-Hood, Kevin K. Ohlemiller, Maolei Xiao, Mark Warchol, Mark Rutherford, Tina Pangrsic, Goettingen

T18: Auditory system: subcortical and cortical processing

Wednesday

T18-1A AGE-RELATED SYNAPTOPATHY ALTERS CENTRAL AUDITORY RESPONSES TO SPEECH-LIKE STIMULI IN THE RAT
Lukas Rüttiger, Anna Melchers, Konrad Dapper, Etienne Gaudrain, Deniz Baskent, Marjoleen Wouters, Sarah Verhulst, Matthias H.J. Munk, Marlies Knipper, Tuebingen

T18-2A DISTINCT NEURAL POPULATIONS PROCESS AUDITORY AND NON-AUDITORY ACTIVITY IN SHELL INFERIOR COLLICULUS
Gunnar Lennart Quass, Meike Marie Rogalla, Alexander Nicholas Ford, Kaiwen Shi, Pierre François Apostolides, Ann Arbor, USA

T18-3A DOPAMINE DEPENDENT POTENTIATION OF AUDITORY EVOKED POTENTIALS IN THE STRIATUM
Andreas L .Schulz, Michael T. Lippert, Frank W. Ohl, Magdeburg

T18-4A EVEN SMALL CHANGES IN ACOUSTIC BACKGROUND CAN INDUCE PREPULSE INHIBITION OF THE STARTLE RESPONSE DEPENDING ON SIZE AND DIRECTION OF CHANGE
Lisa Koch, Eva Dunkel, Markus M. Middeke, Bernhard H. Gaese, Frankfurt/Main

T18-5A GABAB RECEPTORS MODULATE THE MEMBRANE POTENTIAL OF NEURONS IN THE DORSAL NUCLEUS OF THE LATERAL LEMNISCUS
Amina Javadova, Felix Felmy, Hannover

T18-6A HEBBIAN LEARNING UNDERLYING ANTICIPATED ITD CUE RELIABILITY IN THE BARN OWL AUDITORY SYSTEM
Roland Ferger, Keanu Shadron, Brian J. Fischer, José L. Peña, New York, USA

T18-7A HOW THE BRAIN DETECTS IMPORTANT SOUNDS: DEVIANCE DETECTION IN AUDITORY BRAINSTEM RESPONSES
Johannes Wetekam, Julio Hechavarria, Luciana Lopez-Jury, Manfred Koessl, Frankfurt/Main

T18-8A IMPLICATIONS OF SYNAPTIC NOISE ON EXCITATION-INHIBITION INTEGRATION IN AUDITORY BRAINSTEM NEURONS
Jonas Martin Fisch, Eckhard Friauf, Kaiserslautern

T18-9A FREQUENCY INTEGRATION IN THE INTERMEDIATE NUCLEUS OF THE LATERAL LEMNISCUS IS BASED ON A BIOPHYSICALLY HETEROGENEOUS CELL POPULATION
Kathrin Deborah Wicke, Nikolaos Kladisios, Felix Felmy, Hannover

Thursday

T18-1B MORPHOLOGY AND PHYSIOLOGY OF THE MONGOLIAN GERBIL ANTEROVENTRAL COCHLEAR NUCLEUS NEURONS
Sabina Nowakowska, Jana Henseler, Antoine Tarquin Huet, Goettingen

T18-2B NEUROMODULATION OF THE ENDBULB OF HELD TO BUSHY CELL SYNAPSE IN THE ANTEROVENTRAL COCHLEAR NUCLEUS BY SEROTONIN AND NOREPINEPHRINE
Theocharis Alvanos, Maria Groshkova, Tobias Moser, Goettingen

T18-3B NEURONAL INTEGRATION OF ACOUSTIC SIGNALS IN AN INSECT AUDITORY SYSTEM
Annette Stange-Marten, Jan Scherberich, Stefan Schöneich, Melisa Merdan-Desik, Manuela Nowotny, Jena

T18-4B PHASE COUPLING IS CRUCIAL FOR POSITIVE THRESHOLD EFFECT IN TINNITUS PATIENTS
Konstantin Tziridis, Holger Schulze, Erlangen

T18-5B *PHYLLOSTOMUS DISCOLOR* RETAIN A CONSISTENT BEAM SIZE IN SEEKING TARGETS
Ravi Umadi, Lasse Jakobsen, Lutz Wiegrebe, Uwe Firzlaff, Freising

T18-6B POTENTIAL FUNCTIONS OF LOCAL AND DESCENDING AUDITORY NEURONS IN A BUSH CRICKET
Ali Cillov, Andreas Stumpner, Goettingen

T18-7B REPRESENTATION OF AUDITORY SPACE IN THE SHELL OF THE INFERIOR COLLICULUS
Meike Marie Rogalla, Gunnar L. Quass, Deepak Dileepkumar, Alexander N. Ford, Gunseli Wallace, Harry Yardley, Pierre F. Apostolides, Ann Arbor, USA

T18-8B ROBUST FRONTAL SPATIAL REPRESENTATIONS APPEAR IN THE AUDITORY CORTEX OF AWAKE MICE
Michael Hideki Myoga, Matthias Gumbert, Benedikt Grothe, Planegg-Martinsried

Friday

T18-1C SPECIES-SPECIFIC MORPHOMETRY OF STRUCTURAL COMPARTMENTS OF MNTB PRINCIPAL NEURONS
Christina Pätz-Warncke, Tjard Bergmann, Sönke von den Berg, Felix Felmy, Hannover

T18-2C STIMULUS-SPECIFIC ADAPTATION IN THE BAT'S FRONTAL AND AUDITORY CORTEX
Eugenia Gonzalez-Palomares, Julio C. Hechavarria, Frankfurt/Main

T18-3C TARGET RESOLUTION OF SINGLE NEURONS IN THE COMPUTATIONAL TARGET DISTANCE MAP OF BATS
Ali Roustazadeh, Uwe Firzlaff, Freising

T18-4C THE ROLE OF OTOFERLIN AT THE INNER HAIR CELL SYNAPSE: AN *IN VITRO* INVESTIGATION
Mehar Monga, Julia Preobraschenski, Goettingen

T18-5C THE TSC – MTORC1 AXIS IN THE DEVELOPMENT OF THE AUDITORY BRAINSTEM
Lena Ebbers, Jan Bobrowski, Enno Davide Wendlandt, Lisa Borowsky, Kathrin Thedieck, Hans Gerd Nothwang, Oldenburg

T18-6C THE TWO-PORE POTASSIUM CHANNEL SUBUNIT TASK5 REGULATES CEN-TRAL AUDITORY PROCESSING
Christoph Körber, Mahshid Helia Saber, Michaela Kaiser, Lukas Rüttiger, Heidelberg

T18-7C WEAK TOPOGRAPHIC ORGANIZATION OF AUDITORY CORTICOCOLLICULAR NEURONS
Kira Maria Anna Andrea, Tatjana T. X. Schmitt, Simon L. Wadle, Jan J. Hirtz, Kaiserslautern

T18-8C WHAT FACTORS INFLUENCE THE SPEED OF TASK LEARNING IN A FREELY MOVING GO/NO-GO PARADIGM?
Gökce Dogu, Valentin Winhart, Paula Gundi, Andrey Sobolev, Miguel Bengala, Dardo N. Ferreiro, Michael Pecka, Munich

T19: Chemical senses: olfaction, taste, others

Wednesday

T19-1A ANATOMICAL BASIS OF OLFACTORY PROCESSING IN THE BRAIN OF *IXODES* TICKS
Carola Städele, Goettingen

T19-2A ANATOMY OF CENTRAL GUSTATORY CIRCUITS IN THE HONEY BEE BRAIN
Melissa Pitzalis, Virginie Larcher, Louise Bestea, Gabriela de Brito Sanchez, Martin Giurfa, Julie Carcaud, Jean-Christophe Sandoz, Gif-sur-Yvette, France

T19-3A AXONAL PROJECTIONS OF MAIN AND ACCESSORY OLFACTORY BULB PRINCIPAL NEURONS IN MICE
Moritz Nesseler, Marc Spehr, Aachen

T19-4A CHALLENGES AND APPROACHES FOR MEASURING WHOLE-BRAIN ACTIVITY IN NON-MODEL INSECTS
Yvonne Hertenberger, Sercan Sayin, Einat Couzin-Fuchs, Armin Bahl, Konstanz

T19-5A CHARACTERIZATION OF INNATE ODOR DRIVEN EXPLORATORY BEHAVIOR
Christian Daniel, Giovanni D'uva, Maria Ioannidou, Leticia Batista, Carlotta Martelli, Mainz

T19-6A CHEMOSENSORY PROCESSING OF SICKNESS RELATED CUES VIA THE MOUSE ACCESSORY OLFACTORY SYSTEM
Friederike Donata Seifert, Marco Niestroj, Maciej Winiarski, Anna Bryska, Lydia Kopplin, Pavel Stopka, Alicja Puscian, Oliver Pabst, Minghong Ma, Marc Spehr, Aachen

T19-7A CIRCUIT MECHANISMS CONTROLLING STATE-DEPENDENT FOOD INTAKE IN *DROSOPHILA*
Lara Lederle, Anna-Lena Eckes, Janina Brückner, Xinyu Liu, Rouven Lukas Ziegler, Jan Pielage, Kaiserslautern

T19-8A EARLY OLFACTORY PROCESSING IN ANTENNAL LOBE NEURONS IN THE STICK INSECT *CARAUSIUS MOROSUS*
Andrea Gonsek, Volker Dürr, Martin Strube-Bloss, Bielefeld

T19-9A EFFECT OF ENVIRONMENT AND INTERNAL STATE ON *DROSOPHILA* LARVAL GROUP BEHAVIOUR
Akhila Mudunuri, Katrin Vogt, Konstanz

T19-10A ELECTROPHYSIOLOGICAL AND MORPHOLOGICAL CHARACTERIZATION OF PERIGLOMERULAR CELLS IN THE MOUSE ACCESSORY OLFACTORY BULB
Hannah-Lena Tröger, Marc Spehr, Aachen

T19-11A EVOLUTION OF AN OLFACTORY SUBSYSTEM AND ITS LINK WITH THE MULTIPLE EMERGENCES OF EUSOCIALITY IN HYMENOPTERA
Simon Marty, Antoine Couto, Patrizia d'Ettorre, Stephen Montgomery, Jean-Christophe Sandoz, Gif-sur-Yvette, France

Thursday

T19-1B EVOLUTION OF CHEMOSENSORY RECEPTOR REPERTOIRES
Sigrun I. Korsching, Daniel Kowatschew, Milan Dieris, Cologne

T19-2B EXAMINATION OF MEMBRANE PROPERTIES THAT CONTROL PLASTICITY OF KINETICS AND SENSITIVITY IN HAWKMOTH OLFACTORY RECEPTOR NEURONS
Aditi Vijayan, Anna Schneider, Mauro Forlino, Katrin Schröder, Yajun Chang, Martin Garcia, Monika Stengl, Kassel

T19-3B EXAMINATION OF SPONTANEOUS ACTIVITY OF PHEROMONE-SENSITIVE OLFACTORY RECEPTOR NEURONS IN THE HAWKMOTH MANDUCA SEXTA AND THE ROLE OF ORCO
Monika Stengl, Katrin Schroeder, Kassel

T19-4B HOMEOSTASIS OF MITOCHONDRIAL CA^{2+} STORES IS CRITICAL FOR SIGNAL AMPLIFICATION IN DROSOPHILA MELANOGASTER OLFACTORY SENSORY NEURONS
Eric Wiesel, Sabine Kaltofen, Bill S. Hansson, Dieter Wicher, Jena

T19-5B INTERINDIVIDUAL VARIATION OF SYNAPTIC PARTNERS: A STUDY ON THE OLFACTORY PATHWAY OF *DROSOPHILA MELANOGASTER*
Leticia Leandro Batista, Pascal Züfle, Carlotta Martelli, Mainz

T19-6B INVESTIGATION OF DOSE-DEPENDENT MODULATORY MECHANISMS IN MOUSE OLFACTORY TRANSDUCTION
Victoria K. Switacz, Daniela R. Drose, Marc Spehr, Aachen

T19-7B LINEAR INTEGRATION OF TASTE AND COURTSHIP SONG DRIVE SOCIAL INTERACTIONS IN DROSOPHILA MALES
Adrián Palacios-Muñoz, Jan Clemens, Goettingen

T19-8B MULTISITE IMAGING OF NEURAL ACTIVITY USING A GENETICALLY ENCODED CALCIUM SENSOR IN THE HONEY BEE APIS MELLIFERA
Jean-Christophe Sandoz, Julie Carcaud, Marianne Otte, Bernd Grünewald, Albrecht Haase, Martin Beye, Gif-sur-Yvette, France

T19-9B OBTAINING NUMERICAL VALUES OF AN OLFACTORY SYSTEM: FIRST STEPS TO CHARACTERIZE THE OLFACTORY PATHWAY IN THE CRUSTACEAN *PARHYALE HAWAIENSIS*
Katja Dorina Kümmerlen, Sophie Raspe, Steffen Harzsch, Greifswald

T19-10B SNMP1 IS CRITICAL FOR SENSITIVE PHEROMONE DETECTION AND PHEROMONE-CONTROLLED BEHAVIORS IN THE DESERT LOCUST *SCHISTOCERCA GREGARIA*
Joris Lehmann, Johanna Libnow, Maryam Khosravian, Hetan Chang, Markus Knaden, Bill S. Hansson, Jürgen Krieger, Jörg Fleischer, Halle (Saale)

T19-11B SOCIAL FLEXIBILITY AND OLFACTORY PROCESSING IN THE DESERT LOCUST
Inga Petelski, Yannick Guenzel, Sercan Sayin, Einat Couzin-Fuchs, Konstanz

Friday

T19-1C SPIKE FREQUENCY MODULATION OF CENTRAL NEURONS IN THE PRIMARY OLFACTORY PATHWAY OF INSECTS
Jan Erik Radermacher, Debora Fusca, Svenja Corneliussen, Jonas M. Klußmann, Peter Kloppenburg, Cologne

T19-2C STATE-DEPENDENT MODULATION OF ODOR VALENCE AND SOCIAL BEHAVIOR VIA THE MAIN OLFACTORY PATHWAY
Annika Cichy, Adam Dewan, Jingji Zhang, Sarah Kaye, Tiffany Teng, Kassandra Blanchard, Paul Feinstein, Thomas Bozza, Bonn

T19-3C SYNAPTIC MECHANISMS AND THEIR FUNCTIONS FOR STIMULUS ADAPTATION IN THE *DROSOPHILA* OLFACTORY PATHWAY
Sofia C. Brandão, Carlotta Martelli, Mainz

T19-4C THE LARVAL SENSORY SYSTEM: FROM STRUCTURE TO FUNCTION
Vincent Richter, Anna Rist, Anton Miroschnikow, Michael J. Pankratz, Albert Cardona, Michael Laumann, Andreas S. Thum, Leipzig

T19-5C THE MUSHROOM BODY OUTPUT ENCODES BEHAVIORAL DECISION DURING SENSORY-MOTOR TRANSFORMATION
Cansu Arican, Felix Johannes Schmitt, Wolfgang Rössler, Martin Fritz Strube-Bloss, Martin Paul Nawrot, Cologne

T19-6C THE NEURONAL LOGIC OF HOW INTERNAL STATES CONTROL FOOD CHOICE
Daniel Münch, Dennis Goldschmidt, Carlos Ribeiro, Lisboa, Portugal

T19-7C THE ROLE OF SNMP2 IN THE OLFACTORY PROCESSES OF MOTHS
Sina Cassau, Jürgen Krieger, Halle (Saale)

T19-8C THE SEARCH FOR OLFACTORY RECEPTORS TUNED TO PHEROMONES IN THE HONEY BEE
Benjamin Andreu, Nicolas Montagné, Thomas Chertemps, Emmanuelle Jacquin-Joly, David Touboul, Amandine Huebert, Gif-sur-Yvette, France

T19-9C THE SENSILLA-SPECIFIC EXPRESSION AND SUBCELLULAR LOCALIZATION OF SNMP1 AND SNMP2 REVEAL NOVEL INSIGHTS INTO THEIR ROLES IN THE ANTENNA OF THE DESERT LOCUST *SCHISTOCERCA GREGARIA*
Jürgen Krieger, Doreen Sander, Angelina Degen, Thomas Karcher, Stephanie Krüger, Michael Laue, Gerd Hause, Heinz Breer, Sina Cassau, Halle (Saale)

T19-10C WHOLE BRAIN REPRESENTATION OF ODOR AND TASTE AND THEIR INTEGRATION IN THE ADULT FLY
Paul Bandow, Sophie Aimon, Ilona C. Grunwald Kadow, Bonn

T19-11C BINGE EATING SUPPRESSES FLAVOR REPRESENTATIONS IN THE MOUSE OLFACTORY CORTEX
Hung Lo, Berlin

T20: Somatosensation: touch, temperature, proprioception, nociception

Wednesday

T20-1A ALTERED THERMOREGULATION IN ADRA2B-NULL MICE LINKS TO METABOLIC ALTERATIONS
Xinnan Song, Katharina Zimmermann, Pragyanshu Khare, Erlangen

T20-2A ANATOMICAL CHARACTERIZATION OF *DROSOPHILA MELANOGASTER* ASCENDING NEURONS CONVEYING SOMATOSENSORY INFORMATION FROM THE ADULT VENTRAL NERVE CORD TO THE BRAIN
Massimo Thiel, Erica Ehrhardt, Kei Ito, Cologne

T20-3A CERAMIDE SYNTHASES: NEW PLAYERS IN PAIN SIGNALING?
Oliver Dräger, Marie Bergmeier, Wing-Kee Lee, Erhard Wischmeyer, Bielefeld

T20-4A INVESTIGATING THE ROLE OF MAGNETIC CUES IN THE NEURAL REPRESENTATION OF SPACE IN THE SUBTERRANEAN MOLE-RAT *FUKOMYS ANSELLI*
Runita Shirdhankar, Georgina Fenton, Pascal Malkemper, Bonn

Thursday

T20-1B LEG CAMPANIFORM SENSILLA PROJECTION PATTERNS IN THE FRUIT FLY VENTRAL NERVE CORD
Anna Pierzchlinska, Gesa F. Dinges, Erica Ehrhardt, Till Bockemühl, Kai Feng, Kei Ito, Ansgar Büschges, Cologne

T20-2B FPR2 ACTIVATION INITIATES PAIN RESOLUTION AND FIBRINOGEN CLEARANCE AFTER SCIATIC NERVE INJURY
Adel Ben Kraiem, Beate Hartmannsberger, Marco Sisignano, Andres. J. Garcia, Alexander Brack, Heike Rittner, Alexander Brack, Heike Rittner, Wuerzburg

T20-3B ROLE OF LEG-CAMPANIFORM SENSILLA IN FRUIT FLY CURVE WALKING
Ricardo Duarte Custódio, Axel Gorostiza, Till Bockemühl, Ansgar Büschges, Cologne

T20-4B ROLE OF THE MOLECULAR MEDIATOR LRG1 IN PERSISTENT INFLAMMATORY PAIN
Ann-Kristin Kenkel, José Ricardo Vieira, Christian Litke, Andromachi Karakatsani, Carmen Ruiz de Almodóvar, Daniela Mauceri, Heidelberg

T20-5B MAGNETORECEPTION IN LABORATORY MICE
Li Zhang, Brittany Hamauei, Georgina Fenton, Runita Narendra Shirdhankar, Martha Daniel, Pascal Malkemper, Bonn

Friday

T20-1C STRESS DURING ADOLESCENCE AS A PREDISPOSING FACTOR FOR LOW BACK PAIN IN ADULTHOOD
Deepika Singhal, Rolf-Detlef Treede, Mannheim

T20-2C THE EFFECTS OF DEVELOPMENTAL TEMPERATURE ON ADULT BEHAVIOR IN FLIES AND ANTS
Jana Mach, P. Robin Hiesinger, Berlin

T20-3C VIP-TO-SST CIRCUIT MOTIF SHOWS DIFFERENTIAL SHORT-TERM PLASTICITY ACROSS SENSORY AREAS OF MOUSE CORTEX
Jenifer Rachel, Martin Möck, Mirko Witte, Jochen F. Staiger, Goettingen

T20-4C VOLUNTARY PASSIVE MOVEMENT – DO FLIES PLAY?
Wolf Huetteroth, Tilman Triphan, Leipzig

T21: Motor systems

Wednesday

T21-1A (SUB-) CORTICAL RECORDINGS IN ZEBRA FINCHES DURING VOCAL INTERACTIONS
Carlos Manuel Gomez Guzman, Daniela Vallentin, Starnberg

T21-2A A DETAILED CHARACTERISATION OF ACOUSTIC MOTIFS IN CALLING SONGS OF THE DUETTING BUSHCRICKET *PHANEROPTERA SPARSA*
Charlotte Mudter, Manuela Nowotny, Stefan Schöneich, Jena

T21-3A CORTICAL NUCLEUS MMAN CONTRIBUTES TO SYLLABLE SEQUENCING IN ADULT BENGALESE FINCHES (*LONCHURA STRIATA DOMESTICA*)
Avani Prasad Koparkar, Sooyoon Shin, Timothy L. Warren, Michael Brainard, Lena Veit, Tuebingen

T21-4A DECODING NETWORK ARCHITECTURE AND FUNCTION OF THE CENTRAL PATTERN GENERATOR FOR ASYNCHRONOUS FLIGHT REVEALS A NOVEL MECHANISM FOR NETWORK DESYNCHRONIZATION THROUGH ELECTRICAL SYNAPSES
Silvan Hürkey, Stefanie Ryglewski, Nelson Niemeyer, Jan-Hendrik Schleimer, Susanne Schreiber, Carsten Duch, Mainz

T21-5A DECOMPOSITION OF 3D JOINT KINEMATICS OF FORWARD WALKING FRUIT FLIES, *DROSOPHILA MELANOGASTER*
Moritz Haustein, Ansgar Büschges, Till Bockemühl, Cologne

T21-6A DESCENDING CONTROL OF BACKWARD WALKING - MORE THAN JUST A SWITCH
Stefan Dahlhoff, Aleyna Meric, Jan M. Ache, Wuerzburg

T21-7A EFFECTS OF DEEP BRAIN STIMULATION (DBS) IN THE ENTOPEDUNCULAR NUCLEUS (EPN) IN DYSTONIC *DT*^{SZ} HAMSTERS
Anika Lüttig, Stefanie Perl, Maria Paap, Denise Franz, Marco Heerdegen, Rüdiger Köhling, Angelika Richter, Leipzig

T21-8A EVIDENCE FOR DISTRIBUTED TEMPORAL REPRESENTATIONS AT THE INPUT LAYER OF THE CEREBELLUM
Franziska Bender, Berat Semihcan Sermet, Giovanni Diana, Maria Miruna Costreie, Florian Ruckerl, Gael Moneron, Paris Cedex 15, France, France

T21-9A GABA-ERGIC NEURONS OF THE STICK INSECT WITH A FOCUS ON INTERSEGMENTAL CONNECTIVITY
Matthias Gruhn, Giulia DiCristina, Sherylane Seeliger, Sima Syed-Nejadi, Ansgar Büschges, Koeln

Thursday

T21-1B INFERRING CHOICES FROM FULL-BODY MOVEMENTS DURING GO-BEFORE-YOU-KNOW DECISION MAKING IN FREELY MOVING RHESUS MONKEYS
Irene Lacal, Zurna Ahmed, Neda Shahidi, Alexander Gail, Goettingen

T21-2B INTEGRATION OF VISUAL AND MECHANOSENSORY CUES BY DESCENDING NEURONS CONTROLLING BACKWARD WALKING IN *DROSOPHILA*
Aleyna M. Meric, Stefan Dahlhoff, Jan M. Ache, Wuerzburg

T21-3B INTEGRATION OF VISUAL AND VIBROTACTILE CUES FOR ESTIMATING REACH GOAL DIRECTION IN HUMANS
Lukas Amann, Virginia Casasnovas, Enrico Ferrea, Alexander Gail, Goettingen

T21-4B INVESTIGATION OF MOTOR DEVELOPMENT IN AN ION CHANNELOPATHY MODEL
Grusha Primal Mathias, Dirk Isbrandt, Stephan Marguet, Andrea Merseburg, Cologne

T21-5B OPTOGENETIC INHIBITION REVEALS CAUSAL MODULATION OF PARIETAL MOTOR GOAL ENCODING VIA FRONTAL-TO-PARIETAL PROJECTIONS IN RHESUS MONKEYS
Hao Guo, Michal Fortuna, Janina Hüer, Stefan Treue, Alexander Gail, Goettingen

T21-6B REGULAR PHYSICAL ACTIVITY AND MOTOR LEARNING INDUCE WHITE MATTER MYELINATION: A LONGITUDINAL, MULTI-SHELL DIFFUSION MRI STUDY IN RAT
Lisa-Marie Goncalves, Nico Lehmann, Patricia Wenk, Marco Taubert, Eike Budinger, Magdeburg

T21-7B SINGLE CELL TYPE ANALYSIS OF WING AND HALTERE PREMOTOR CIRCUITS IN THE VENTRAL NERVE CORD OF *DROSOPHILA MELANOGASTER*
Erica Ehrhardt, Samuel C. Whitehead, Shigehiro Namiki, Ryo Minegishi, Igor Siwanowicz, Kai Feng, Hideo Otsuna, FlyLight Project Team, David Stern, Jim Truman, David Shepherd, Michael Dickinson, Kei Ito, Barry J Dickson, Itai Cohen, Wyatt Korff, Gwyneth M. Card, Cologne

T21-8B TASK-DEPENDENT MODIFICATIONS OF PREMOTOR INTERNEURON ACTIVITY AND LOAD PROCESSING IN AN INSECT LEG-MUSCLE CONTROL SYSTEM
Angelina Ruthe, Philipp Rosenbaum, Alkan Özyer, Ansgar Büschges, Cologne

Friday

T21-1C TEMPERATURE RESPONSES OF STOMATOGASTRIC NEURONS IN THE BRUSH-CLAWED SHORE CRAB, *HEMIGRAPSUS TAKANOI*
Wolfgang Stein, Steffen Harzsch, Normal, USA

T21-2C THALAMUS DRIVES VOCAL ONSETS IN THE ZEBRA FINCH SONG SEQUENCE
Felix W. Moll, Devorah Kranz, Ariadna Corredera Asensio, Margot Elmaleh, Lyn A. Ackert-Smith, Michael A. Long, Tuebingen

T21-3C THE EFFECT OF CONTINUOUS VISUAL FEEDBACK UNCERTAINTY ON MOTOR ADAPTATION
Virginia Casasnovas, Lukas Amann, Enrico Ferrea, Alexander Gail, Goettingen

T21-4C THE INTERPLAY OF BEHAVIORAL RULES AND FEEDBACK DURING SOCIAL BEHAVIOR
Sarath Ravindran Nair, Jan Clemens, Goettingen

T21-5C UNRAVELING *DROSOPHILA* CURVE WALKING BEHAVIOR
Ezequiel Axel Gorostiza, Till Bockemühl, Kei Ito, Ansgar Büschges, Cologne

T21-6C UNRAVELING THE FREQUENCY- AND LAYER-SPECIFIC EFFECTS OF HIGH-FREQUENCY STN STIMULATION IN MICE *IN VIVO*
Svenja Kreis, Heiko J. Luhmann, Sergiu Groppa, Daniela Mirzac, Muthuraman Muthuraman, Mainz

T21-7C USING A MULTI-NETWORK APPROACH WITH DEEPLABCUT TO IMPROVE AUTOMATIC POSE ESTIMATION
Terrence Michael Wright, Till Bockemühl, Ansgar Büschges, Cologne

T21-8C USING NEUROPIXELS RECORDINGS TO PROBE THE STABILITY OF LATENT VARIABLES OF THE CORTICAL GRASPING NETWORK IN PRIMATES
Roberta Nocerino, Jan Churan, Hansjörg Scherberger, Goettingen

T21-9C WALKING SPEED AFFECTS SPATIAL AND TEMPORAL VARIABILITY OF LEG MOVEMENTS IN FREELY WALKING *DROSOPHILA MELANOGASTER*
Vincent Godesberg, Ansgar Büschges, Till Bockemühl, Cologne

T22: Homeostatic and neuroendocrine systems, stress response

Wednesday

T22-1A „SATIETY VS. STARVATION "– NEUROPEPTIDOMICS OF THE CENTRAL NERVOUS SYSTEM OF *DROSOPHILA MELANOGASTER* L3-LARVAE
Anna-Sophie Kügler, Susanne Neupert, Kassel

T22-2A CALCIUM DEPENDENT MECHANISMS TO ESTABLISH NEURONAL HOMEOSTATIC SETPOINTS
Niklas Krick, Richard Baines, Matthias Landgraf, Cambridge, UK

T22-3A CELL-SPECIFIC FUNCTION OF THE THYROID HORMONE TRANSPORTERS MCT8 AND OATP1C1 IN MOUSE BLOOD-BRAIN BARRIER CELLS
Androniki Alevyzaki, Boyka Markova, Steffen Mayerl, Heike Heuer, Essen

T22-4A moved to T22-9C

T22-5A CONNECTION OF MC3R NEURONS AND THEIR ROLE IN STRESS RESPONSES
Jiajie Zhu, Rachel Lippert, Selma Yagoub, Lídia Cantacorps, Katrin Ritter, Robert Chesters, Nuthetal

T22-6A DOPAMINERGIC SIGNALING IN THE ARCUATE NUCLEUS OF THE HYPOTHALAMUS
Svenja Corneliussen, Isabella Gaziano, Nasim Biglari, René Neuhaus, Linyan Shen, Tamara Sotelo Hitschfeld, Paul Klemm, Lukas Steuernagel, Alain de Solis, Weiyi Chen, F. Thomas Wunderlich, Jens C. Brüning, Peter Kloppenburg, Cologne

T22-7A ENERGY HOMEOSTASIS AND MELANOCORTIN RECEPTORS OF THE PARAVENTRICULAR THALAMUS
Robert Chesters, Bethany Coull, Lydia Palm, Katrin Ritter, Rachel Lippert, Nuthetal

Thursday

T22-1B HOMEOSTATIC SIGNALING HELPS COOLED FISH LARVAE ESCAPE FROM BALLISTIC PREDATORS
Alexander Hecker, Stefan Schuster, Bayreuth

T22-2B IMPACT OF THYROID HORMONE TRANSPORTER MCT8/OATP1C1 DEFICIENCY ON HIPPOCAMPAL GABAERGIC AND GLUTAMATERGIC SYSTEMS IN THE MOUSE CNS
Andrea Alcaide Martin, Heike Heuer, Steffen Mayerl, Essen

T22-3B INSULIN-LIKE SIGNALLING TOGETHER WITH THE SEROTONIN TRANSPORTER REGULATE APPETITE IN *DROSOPHILA MELANOGASTER*
Magdalena Gompert, Katharina Dorn, JianZheng He, Henrike Scholz, Cologne

T22-4B INTEGRATED CARDIO-BEHAVIOURAL DEFENSIVE STATES
Jérémy Signoret-Genest, Nina Schukraft, Sara L. Reis, Dennis Segebarth, Philip Tovote, Wuerzburg

T22-5B MATERNAL DIABETES AND METFORMIN EXPOSURE AFFECT OFFSPRING BRAIN DEVELOPMENT IN A SEX-DEPENDENT MANNER
Lídia Cantacorps, Jiajie Zhu, Selma Yagoub, Lea-Sophie Kasch, Maya Paterson, Miguel Serrano-Lope, Rachel Lippert, Nuthetal

T22-6B SEPSIS-LIKE BACTERIAL INFECTION MODULATES INNATE BEHAVIOUR *IN DROSOPHILA MELANOGASTER*
Thomas Riemensperger, Fabienne Reh, Kei Ito, Cologne

T22-7B IMPAIRED CEREBROVASCULAR REACTIVITY AND ELEVATED LEVELS OF CARBON DIOXIDE – CENTRAL REGULATION OF COMBINED PERIPHERAL EFFECTS
Dorothea Ziemens, Marius Richter, Ákos Menyhárt, Eszter Farkas, Markus Schwaninger, Jan Wenzel, Luebeck

T22-8B STIMULATION OF AUTOPHAGY IN HIPPOCAMPAL NEURONS BY NEUROPEPTIDE Y
Ines Erdmann, Gina Marie Krause, Elisa Redavide, Anke Müller, Daniela C. Dieterich, Oliver Stork, Anne Albrecht, Magdeburg

Friday

T22-1C TANYCYTIC THYROID HORMONE (TH) SIGNALLING IN THE REGULATION OF HYPOTHALAMIC FUNCTIONS AND HORMONE UPTAKE
Akila Chandrasekar, Sebastain Abele, Anke Fähnrich, Frauke Spiecker, Jens Mittag, Markus Schwaninger, Helge Müller-Fielitz, Luebeck

T22-2C TEMPERATURE-DEPENDENT VARIABILITY OF DETECTABLE NEUROPEPTIDE TITERS IN INDIVIDUAL *DROSOPHILA* NEURONS BY QUANTITATIVE IMMUNOLABELLING
Inga Schirmer, Susanne Neupert, Kassel

T22-3C THE ROLE OF BDNF^{LH} NEURONS IN THE REGULATION OF FEEDING BEHAVIOUR
Carolin Schumacher, Anne Petzold, Tatiana Korotkova, Cologne

T22-4C THE ROLE OF OREXIN RECEPTORS 1 AND 2 IN SEROTONERGIC NEURONS OF RAPHE NUCLEI
Gagik Yeghiazaryan, Xing Xiao, Simon Hess, Paul Klemm, Anna Sieben, André Kleinridders, Donald Morgan, Thomas Wunderlich, Kamal Rahmouni, Dong Kong, Thomas Scammell, Bradford Lowell, Jens Brüning, Christine Hausen, Peter Kloppenburg, Cologne

T22-5C THE ROLE OF TRH NEURONS IN ENERGY HOMEOSTASIS AND REGULATION OF BROWN ADIPOSE TISSUE
Andreea Constantinescu, Luka Höhne, Jens Mittag, Helge Müller-Fielitz, Markus Schwaninger, Luebeck

T22-6C 3-D STED IMAGING OF TANYCYTES
Surya Prakash Rai, Helge Müller-Fielitz, Markus Schwaninger, Lubeck

T22-7C SLEEP DEPRIVATION INCREASES PERFORMANCE IN LARVAL ZEBRAFISH DECISION MAKING
Hanna Zwaka, Paula Pflitsch, Will Joo, Kumaresh Krishnan, Nadine Oury, Armin Bahl, Declan Lyons, Jason Rihel, Florian Engert, Cambridge, USA

T22-8C TRANSGENERATIONAL EFFECTS OF EARLY LIFE STRESS ON DNA METHYLATION OF THE OXYTOCIN RECEPTOR PROMOTER (OXTR) IN MOUSE BRAIN AND PERIPHERAL TISSUES.
Brigid Chimoita Aliero, Nicole Gröger, Alexandra Lesse, Kathrina Braun, Jörg Bock, Magdeburg

T22-9C COMPLEMENTARY LATERAL HYPOTHALAMIC POPULATIONS RESIST HUNGER PRESSURE TO BALANCE NUTRITIONAL AND SOCIAL NEEDS
Anne Petzold, Hanna Elin van den Munkhof, Rebecca Figge-Schlensok, Tatiana Korotkova, Cologne

T22-10C A ROLE OF THE OXYTOCIN SIGNALING IN THE HYPOTHALAMUS FOR SOCIAL FEAR LEARNING
Takuya Osakada, Yiwen Jiang, Rongzhen Yan, Rina Tabuchi, Dayu Lin, New York, USA

T23: Neural networks and rhythm generators

Wednesday

T23-1A A GALANIN-POSITIVE POPULATION OF LUMBAR SPINAL CORD NEURONS MODULATES SEXUAL BEHAVIOR AND AROUSAL
Constanze Lenschow, Ana Rita P. Mendes, Liliana Ferreira, Bertrand Lacoste, Camille Quilgars, Sandrine S. Bertrand, Susana Q. Lima, Magdeburg

T23-2A A SYSTEMATIC CLASSIFICATION OF NEURONS FORMING THE CLAMP REGION IN THE ADULT *DROSOPHILA* BRAIN
Jonas Mario Klußmann, Jens Goldammer, Kei Ito, Cologne

T23-3A ANATOMICAL CONNECTIONS OF THE CROW BRAIN'S COGNITIVE CONTROL CENTER NIDOPALLIUM CAUDOLATERALE (NCL)
Saskia Erdle, Ylva Kersten, Felix W. Moll, Andreas Nieder, Tuebingen

T23-4A BALANCED RING NETWORK OF SPIKING NEURONS AS A MODEL OF VISUAL CORTEX HYPERCOLUMN
Mohammadreza Soltanipour, Fred Wolf, Goettingen

T23-5A BEHAVIORAL STATE-DEPENDENT MODULATION OF INSULIN-PRODUCING CELLS IN *DROSOPHILA*
Sander Liessem, Martina Held, Rituja Bisen, Hannah Haberkern, Haluk Lacin, Till Bockemühl, Jan M. Ache, Wuerzburg

T23-6A BIOLOGICAL VALIDATION OF A MICRONEEDLE 3D HIGH-DENSITY CMOS MULTI-ELECTRODE ARRAY FOR BRAIN TISSUE AND SPHEROIDS
Elisa Monz, Lisa Mapelli, Olivier Dubochet, Mariateresa Tedesco, Giacomo Sciacca, Alessandra Ottaviani, Anita Monteverdi, Chiara Battaglia, Simona Tritto, Francis Cardot, Patrick Surbled, Jan Schildknecht, Chiara Cervetto, Manuela Marcoli, Egidio D'Angelo, Pfäffikon SZ, Switzerland

T23-7A CHARACTERIZATION OF CIRCADIAN MODULATORS IN RELAY STATIONS OF PREFRONTAL-TO-HIPPOCAMPAL CIRCUITS VIA VIRAL TRACING AND LASER MICRODISSECTION
Lara Mariel Chirich Barreira, Julia U. Henschke, Janelle M.P. Pakan, Anne Albrecht, Magdeburg

T23-8A CONNECTIVITY ANALYSIS OF THE MONOAMINERGIC SYSTEMS OF *DROSOPHILA* BRAIN
Jiajun Zhang, Nikolaj Rieger, Kei Ito, Thomas Riemensperger, Cologne

T23-9A CONSEQUENCES OF AXONAL DYSFUNCTIONS FOR NETWORK OSCILLATIONS IN A MOUSE MODEL OF DRAVET SYNDROME
Raquel Lascorz Massanet, Fabian C. Roth, Oslo, Norway

T23-10A DEND MUTATION DISRUPTS HIPPOCAMPAL NETWORK ACTIVITY AND NOCTURNAL γ SHIFTS
Kristina Lippmann, Marie-Elisabeth Burkart, Josephine Kurzke, Jorge Vera, Frances Ashcroft, Jens Eilers, Leipzig

Thursday

T23-1B DENDRITIC AXON ORIGIN ENABLES SELECTIVE INFORMATION GATING BY PERISOMATIC INHIBITION IN PYRAMIDAL NEURONS
Martin Both, Alexander Hodapp, Martin E Kaiser, Christian Thome, Lingjun Ding, Andrei Rozov, Matthias Klumpp, Nikolas Stevens, Tina Sackmann, Nadja Lehmann, Andreas Draguhn, Andrea Burgalossi, Maren Engelhardt, Heidelberg

T23-2B DEVELOPMENTAL NETWORK EMBEDDING OF PV INTERNEURONS IN RELATION TO THE EMERGENCE OF GAMMA RHYTHMS IN THE PREFRONTAL CORTEX
Anton Offermanns, Jastyn A. Pöpplau, Ileana Hanganu-Opatz, Hamburg

T23-3B DIFFERENT INVOLVEMENT OF AXON-CARRYING DENDRITE VERSUS CANONICAL NEURONS DURING LEARNING PROCESSES
Nadja Sharkov, Matthias Klumpp, Nikolas Stevens, Christian Thome, Janina Kupke, Andreas Draguhn, Ana M. M. Oliveira, Martin Both, Heidelberg

T23-4B DISINHIBITORY CIRCUIT MOTIFS IN MOUSE PRIMARY SOMATOSENSORY (BARREL) CORTEX
Felix Preuß, Martin Möck, Mirko Witte, Jochen F. Staiger, Goettingen

T23-5B DYNAMICS IN TIMING OF THE SOUNDS OF *MECOPODA ELONGATA*
Reinhard Lakes-Harlan, Giessen

T23-6B ELECTROPHYSIOLOGICAL CHARACTERIZATION AND COMPUTATIONAL MODELING OF INSULIN-PRODUCING CELLS IN *DROSOPHILA*
Federico Cascino-Milani, Lorenzo Fontolan, Sabine Fischer, Jan M. Ache, Wuerzburg

T23-7B FUNCTIONAL ANALYSIS OF NEUROPEPTIDES IN THE ACCESSORY MEDULLA OF THE MADEIRA COCKROACH *RHYPAROBIA MADERAE*
Sohail H. Shoaib, Susanne Neupert, Monika Stengl, Kassel

T23-8B FUNCTIONAL CHARACTERIZATION OF LONG-RANGE GABAERGIC PROJECTIONS FROM THE MEDIAL SEPTUM TO THE LATERAL ENTORHINAL CORTEX
Viktoria B. Pfennig, Yu-Chao Liu, Elke C. Fuchs, Hannah Monyer, Heidelberg

T23-9B HIGHER-ORDER ANATOMICAL CONNECTIVITY EXPLAINS FUNCTIONAL PROPERTIES OF VISUAL CIRCUITRY
Juan Felipe Vargas Fique, Sebastian Molina-Obando, Marion Silies, Mainz

T23-10B INVESTIGATING THE COUPLING BETWEEN SURPLUS SPIKE SYNCHRONY AND SLOW OSCILLATIONS IN THE DORSAL HIPPOCAMPUS
Regimantas Jurkus, Julien Fiorilli, Thijs R. Ruikes, Sonja Grün, Cyriel M. A. Pennartz, Michael Denker, Juelich

Friday

T23-1C INVESTIGATION OF THE INVOLVEMENT OF PIGMENT-DISPERSING FACTOR (PDF) AND OTHER NEUROPEPTIDES IN SEASONAL ADAPTATION TO THE CHANGING PHOTOPERIOD IN THE COCKROACH *RHYPAROBIA MADERAE*
Huleg Zolmon, Susanne Jaguttis, Monika Stengl, Kassel

T23-2C IONIC CURRENTS IN INSECT CIRCADIAN CLOCK NEURONS
Anna C. Schneider, Monika Stengl, Kassel

T23-3C LATE DEVELOPMENTAL DYNAMICS OF ACTIVITY PATTERNS WITHIN PREFRONTAL-HIPPOCAMPAL NETWORKS IN HEALTH AND A GENETIC RISK MODEL FOR SCHIZOPHRENIA
Marilena Hnida, Jastyn A. Pöpplau, Ileana L. Hanganu-Opatz, Hamburg

T23-4C NEAR-OPTIMAL ENCODING OF MINIMAL STIMULI IN THE CORTICAL GATEWAY FOR SOMATOSENSATION
Andreas Neef, Fred Wolf, Michael J. Gutnick, Omer Revah, Goettingen

T23-5C NETWORK SYNCHRONY CREATES NEURAL FILTERS THAT SWITCH BRAIN STATE FROM NAVIGATION TO SLEEP IN *DROSOPHILA*
Raquel Suárez Grimalt, Davide Raccuglia, Laura Krumm, Cedric C. Brodersen, Anatoli Ender, Sridhar Jagannathan, York Winter, Genevieve Yvon-Durocher, Richard Kempter, Jörg R.P. Geiger, David Owald, Berlin

T23-6C NEURAL INTEGRATION OF SENSORY INPUT AND SLEEP NEED IN *DROSOPHILA*
Cedric Beat Brodersen, Raquel Suárez-Grimalt, Jörg RP Geiger, David Owald, Davide Raccuglia, Berlin

T23-7C OLFACTORY DYSFUNCTION CONTRIBUTES TO IMPAIRED DEVELOPMENTAL HIPPOCAMPAL-PREFRONTAL ACTIVITY IN A MOUSE MODEL OF NEUROPSYCHIATRIC DISORDERS
Fiona Parbst, Sebastian H. Bitzenhofer, Ileana L. Hanganu-Opatz, Hamburg

T23-8C PEPTIDERGIC AND AMINERGIC MODULATION OF INSULIN-PRODUCING CELLS IN *DROSOPHILA*
Martina Held, Isabella Balles, Rituja Bisen, Selina Hilpert, Alexander S. Chockley, Federico Cascino-Milani, Sander Liessem, Meet Zandawala, Jan M. Ache, Wuerzburg

T23-9C SYNTALOS: A SOFTWARE FOR SIMULTANEOUS ACQUISITION OF HETEROGENEOUS NEUROPHYSIOLOGICAL DATA AND FOR CLOSED-LOOP INTERVENTION PROTOCOLS
Matthias Klumpp, Lee Embray, Justus Simon, Andreas Draguhn, Martin Both, Heidelberg

T23-10C THE ANATOMY OF AUDITORY BRAINSTEM NUCLEI IN THE ETRUSCAN SHREW
Alina C. Zacher, Felix Felmy, Hannover

T24: Attention, motivation, emotion and cognition

Wednesday

T24-1A COMPUTATIONAL ARCHAEOLOGY OF THE HUMAN COGNITIVE PAST
Wulf Haubensak, Joanna Kaczanowska, Florian Ganglberger, Olga Chernomor, Dominic Kargl, Andreas Hess, Yoshan Moodley, Arndt von Haeseler, Katja Bühler, Lukasz Piszczek, Vienna, Austria

T24-2A DECISION-MAKING BASED ON VISUAL MOTION PERCEPTION IN THE CROW
Philipp Schmidbauer, Andreas Nieder, Tuebingen

T24-3A DEVELOPMENTAL DYNAMICS OF COGNITIVE FLEXIBILITY IN MICE
Mariia Dorofeikova, Jastyn A. Pöpplau, Ann M. Thies, Ileana L. Hanganu-Opatz, Hamburg

T24-4A EFFECTS OF ALTERED RIBOSOMAL S6 KINASE (RSK/S6KII) EXPRESSION ON EMOTION-RELEVANT OPEN-FIELD BEHAVIOR OF *DROSOPHILA MELANOGASTER*
Yi Wang, Maria Steigmeier, Yasmine Zöller, Thomas Raabe, Christian Wegener, Wuerzburg

T24-5A EXOGENOUS AND ENDOGENOUS SPATIAL ATTENTION IN CROWS
Linus Hahner, Malte Quest, Paul Rinnert, Andreas Nieder, Tuebingen

T24-6A FRONTOPOLAR MECHANISMS FOR DRIVING SOCIAL AND ECONOMIC DECISIONS IN PRIMATE GROUPS
Raymundo Báez Mendoza, Emma P. Mastrobattista, Amy J .Wang, Ziv M. Williams, Goettingen

T24-7A HETEROGENEITY OF EXCITATORY NEURONS OF THE BASOLATERAL AMYGDALA: FROM TRANSCRIPTOME TO CALCIUM IMAGING AND BEHAVIOR
Hansol Lim, Christian Peters, Ruediger Klein, Planegg

Thursday

T24-1B HUNGER STATE-DEPENDENT MODULATION OF NEURAL PROCESSING AND BEHAVIOR IN *DROSOPHILA* LARVAE
Katrin Vogt, Konstanz

T24-2B MAPPING OF THE CARRION CROW'S BRAIN
Ylva Kersten, Felix Moll, Saskia Erdle, Bettina Friedrich-Mueller, Andreas Nieder, Tuebingen

T24-3B MODALITY-SPECIFIC ACCUMULATION OF EVIDENCE IN MICE PERFORMING A MULTISENSORY DISCRIMINATION TASK
Gerion Nabbefeld, Emma Cravo, Irene Lenzi, Sacha Abou Rachid, Severin Graff, Simon Musall, Björn Kampa, Aachen

T24-4B NEGATIVE AND POSITIVE STIMULI IN THE OPEN-FIELD TEST BEHAVIOUR OF *DROSOPHILA MELANOGASTER*
Emilia Derksen, Yi Wang, Christian Wegener, Wuerzburg

T24-5B NEURAL MECHANISMS OF NUMERICAL SELECTION IN THE FRONTO-PARIETAL CORTICES OF THE MACAQUE
Tobias Machts, Julia Grüb, Andreas Nieder, Stuttgart

T24-6B NUMBER PRODUCTION IN RHESUS MACAQUES
Laura Elisa Seidler, Stephanie Westendorff, Andreas Nieder, Tuebingen

T24-7B ORTHOGONAL CODING OF FOOD AND VOLUNTARY EXERCISE BY VTA DOPAMINE NEURONS
Hanna Elin van den Munkhof, Vasyl Mykytiuk, Tatiana Korotkova, Cologne

Friday

T24-1C PREFRONTAL CORTEX TRACKS ELAPSED TIME DURING SELF-PACED ACTION SELECTION
Ole Christian Sylte, Hannah Muysers, Hung-Ling Chen, Marlene Bartos, Jonas-Frederic Sauer, Freiburg

T24-2C REAL-TIME WHISTLE PITCH-MATCHING IN WILD NIGHTINGALES
Giacomo Costalunga, Daniela Vallentin, Seewiesen

T24-3C SELECTIVE ATTENTION IN THE HIGHSPEED DECISIONS OF HUNTING ARCHERFISH
Sophie Yvonne Schödel, Martin Krause, Wolfram Schulze, Stefan Schuster, Bayreuth

T24-4C SOCIAL ODOUR ACTIVATES THE HIPPOCAMPAL FORMATION IN ZEBRA FINCHES (*TAENIOPYGIA GUTTATA*)
Uwe Mayer, Rovereto (TN), Italy

T24-5C SPATIAL CODING BY SOMATOSTATIN AND NEUROTENSIN NEURONS IN THE LATERAL SEPTUM
Robson Scheffer Teixeira, Francisco Javier de los Santos Bernal, Letizia Moscato, Tatiana Korotkova, Cologne

T24-6C THE REVERSE COCKTAIL PARTY PROBLEM: DYNAMIC TIME-DOMAIN JAMMING AVOIDANCE IN FREELY SOCIALIZING BATS
Ava Kiai, Manfred Koessl, David Poeppel, Julio Hechavarria, Frankfurt/Main

T25: Learning and memory

Wednesday

T25-1A "*WHAT A PLEASURE WHEN THE PAIN SUBSIDES*" TOWARDS A MOLECULAR ARCHITECTURE OF LEARNING FROM PAIN RELIEF
Christian König, Thomas Niewalda, Melissa Comstock, Svea Königsmann, Juliane Thoener, Bertram Gerber, Magdeburg

T25-2A A DEDICATED, NON-OLFACTORY MUSHROOM BODY SUB-CIRCUIT MEDIATES THE INTERACTION BETWEEN GOAL-DIRECTED ACTIONS AND HABIT FORMATION IN *DROSOPHILA*
Radostina Lyutova, Silvia Marcato, Björn Brembs, Regensburg

T25-3A A PERSISTENT PREFRONTAL REFERENCE FRAME ACROSS TIME AND TASK RULES
Hannah Muysers, Hung-Ling Chen, Jonas-Frederic Sauer, Marlene Bartos, Freiburg

T25-4A A SELECTABLE EYE MARKER AFFECTS MEMORY FORMATION IN *DROSOPHILA MELANOGASTER* LARVAE
Hanna Rebekka Franz, Goettingen

T25-5A A SPECTRAL CHRONOMETER FOR INTERVAL TIMING IN *DROSOPHILA*
Jan Kropf, Clifford B. Talbot, Gero Miesenböck, Oxford, UK

T25-6A *RETRACTED*

T25-7A ANALYSIS OF BURST SEQUENCES IN MOUSE PREFRONTAL CORTEX DURING LEARNING
Hamed Shabani, Hannah Muysers, Jonas-Frederic Sauer, Marlene Bartos, Christian Leibold, Freiburg im Breisgau

T25-8A THE ANTLER BRAIN REGION OF *DROSOPHILA* – MORPHOLOGICAL CLASSIFICATION OF INNERVATING NEURONS AND CONNECTOME ANALYSIS
Jens Goldammer, Kei Ito, Cologne

T25-9A ATTACK BASED IDENTIFICATION OF MOST INFORMATIVE PATTERNS IN FMRI VISUAL STIMULI CLASSIFICATION
Markos Athanasiadis, Svenja Brodt, Svenja Klinkowski, Steffen Gais, Christian Leibold, Freiburg im Breisgau

T25-10A AUTOMATED, UNSUPERVISED TRAINING AND TESTING FOR NON-HUMAN PRIMATES ON VISUO-ACOUSTIC TASKS
Jorge Cabrera-Moreno, Lena Jeanson, Jonas Grunenberg, Antonino Calapai, Marcus Jeschke, Goettingen

T25-11A CAN SHORT-TERM PLASTICITY FORM ANISOTROPIC CONNECTIVITY?
Arash Golmohammadi, Christian Tetzlaff, Goettingen

T25-12A CAPTURING DYNAMICS OF INHIBITORY SYNAPTIC CONNECTIVITY UNDERLYING LEARNING USING IN VIVO TWO-PHOTON OPTICAL IMAGING OF HIPPOCAMPAL CA1
Hannah Klimmt, Alessandro Ulivi, Rosa Huettl, Stefanos Somatakis, Alessio Attardo, Magdeburg

T25-13A CENTRAL MODULATION IN REWARD PROCESSING
Ulrike Sophie Franke, Samantha Aurich, Andreas Stephan Thum, Robert Johannes Kittel, Dennis Pauls, Leipzig

T25-14A CHOOSING MEMORY RETRIEVAL STRATEGIES: A CRITICAL ROLE FOR INHIBITION IN THE DENTATE GYRUS
Alice Weiglein, Iris Müller, Gürsel Caliskan, Oliver Stork, Anne Albrecht, Magdeburg

T25-15A CODING DIFFERENCES FOR SMALL AND LARGE NUMEROSITIES IN HUMAN SINGLE NEURONS
Esther Friederice Kurz, Gert Dehnen, Valeri Borger, Rainer Surges, Florian Mormann, Andreas Nieder, Bonn

T25-16A CONSTRUCTING AUDITORY SPACE: MODULATION OF THE SPATIAL MAP BY AUDITORY CUES AND LANDMARKS
Andrey Sobolev, Anton Sirota, Michael Pecka, Planegg

T25-17A DISSECTING THE FUNCTION OF DIFFERENT DUNCE ISOFORMS IN *DROSOPHILA MELANOGASTER*
Timo Hasselmann, Marie Müller, Marcel Verbrüggen, Magdalena Gompert, Victoria Brüning, Henrike Scholz, Cologne

T25-18A DISSECTING THE FUNCTION OF THE PDE4D ORTHOLOGUE DUNCE IN OLFACTORY LEARNING AND MEMORY IN THE ADULT *DROSOPHILA MELANOGASTER*
Duran Emre Kanaci, Henrike Scholz, Cologne

T25-19A PROJECTION-SPECIFIC CONJUNCTIVE CODING OF SPACE, VELOCITY, AND APPETITIVE BEHAVIOURS BY DORSAL HIPPOCAMPUS
Oliver Barnstedt, Petra Mocellin, Stefan Remy, Magdeburg

Thursday

T25-1B DISSECTION OF NEURONAL CIRCUITS UNDERLYING AVERSIVE OLFACTORY SECOND-ORDER CONDITIONING
El Yazid Rachad, André Fiala, Goettingen

T25-2B DOPAMINE'S ROLE AS AN INHIBITOR OF DOPAMINERGIC NEURONS OF THE *DROSOPHILA* MUSHROOM BODIES
Michael-Marcel Heim, David Owald, Berlin

T25-3B DRIFT AND STABILIZATION OF HIPPOCAMPAL RESPONSE SELECTIVITY
Alexander Schmidt, Fred Wolf, Yasunori Hayashi, Kotaro Mizuta, Masaaki Sato, Julian Vogel, Bernhard Bandow, Goettingen

T25-4B EFFECT OF INTERNAL STATES ON MEMORY CONSOLIDATION IN *DROSOPHILA*
Sridhar Rajan Jagannathan, Davide Raccuglia, David Owald, Berlin

T25-5B EFFECT OF NPSR1 DEFICIENCY ON T-MAZE AND BARNES MAZE LEARNING
Ahmet Oguzhan Bicakci, Evelyn Kahl, Malgorzata Kolodziejczyk, Luibov Kalinicheno, Markus Fendt, Magdeburg

T25-6B EFFECTS OF PYRETHROIDS ON HONEY BEE OLFACTORY PERCEPTION, LEARNING AND PROCESSING
Loïc Colin-Duchevet, Clémentine Hatton, Antoine Couto, Claude Collet, Pierre Charnet, Jean-Christophe Sandoz, Gif-sur-Yvette, France

T25-7B IN-VIVO IMAGING OF CAMP DYNAMICS: SUBCELLULAR COMPARTMENTALIZATION UNDERLYING LEARNING AND MEMORY
Stephan Hubertus Deimel, André Fiala, Goettingen

T25-8B EVALUATION OF SIX NEW OCTOPAMINE TROJAN EXON MUTANTS
Alexandra Großjohann, Ronja Badelt, Dennis Pauls, Andreas Thum, Leipzig

T25-9B EYE BLINK IS AN EXCELLENT MEASURE FOR SPATIAL LEARNING IN HUMAN
Motoharu Takao, Hiratsuka, Japan

T25-10B FEMALE VOCAL FEEDBACK IMPROVES SONG LEARNING AND ALTERS PREMOTOR ACTIVITY IN JUVENILE ZEBRA FINCHES
Linda Bistere, Daniela Vallentin, Seewiesen, Starnberg

T25-11B FMRI REVEALS LEARNING INDUCED CHANGES IN AUDITORY-EVOKED BRAIN ACTIVATION PATTERNS IN THE MONGOLIAN GERBIL
Annika Michalek, Patricia Wenk, Nicole Angenstein, Eike Budinger, Magdeburg

T25-12B FROM CONNECTOMIC TO BEHAVIOURAL COMPLEXITY IN LARVAL *DROSOPHILA*?
Edanur Sen, Juliane Thöner, Arman Behrad, Melissa Comstock, Nina Jacob, Amira El-Keredy, Nino Mancini, Bertram Gerber, Magdeburg

T25-13B HOLISTIC BURSTING CELLS AS AN AUDITORY ENGRAM
Hongbo Jia, Magdeburg

T25-14B HOW INTERNEURONS SHAPE BEHAVIOR: THE IMPACT OF DNA METHYLTRANSFERASE 1 (DNMT1) ON INHIBITORY CORTICAL INTERNEURONS OF BEHAVING MICE
Jenice Reimara Nicola Linde, Can Bora Yildiz, Julia Reichard, Georg Pitschelatow, Geraldine Zimmer-Bensch, Aachen

T25-15B IMPAIRED PATTERN COMPLETION DURING MEMORY RECALL IN AN ADULT MOUSE MODEL OF FRAGILE X SYNDROME
Caroline Zeitouny, Martin Korte, Kristin Michaelsen-Preusse, Braunschweig

T25-16B MECHANISMS OF MEMORY CONSOLIDATION IN *DROSOPHILA MELANOGASTER*
Tania Fernandez d.V. Alquicira, Lisa Scheunemann, Desiree Laber, David Owald, Berlin

T25-17B MITOCHONDRIAL FUNCTION IN DOPAMINERGIC NEURONS INFLUENCE OLFACTORY LEARNING AND MEMORY IN *DROSOPHILA MELANOGASTER*
Michèle Tegtmeier, Justin Böcker, Anica Biermann, Sabrina Peter, Melissa Beste, Henrike Scholz, Cologne

T25-18B NEONATAL OLFACTORY PROCESSING IS NECESSARY FOR THE MATURATION OF LIMBIC-HIPPOCAMPAL NETWORK AND COGNITIVE DEVELOPMENT
Yu-Nan Chen, Johanna K. Kostka, Sebastian H. Bitzenhofer, Ileana L. Hanganu-Opatz, Hamburg

T25-19B NEURAL CIRCUITS THAT REGULATE EXPLORATORY ODOR-DRIVEN BEHAVIOR
Giovanni D'Uva, Christian Daniel, Maria Ioannidou, Leticia Batista , Carlotta Martelli, Mainz

Friday

T25-1C NEURAL CORRELATES OF COOPERATION IN FREELY MOVING RHESUS MACAQUES
Melissa Franch, Sudha Yellapantula, Anthony Wright, Valentin Dragoi, Houston, USA

T25-2C NEUROMODULATOR-DEPENDENT TWO-PHASE SYNAPTIC PLASTICITY RETROACTIVELY CONTROLS NEURAL CODING IN SPIKING NEURAL NETWORKS
Jannik Luboeinski, Andrew B. Lehr, Christian Tetzlaff, Goettingen

T25-3C PERCEPTION OF OPTOGENETIC CORTEX STIMULATION IS MODALITY-SPECIFIC
Alisa Vlasenko, Marcel Brosch, Frank W. Ohl, Michael T. Lippert, Magdeburg

T25-4C PREDICTION ERROR DRIVES OLFACTORY LEARNING AND CONDITIONED BEHAVIOR IN A SPIKING MODEL OF *DROSOPHILA* LARVA
Anna-Maria Jürgensen, Panagiotis Sakagiannis, Michael Schleyer, Bertram Gerber, Martin Paul Nawrot, Cologne

T25-5C PROBDNF DEPENDENCE OF LTD IN THE AMYGDALA OF ADULT MICE
Susanne Meis, Xiaoyun Ma, Thomas Endres, Thomas Munsch, Volkmar Lessmann, Magdeburg

T25-6C PRO-BDNF SIGNALING IN THE AMYGDALA MEDIATES FEAR EXTINCTION LEARNING
Thomas Endres, Harish Vuyyuru, Susanne Meis, Volkmar Lessmann, Magdeburg

T25-7C MOVED TO T25-19A

T25-8C RAB3 IS REQUIRED FOR OLFACTORY LEARNING
Aishwarya Aravamudhan, Divya Sachidanandan, Dennis Pauls, Stefan Hallermann, Robert J. Kittel, Leipzig

T25-9C ROLE OF NOGO-A IN REGULATING MEMORY PROCESSES AND MEMORY ENGRAM FORMATION BY MODULATING NEURONAL EXCITABILITY
Sebastian Stork, Jan Flechtner, Jennifer Just, Kristin Metzdorf, Steffen Fricke, Martin Korte, Marta Zagrebelsky, Braunschweig

T25-10C SEROTONIN ANTAGONISTICALLY CONTROLS AVERSIVE AND APPETITIVE MEMORY CONSOLIDATION IN FLIES
Lisa Scheunemann, Clément Hua, Beatrice Kaiser, Anne Hoffmann, Olliver John, Thomas Preat, Berlin

T25-11C SILENCING OF HVC INTERNEURONS DURING PLAYBACKS ALTERS ADULT ZEBRA FINCH SONG
Fabian Heim, Ezequiel Mendoza, Avani Koparkar, Constance Scharff, Daniela Vallentin, Seewiesen

T25-12C SOCIAL FEEDBACK SHAPES BEHAVIORAL STRATEGIES FOR COURTSHIP IN *DROSOPHILA*
Frederic Alexander Römschied, Elise C Ireland, Adam J Calhoun, Minseung S Choi, Osama Ahmed, Mala Murthy, Goettingen

T25-13C SYNAPTIC STRUCTURAL HOMEOSTATIC MECHANISMS IN THE HIPPOCAMPAL CA1 REGION OF LIVE MICE
Bhargavi Murthy, Hannah Klimmt, Inna Slutsky, Alessio Attardo, Magdeburg

T25-14C SYSTEMS NEUROSCIENCE OF NAVIGATION IN THE NATURALLY BEHAVING MARMOSET MONKEY
Francesca Lanzarini, Farzad Ziaie Nezhad, Johanna Weßling, Deepak Surendran, Jean Laurens, Frankfurt/Main

T25-15C THE CELLULAR ARCHITECTURE OF MEMORY MODULES IN *DROSOPHILA* SUPPORTS STOCHASTIC INPUT INTEGRATION
Rouven Ziegler, Omar A. Hafez, Benjamin Escribano, Jan J. Hirtz, Ernst Niebur, Jan Pielage, Merchweiler

T25-16C THE VIRTUAL MAGNETIC ENVIRONMENT: TOWARDS A FAST AND ROBUST BEHAVIOURAL ASSAY TO STUDY MAGNETORECEPTION IN SUBTERRANEAN MOLE-RATS
Georgina Fenton, Brittany Hamauei, Pascal Malkemper, Bonn

T25-17C TOXIC EFFECTS OF NEONICOTINOIDS ON MEMORY AND BRAIN MORPHOLOGY: THE FRUIT FLY *DROSOPHILA MELANOGASTER* AS A STUDY CASE
Annekathrin Widmann, Julia Schulz, Goettingen

T25-18C UNDERSTANDING RAT BEHAVIOR IN A COMPLEX TASK VIA NON-DETERMINISTIC POLICIES
Johannes Niediek, Maciej M. Jankowski, Ana Polterovich, Alexander Kazakov, Israel Nelken, Jerusalem, Israel

T26: Computational neuroscience

Wednesday

T26-1A A COMPREHENSIVE DEEP LEARNING MODEL FOR OBJECT AND SPATIAL REPRESENTATIONS IN HIPPOCAMPAL FORMATION
Azra Aziz, Bharat Kailas Patil, V Srinivasa Chakravarthy, Chennai, India

T26-2A A COMPUTATIONAL MODEL OF OLFACTORY PROCESSING IN THE FLY ANTENNAL LOBE USING EM DATA
Magdalena Anna Springer, Lydia Gruber, Jürgen Rybak, Bill S. Hansson, Martin P. Nawrot, Cologne

T26-3A ASSESSING BEHAVIOURAL SYMPTOMOLOGY IN *DROSOPHILA MELANOGASTER*
Hannah Jones, Giorgio Gilestro, Jenny Willis, Rob Lind, Oxford, UK

T26-4A BIG DATA IN MICROSCOPY – AN AI-ASSISTED BIOSENSOR ANALYSES APPROACH
Anna Kling, Franziska Müller, Evgeni Ponimaskin, Andre Zeug, Alexander Wirth, Hannover

T26-5A COMPUTATIONAL MODELLING OF NEURON-ASTROCYTE INTERACTIONS IN THE NEST SIMULATOR
Han-Jia Jiang, Jugoslava Acimovic, Tiina Manninen, Jonas Stapmanns, Mikko Lehtimäki, Marja-Leena Linne, Markus Diesmann, Sacha J. van Albada, Jülich

T26-6A DATA-DRIVEN METHOD TO GENERATE SINGLE NEURON MODELS FROM SPIKE TRAINS OF SENSORY NEURONS
Ibrahim Alperen Tunc, Svenja Corneliussen, Jan Radermacher, Peter Kloppenburg, Martin Paul Nawrot, Cologne

T26-7A DEEP LEARNING BASED 3D-SEGMENTATION OF DENDRITIC SPINES RECORDED WITH TWO-PHOTON IN VIVO IMAGING
Fabrizio Musacchio, Pragya Mishra, Pranjal Dhole, Shekoufeh Gorgi Zadeh, Sophie Crux, Felix Nebeling, Stefanie Poll, Manuel Mittag, Falko Fuhrmann, Eleonora Ambrad, Andrea Baral, Julia Steffen, Miguel Fernandes, Thomas Schultz, Martin Fuhrmann, Bonn

Thursday

T26-1B DEVELOPMENTAL SPEED AND NETWORK STABILITY ADVANTAGES MAY FAVOUR AN ORDERED ORGANISATION OF CORTICAL STIMULUS PREFERENCE IN PRIMATES AND CARNIVORES
Zoe Rowe Stawyskyj, Michael Sternbach, Fred Wolf, Göttignen

T26-2B DYNAMIC GAIN ANALYSIS OF AXON INITIAL SEGMENT FUNCTION IN HIGH-BANDWIDTH POPULATION ENCODING
Neil Lewis Wesch, Elinor Lazarov, Chenfei Zhang, Fred Wolf, Andreas Neef, Goettingen

T26-3B EFFICIENT CONTROL OF OSCILLATIONS AND SYNCHRONY IN COMPUTATIONAL MODELS OF NEURAL DYNAMICS
Lena Salfenmoser, Klaus Obermayer, Berlin

T26-4B IDENTIFICATION AND REMOVAL OF ARTIFACTS IN MASSIVELY PARALLEL RECORDINGS
Jonas Oberste-Frielinghaus, Simon Essink, Alexander Kleinjohann, Julia Sprenger, Junji Ito, Sonja Grün, Jülich

T26-5B MESOSCOPIC MODELLING OF LARGE-SCALE NETWORKS OF LEAKY INTEGRATE-AND-FIRE NEURONS
Jan-Eirik Welle Skaar, Hans E. Plesser, Gaute T. Einevoll, Kristin Tøndel, Ås, Norway

T26-6B MODELING THE ELECTROSENSORY PERIPHERY OF *EIGENMANNIA VIRESCENS*
Sarah Mayer, Jan Benda, Jan Grewe, Tuebingen

T26-7B NEST-SONATA: FAST PARALLEL INSTANTIATION OF EXPLICITLY SPECIFIED LARGE-SCALE NEURONAL NETWORK MODELS
Hans Ekkehard Plesser, Nicolai Haug, Håkon Bakke Mørk, Stine Brekke Vennemo, Susanne Kunkel, Kael Dai, Anton Arkhipov, Ås, Norway

Friday

T26-1C NEURAL DYNAMICS UNDERLYING HUMAN VOCALIZATION
Vera A. Voigtländer, Florian Sandhaeger, Dawid J. Hawellek, Steffen R. Hage, Markus Siegel, Tuebingen

T26-2C NON-STATIONARY RECURRENT NEURAL NETWORKS FOR RECONSTRUCTING COMPUTATIONAL DYNAMICS OF RULE LEARNING
Max Ingo Thurm, Georgia Koppe, Eleonora Russo, Florian Bähner, Daniel Durstewitz, Mannheim

T26-3C PHYSIOLOGICALLY-INSPIRED NEURODYNAMICAL MODEL FOR ANORTHOSCOPIC PERCEPTION
Martin A. Giese, Anna Bognar, Rufin Vogels, Tuebingen

T26-4C RATS ADAPT OPTIMALLY TO CHANGES IN REINFORCEMENT PROBABILITIES, STIMULUS PRESENTATION PROBABILITIES AND DISCRIMINATION DIFFICULTY IN A PERCEPTUAL DECISION MAKING TASK
Luis de la Cuesta Ferrer, Christina Koß, Andrea Dietl, Frank Jäkel, Maik C. Stüttgen, Wiesbaden

T26-5C RELATING THE ORIENTATION OF CORTICAL TRAVELING WAVES AND CO-OCCURRING SPIKE PATTERNS
Sven Kraußе, Robin Gutzen, Alessandra Stella, Thomas Brochier, Alexa Riehle, Sonja Grün, Michael Denker, Aachen

T26-6C ROBUSTNESS OF A SELF-REGULATING NEURONAL NETWORK MODEL IN RESPONSE TO MUTATED ION CHANNELS
Philippa Hennessey, Jan Benda, Lukas Sonnenberg, Tuebingen

T26-7C SPONTANEOUS INITIATION OF SPREADING DEPRESSION IN A HETEROGENEOUS NETWORK
Allison Harris, Wolfgang Stein, Normal, USA

T27: Techniques and demonstrations

Wednesday

T27-1A A FLEXIBLE AND VERSATILE SYSTEM FOR MULTI-COLOR FIBER PHOTOMETRY AND OPTOGENETIC MANIPULATION
Andrey Formozov, Alexander Dieter, Simon Wiegert, Mannheim

T27-2A A WEB PORTAL FACILITATING FAIRIFICATION OF RESEARCH DATA IN NEUROSCIENCE
Robert Kossen, Luca Freckmann, Christian Henke, Linus Weber, Ulrich Sax, Sara Y. Nussbeck, Harald Kusch, Goettingen

T27-3A ACOUSTO-OPTIC VOLTAGE IMAGING IN AWAKE MICE WITH JEDI-2P
Denes Palfi, Balazs Chiovini, Viktoria Kiss, Zsolt Mezriczky, Anna Mihaly, Katalin Ocsai, Balazs J. Rozsa, Budapest, Hungary

T27-4A AUTOMATED PATCH CLAMP AND CRYOEM TEAM UP FOR MODE OF ACTION ELUCIDATION OF TWO *D. MELANOGASTER* SLO MODULATORS
Andreas Brockmann, Monheim am Rhein

T27-5A BAYESIAN ORACLE FOR BOUNDING INFORMATION GAIN IN NEURAL ENCODING MODELS
Konstantin-Klemens Lurz, Mohammad Bashiri, Fabian Sinz, Tuebingen

T27-6A CHANNELRHODOPSIN LIBRARY SCREENING BY AUTOMATED PLANAR PATCH-CLAMP RECORDINGS FACILITATES THE DEVELOPMENT OF THE FUTURE OPTICAL COCHLEAR IMPLANT
Alexey Alekseev, Maria Zerche, Tobias Moser, Thomas Mager, Goettingen

T27-7A CHARACTERIZATION OF MOUSE ENTEROENDOCRINE CELL SUBTYPES
Matea Krizman, Benjamin H. Cooper, Cordelia Imig, Goettingen

T27-8A DEVELOPMENT OF AN OPTOGENETIC DIMERIZATION TOOL TO CONTROL MITOCHONDRIAL MOVEMENT
Juliana Groß, Dr. Olivia A. Masseck, Bremen

Thursday

T27-1B DISSECTING LOCAL CHANGES IN THE CODING AND NON-CODING NEURONAL TRANSCRIPTOME REVEALED BY SUBCELLULAR TRANSCRIPTOMICS
Jennifer Heck, Valeriy Pak, Aliaksandr Halavatyi, Arif Ul Maula Khan, Kyung-Min Noh, Sinem K. Saka, Heidelberg

T27-2B DUAL COLOR IMAGING IN FREELY-BEHAVING RODENTS USING HEAD-MOUNTABLE ONE PHOTON MINISCOPE
Norbert Hogrefe, Srishti Gulati, Kevin Zitelli, Douglas Ollerenshaw, Alice Stamatakis, Mountain View, USA

T27-3B EFFECTS OF 24H OF 2G-HYPERGRAVITY ON MOUSE BLOOD BRAIN BARRIER
David Dubayle, Jean-Luc Morel, Paris, France

T27-4B ETHOLOOP: TRACKING AND CONTROLLING ANIMAL BEHAVIOUR IN NATURALISTIC ENVIRONMENTS
Daniel Huber, Ali Nourizonos, Geneva, Switzerland

T27-5B EVALUATION OF THE CIRCADIAN EXPRESSION OF OREXIN RECEPTORS IN THE MOUSE BRAIN BY RNASCOPE®
Gina Marie Krause, Anne Albrecht, Mageburg

T27-6B FOCAL ACTIVATION OF THE ADENOSINE A1 RECEPTOR IN THE BRAIN THROUGH PHOTOPHARMACOLOGY *IN VIVO*; A PROOF OF CONCEPT
Jeroen Spanoghe, Lars Emil Larsen, Erine Craey, Simona Manzella, Kristl Vonck, Serge Van Calenbergh, Paul Boon, Robrecht Raedt, Ghent, Belgium

T27-7B GEXSCOPE: HIGH THROUGHPUT SINGLE CELL SOLUTIONS FOR TRANSCRIPTOMIC ANALYSIS
Harlin Jhyont, Cologne

T27-8B IMAGING METABOLIC DYNAMICS OF NEURAL CELLS BY LABEL-FREE WIDE-FIELD FLIM
Werner Zuschratter, André Weber, Rodrigo Herrera-Molina, Ezgi Altun, Andrea Wetzel, Arthur Bikbaev, Alejandro Luarte, Magdeburg

Posters

Friday

T27-1C IMPROVING THE EFFICIENCY OF TEV PROTEASE FOR THE GENETIC DISRUPTION OF PROTEINS AND NEURAL CIRCUITS IN *DROSOPHILA*
Jonas Peper, Burak Gür, Marion Silies, Mainz

T27-2C INFERRING NETWORK CONNECTIVITY USING MODIFIED RESERVOIR COMPUTING
Pablo Rojas, Marie Kempkes, Martin E. Garcia, Kassel

T27-3C INTRACELLULAR *IN VIVO* RECORDING IN THE MAUTHNER NEURON EFFICIENTLY REVEALS EFFECTS OF SUBSTANCE EXPOSURE ON THE MATURE VERTEBRATE BRAIN.
Peter Machnik, Elisabeth Schirmer, Benedikt Maric, Stefan Schuster, Bayreuth

T27-4C PINKYCAMP: A NOVEL RED SHIFTED GENETICALLY ENCODED CALCIUM INDICATOR WITH MSCARLET
Ryan Fink, Jana Ottens, Martin Kubitschke, Olivia Masseck, Bremen

T27-5C PYVIEW: A GENERAL PURPOSE TOOL FOR ANALYZING CALCIUM IMAGING DATA
C. Giovanni Galizia, Georg Raiser, Ajayrama Kumaraswamy, Konstanz

T27-6C TARGETING NORADRENERGIC NEURONS OF THE LOCUS COERULEUS: A COMPARISON OF MODEL SYSTEMS AND STRATEGIES
Chantal Wissing, Alexander Dieter, Maxime Maheu, Simon J. Wiegert, Cologne

T27-7C THE BIG, THE FAST AND THE BLUE: TOWARDS THE OPTIMAL CHANNELRHODOPSIN FOR THE FUTURE OPTICAL COCHLEAR IMPLANT
Aida Garrido Charles, Theocharis Alvanos, Kathrin Kusch, Tobias Moser, Thomas Mager, Goettingen

T27-8C THE INFLUENCE OF ALDEHYDE FIXATIVES ON MEMBRANE ROUGHNESS AS DETERMINED BY SCANNING ION CONDUCTANCE MICROSCOPY
Marius Strachowitz, Dilan Yildiz, Heiko M. Lesslich, Irmgard D. Dietzel, Annika Haak, Bochum

T27-9C UNUSUAL ELECTRIC PROPERTIES IN THE SKIN OF ELECTRIC CATFISH
Susanne Proschke, Georg Welzel, Stefan Schuster, Bayreuth

Authors' Index

The numbers behind the author's name refer to the numbers of the oral or poster presentations, but not to page numbers in this program booklet.

A

Abdulla, T S7-5
Abe, P T2-2A
Abele, S T22-1C
Abou Rachid, S T24-3B
Abusaada, A T2-3A
Ache, JM S1-3, S13-2, S17-3, T21-6A, T21-2B, T23-5A, T23-6B, T23-8C
Acimovic, J T26-5A
Ackert-Smith, LA T21-2C
Acuna, C T7-17C
Afanasenkau, D S15-8
Agarwal, A S18-5
Aggarwal, N T13-6C
Aggarwal, S T5-2C
Aggelopoulos, N T16-2A
Agi, E T2-3B, T2-3C
Aguayo, L T11-8A
Aguilar Perez, G T7-6C, S26-4
Ahmad, A T7-9A
Ahmed, O T25-12C
Ahmed, Z S11-3, S11-4, S11-4, T21-1B
Aimon, S T19-10C
Akdas, EY T8-8A, T15-4A
Akhtar, J T14-3A
Akinola, EO T13-5C
Akol, I T1-5A, T10-1C, T10-2C
Albrecht, A T22-8B, T23-7A, T25-14A, T27-5B
Alcaide Martin, A T22-2B
Alcaino, C S1-1
Alekseev, A T27-6A
Alevyzaki, A T22-3A
Alex, C S15-6
Ali, MA T16-1A
Aliero, BC T22-8C
Aliyam Veetil Zynudheen, AA T14-5A
Allman, BL T10-6B
Altas, B S8-1
Althaus, V T14-3C
Altjohann, H-M T12-3A
Altun, E T27-8B
Alvanos, T T18-2B, T27-7C
Aly, AA S10-3, T4-1A
Alzheimer, C T7-11A, T7-12A, T7-2C, T13-1B
Amann, L T21-3B, T21-3C
Ambrad, E T26-7A
Amin, F S6-5
Amin, ND T1-7A
Ammari, R S13-1, S34-3
Andersen, J T1-7A
Andrade Mier, MS T9-2B
Andrea, KMA T18-7C
Andreas, N T12-3B
Andres-Alonso, M S10-3
Andreu, B T19-8C
Andrieux, G S33-2
Angelaki, D S11-2
Angenstein, N T25-11B
Anisimova, M T8-4A, S13-8
Annamneedi, A T11-5C
Antoine, J-C T12-3C
Apostolides, PF T18-2A, T18-7B
Aravamudhan, A T8-2B, T25-8C
Araya, A T11-8A
Arendt, T T7-9C
Arian, J T7-2A, T7-5A, T8-6A
Arican, C T19-5C
Arioli, F T12-7C
Arkhipov, A T26-7B
Armijo-Weingart, L T11-8A
Aronica, E S24-2
Arrigoni, L S23-5
Arrulo Pereira, A T10-1B
Arzberger, T T11-1B
Asadollahi, R T7-9A
Ashcroft, F T23-10A
Assmann, J T11-11B
Atanasova, K S19-4
Athanasiadis, M T25-9A
Attardo, A T8-4C, T25-12A, T25-13C
Au Yeung, C S30-1
Aurich, S T25-13A
Axmacher, SN S35-1
Aziz, A T26-1A

B

Baade-Büttner, C T12-3B
Badelt, R T25-8B
Báez Mendoza, R T24-6A
Bahader, I T17-5B
Bahader, M T17-1A
Bahl, A S5-5, T15-1C, T19-4A, T22-7C
Bähner, F T26-2C
Bähr, M T12-7A, T12-10A, T12-9B
Bai, X T9-1A, T9-7B
Baimacheva, N T15-5A
Baines, R T22-2A
Bais, D T4-2B

Baker, SW T1-7A
Bakhareva, A S13-7
Balaji, V T15-1B
Bali, B T17-4A
Balles, I T23-8C
Balta, EA T8-2C
Baltissen, D T8-5A, T11-5A
Bambah-Mukku, D S14-4
Bandow, B T25-3B
Bandow, P T19-10C
Baral, A T26-7A
Barayeu, A S13-9
Barboni, M S12-3
Bargeron, B S6-5
Barheier, N T11-10B
Bari, F S29-5
Barnstedt, O S6-5, S13-10, T25-19A
Barth, M T11-9B
Bartoelke, R S31-1
Bartos, M T25-7A
Bartos, M T24-1C, T25-3A
Bashiri, M T27-5A
Baskent, D T18-1A
Bast, AC T14-2A
Batista, L T2-1B, T19-5A, T25-19B
Batista, LL T19-5B
Battaglia, C T23-6A
Bauer, M T12-3B
Baumbach, J T12-4B
Bausch, M S35-5
Bayer, S T15-4A
Beck, H S12-3, S18-3
Beck, J T8-6B, T8-2C, T10-5C
Beck, L T8-7A
Becker, S T4-1C
Beckert, H T7-10C
Beckervordersandforth, R T1-2A, T1-6C
Bedner, P T9-8A
Beemelmans, C T1-4A
Behr, R T12-5B
Behrad, A T25-12B
Behrmann, E T6-2A
Beiersdorfer, DA T9-1B
Bell, C T6-5C, T7-2A
Beltran, E T11-1B
Ben Kraiem, A T20-2B
Benda, J T6-3C, S13-9, T26-6B, T26-6C
Bender, F T21-8A
Bengala, M T18-8C
Bennühr, B T12-3A
Bens, M T12-4C
Beretta, CA T9-5B
Berg, LJ S30-1
Bergmann, S T4-1C
Bergmann, T T18-1C
Bergmeier, M T20-3A
Berneiser, T T7-15B
Bernhardt, N T13-5C, S15-8
Bertrand, SS T23-1A
Bertsch, K S19-3
Beste, M T25-17B
Bestea, L T19-2A
Beuermann, S T7-4A
Beutler, LR S1-4
Beutner, D T17-2A, T17-2C
Beyder, A S1-1
Beye, M T19-8B
Beyer, F T1-2A
Beyer, F T1-6C
Bhagwat, T T12-9A
Bhattacharya, S T16-3B
Bicakci, AO T25-5B
Bidaye, S S6-5
Biermann, A T25-17B
Biglari, N T22-6A
Biju, R T3-1C
Bikbaev, A S8-5, T7-13C, T27-8B
Bilkei-Gorzo, A T9-6B
Binder, S T5-1C
Birey, F T1-7A
Birkl, C T11-4B
Birkl-Töglhofer, A-M T11-4B
Bischofberger, J T8-4B
Bisen, R S1-3, T23-5A, T23-8C
Bistere, L T25-10B
Bitzenhofer, SH T23-7C, T25-18B
Blanchard, K T19-2C
Blaschek, A S28-1
Blenkle, A T17-4A
Blondiaux, A T11-5C
Blum, K T6-3A
Blunk, T T9-2B
Bobrowski, J T18-5C
Bock, J T22-8C
Bockemühl, T S17-1, T20-1B, T20-3B, T21-5A, T21-5C, T21-7C, T21-9C, T23-5A
Böcker, J T25-17B
Böckers, PDT S13-4
Bodenhausen, A T7-8B
Boecker, CA T11-4C
Boehlen, A T9-6B
Boehm, MA T13-6C
Boehm, U T9-2A
Boerries, M S33-2
Bognar, A T26-3C
Bohmbach, K S18-3
Bohus, M S19-2
Bold, C T8-5A, T11-5A
Bollmann, JH T16-1A
Bonev, B S23-3
Bonin, V T15-5A
Boon, P S15-2, T27-6B
Boreggio, L T13-2B, S28-4
Borger, V T25-15A
Borghi, M T7-10A
Bornschein, G T7-10B, T7-13B, T8-5B

Borowsky, L T18-5C
Borsdorf, S T5-2B
Borst, A T7-14B
Bostel, J T9-1B
Boström, J S35-5
Botermann, DS T17-4A
Both, M T23-1B, T23-3B, T23-9C
Bothe, MS S20-1
Bozza, T T19-2C
Brachtendorf, S T7-10B, T7-13B
Brack, A T20-2B, T20-2B
Brainard, M T21-3A
Brainard, MS S25-1
Brandenburg, C S8-1
Brandstätter, JH T15-4A, T15-2C
Brauer, A-S T9-2A
Braun, K T22-8C
Breer, H T19-9C
Brehme, M-L S18-2
Brembs, B T25-2A
Bremshey, S T4-3C, T9-3C
Briggman, K T15-3A
Brinks, D S22-5
Brites, P T7-11C
Brochier, T T26-5C
Brockmann, A T27-4A
Brodersen, CB T23-6C
Brodersen, CC T23-5C
Brodt, S T25-9A
Brosch, M T25-3C
Brose, N T7-9A, T7-1B, T9-5C, S15-3, T15-2C
Brückner, J T19-7A
Brüge, A T11-2C
Brüning, J T22-4C
Brüning, JC T22-6A
Brüning, V T25-17A
Brüstle, O S30-1
Bryska, A T19-6A
Buchholz, C T11-5A
Budinger, E T21-6B, T25-11B
Bühler, K T24-1A
Bullmann, T T7-9C, S12-5
Bunce, G S8-1
Burdina, NM T6-2A
Burgalossi, A T23-1B
Burjanadze, M T11-11A
Burkart, M-E T23-10A
Burkhardt, S T11-3B
Büschges, A S17-1, T20-1B, T20-3B, T21-5A, T21-9A, T21-8B, T21-5C, T21-7C, T21-9C
Busse, L T15-3C, T16-1C

C

C. Brandão, S T19-3C
Cabrera-Moreno, J T25-10A
Cader, Z S13-6
Caestecker, S S15-2
Calapai, A T25-10A
Calhoun, AJ T25-12C
Caliskan, G T25-14A
Cambridge, S T15-5C
Camdessanché, J-P T12-3C
Campos, J T7-17C
Canneva, F T11-6A
Cantacorps, L T22-5A, T22-5B
Cao, M S13-1, S34-3
Capelle, M T15-1C
Capelle, MQ S5-5
Carcaud, J T19-2A, T19-8B
Card, GM T21-7B
Cardona, A T19-4C
Cardot, F T23-6A
Casas, AI T12-4B
Casasnovas, V T21-3B, T21-3C
Cascino-Milani, F T23-6B, T23-8C
Cases-Cunillera, S T9-4C
Cassau, S T19-7C, T19-9C
Caudal, LC T9-7B
Cazzolla, G T10-4A
Ceanga, M T12-3B
Cervetto, C T23-6A
Chakravarthy, VS T26-1A
Chandrasekar, A T22-1C
Chang, H T19-10B
Chang, H-F T9-7B
Chang, Y T19-2B
Chang, Y-J S33-4
Chansoria, P S30-3
Charnet, P T25-6B
Cheffer, A T1-5A, T1-6A
Chen, A T8-4C
Chen, H-jC T5-2C
Chen, H-L T24-1C, T25-3A
Chen, W T22-6A
Chen, X T1-7A
Chen, Y-N T25-18B
Chepurwar, S T17-2A
Chepurwar, SS S32-1, T17-3A
Chernomor, O T24-1A
Chertemps, T T19-8C
Chesters, R T22-5A, T22-7A
Chhabra, A T7-6C, S26-4
Chhikara, A T8-3B
Chien, M-P S22-5
Chighladze, M T11-11A
Chikte, P T1-3B
Chini, M S21-3
Chiovini, B T27-3A
Chirich Barreira, LM T23-7A
Chkhikvishvili, N T11-11A
Cho, S T13-4C
Chockley, AS T23-8C
Choi, H S9-4
Choi, MS T25-12C
Chojetzki, J T14-1B
Christian, BT T13-6C
Christian, M T17-2B
Chung, H-Y T12-3B

Churan, J T21-8C
Cichy, A T19-2C
Cillov, A T18-6B
Cinelli, P S15-6
Claussen, KC T4-3C
Clavet-Fournier, V T8-2A
Clemens, J T17-3B, T19-7B, T21-4C
Cloos, L S19-5
Coenen, VA T13-4A, T13-3B, T13-4C
Cohen, I T21-7B
Coldewey, SM T12-3B
Colin-Duchevet, L T25-6B
Collet, C T25-6B
Colón-Ramos, DA S10-1
Comstock, M T25-1A, T25-12B
Conedera, FM T9-4A
Console-Meyer, L T7-5C
Constantin, O-M T8-7A
Constantinescu, A T22-5C
Cooper, B T4-2A
Cooper, BH T7-4A, T9-5C, S15-3, T27-7A
Cornean, J T14-1B
Cornelius, J T13-6A
Corneliussen, S T19-1C, T22-6A, T26-6A
Correa, F T6-1B
Corredera Asensio, A T21-2C
Correia, BC T7-11C
Corsini, N S30-2
Corthals, K S20-2
Costa, IG T10-5A
Costalunga, G T24-2C
Costreie, MM T21-8A
Coull, B T22-7A
Couto, A T19-11A, T25-6B
Couzin-Fuchs, E S15-9, T19-4A, T19-11B
Craey, E T27-6B
Craig Curtis Garner, C T11-5C
Cravo, E T24-3B
Cremer, C T3-1B
Cronin, L S3-4
Crux, S T26-7A
Cui, B T1-7A
Cullen, D T17-1B
Curt, A S15-6
Cushion, TD T1-6B
Custódio, RD T20-3B
Czubay, K T1-4A

D

d`Ettorre, P T19-11A
D`uva, G T19-5A, T25-19B
D'Angelo, E T23-6A
Dahlhoff, S T21-6A, T21-2B
Dahlmanns, M T7-12A
Dai, K T26-7B
Dalmau, J S7-1
Dalügge, D S13-10 , T7-8A
Daniel, C T19-5A, T25-19B
Daniel, M T20-5B
Dankovich, T S16-5
Dapper, K T18-1A
Dargvainiene, J T12-3B
Darna, M T10-2A
Das Gupta, A T9-5B
Dashniani, M T11-11A
Daumann, I-M T2-4B
De Angelis, M T10-1B
de Brito Sanchez, G T19-2A
De Camilli, PV S26-3
de la Cuesta Ferrer, L T26-4C
de los Santos Bernal, FJ S9-4, T24-5C
De Simoni, D T12-6B
de Solis, A T22-6A
Debinski, F T15-3C
Dedek, K T15-3A, T15-1B, S31-3
Degen, A T19-9C
De-Groot, B T17-2C
Dehmel, S T16-2A, T16-3B
Dehnen, G T25-15A
Deimel, SH T25-7B
Deisseroth, K T1-7A
Deistler, M S21-4
Deller, T T11-10C
Deneke, L T8-6A
Denk, L T5-2A
Denker, M T23-10B, T26-5C
Deppner, H S32-2
Derksen, E T24-4B
Dewan, A T19-2C
Dhole, P T26-7A
Diana, G T21-8A
Dickinson, M T21-7B
Dickson, BJ T21-7B
DiCristina, G T21-9A
Dieris, M T19-1B
Diesmann, M T26-5A
Dieter, A T17-5C, T27-1A, T27-6C
Dieterich, DC T22-8B
Dietl, A T26-4C
Dietrich, D T7-3B, T7-10C, T9-2A, T9-4C, T11-11C
Dietzel, ID T27-8C
DiFilippo, AH T13-6C
DiGregorio, D T7-16A, T7-16A, S32-3
Dileepkumar, D T18-7B
Ding, L T23-1B
Dinges, GF S17-1, T20-1B
Dirnagl, U S15-6
Dittman, JS T7-9A
Dityatev, A T8-1C
Do, L-D T12-3C

Do, TT T9-6C
Döbrössy, MD T13-3B, T13-4A, T13-4C
Doeppner, TR T12-7A, T12-10A, T12-9B
Dogu, G T18-8C
Doleschall, B S30-2
Domart, F T9-6C
Domianidze, T T13-3C
Domingos, C T9-6B
Donkels, C T10-5C
Doppler, K T12-8B
Dorn, K T22-3B
Dorofeikova, M T24-3A
Dosch, R S10-4
Dou, D T11-4C
Dräger, O T12-5A, T20-3A
Dragoi, V T25-1C
Draguhn, A T23-1B, T23-3B, T23-9C
Drakew, A T11-10C
Dresbach, T T7-8C, T9-6C, T17-1C
Drose, DR T19-6B
Duan, Z T13-3B
Dubayle, D T27-3B
Dubochet, O T23-6A
Duch, C T2-4A, T6-2B, T6-3B, T7-2A, T7-5A, T8-6A, T21-4A
Dulac, C S14-4
Dullin, C T17-5C
Dunkel, E T18-4A
Duong, T-A S2-3
Dürr, V T19-8A
Durstewitz, D T26-2C
Dutheil, J S31-2

E

Ebbers, L T18-5C
Ebding, J T11-9B
Ecker, A S11-3, T15-4B
Eckes, A-L T12-7B, T19-7A
Eckrich, S T7-4B
Edelmann, E T8-1B
Edemann-Callesen, H T13-5C
Effertz, T T17-5B, T17-2C
Eggersmann, F T7-8B
Eglseer, KM T11-1B
Ehmann, N T8-7B
Ehrhardt, E T20-2A, T20-1B, T21-7B
Ehsani, M T11-9C
Eichler, A T8-6B
Eickholt, B S3-5, T10-1A
Eilers, J T7-10B, T7-13B, T8-5B, T23-10A
Eilers, J-K T7-9C
Einevoll, GT T26-5B
Eitelmann, S S29-4
El Khallouqi, A T7-13C, S8-5
Elam, VR T13-6C
Elger, CE S35-5
Elhelbawi , A T9-4A
Elizarova, S T7-1B, T7-7B
El-Keredy, A T25-12B
Elmaleh, M T21-2C
Elpelt, J S27-5
Elthoki, A T6-1A
Embray, L T23-9C
Emiliani, V P3
Ender, A T6-5A, T23-5C
Endmayr, V T12-6B, S15-6
Endres, T T11-7B, T25-5C, T25-6C
Engel, J T6-3A, T7-4B
Engelhardt, M T23-1B
Engelmann, J S10-4
Engert, F T22-7C
Enjin, A S20-2, S20-3
Enzmann , V T9-4A, S15-10
Epifanova, E T1-1C
Erdle, S T23-3A, T24-2B
Erdmann, I T22-8B
Eriksson, D T16-3A
Eriksson, DH T16-2B
Erttmann, SF T11-9C
Esch, K S32-2
Eschbach, C S6-3
Escher, M S32-2
Escribano, B S15-5, T25-15C
Eshra, A T7-13B
Esiyok, N T1-2B
Essink, S T26-4B
Euler, H T7-14C
Euler, T T15-3C, T15-4C
Everaerts, K T6-2C, S29-4
Ewers, H T7-6C, S26-4

F

Fähnrich, A T9-7C, T22-1C
Faiss, L S13-5
Falahati, H S26-3
Falfán-Melgoza, C T9-5B
Falkai, PG P7
Fang, L T9-1A, T9-7B
Fang, Q S32-5
Fanutza, T S2-1
Farkas, E T22-7B, S29-5
Farrow, K T15-5A
Farrugia, G S1-1
Fauth, M T8-1A, T8-5C
Fehlings, MG S15-6
Fei, Y S36-3
Feinstein, P T19-2C
Fejtova, A T7-10A, T15-4A
Fekécs, Z T3-1C
Feller, N S15-4
Felmy, F T7-5C, T7-7C, T18-5A, T18-9A, T18-1C, T23-10C
Felsenberg, J S4-1, S6-2

Fendt, M T25-5B
Feng, K T20-1B, T21-7B
Fenton, G T20-4A, T20-5B, T25-16C
Ferger, R T18-6A
Feria-Pliego, JA S29-1
Fernandes, M T26-7A
Fernandez d.V. Alquicira, T T25-16B
Fernandez-Perez, E T11-8A
Ferraud, K T12-3C
Ferrea, E T21-3B, T21-3C
Ferreira, L T23-1A
Ferreiro, DN T17-4C, T18-8C
Feuerer, V S26-3
Feussner, I S10-4
Fiala, A T25-1B, T25-7B
Figge-Schlensok, R S14-3, T22-9C
Fink, R T27-4C
Fiorilli, J T23-10B
Firzlaff, U T18-5B, T18-3C
Fisch, JM T18-8A
Fischer, A T9-5A
Fischer, A T9-7A, T11-3B
Fischer, BJ T18-6A
Fischer, F T7-6B
Fischer, M S15-1
Fischer, PM T6-3A
Fischer, S T23-6B
Fitzner, D T12-9B
Fitzpatrick, D S36-5
Flechtner, J T25-9C
Fleidervish, I T6-4B
Fleischer, J T19-10B
Fleischmann, B T9-8A
Fleischmann, PN S20-4
Flossmann, T T16-1B
Folberth, J T11-11B
Fontolan, L T23-6B
Ford, AN T18-7B, T18-2A
Forlino, M S5-3, T19-2B
Formozov, A T27-1A
Förster, E T6-1C
Fortuna, M T21-5B
Foster, JJ T14-5A
Franch, M T25-1C
Franconi, C S33-4
Frank, R S29-5
Franke, US T25-13A
Franz, D T11-7A, T11-8C, T21-7A
Franz, HR T25-4A
Franz, J T11-10B
Franzelin, A S13-8
Fratta, P S8-2
Freckmann, L T27-2A
Friauf, E T7-3C, T7-16C, T18-8A
Fricke, J T11-5A
Fricke, S T25-9C
Friedman, A S24-4
Friedrich-Mueller, B T24-2B
Frischknecht, R T8-1C
Fromm, SP T11-1A
Fuchs, EC T23-8B
Fuchsloch, M S5-5
Fuhrmann, F S13-10, T26-7A
Fuhrmann, M T4-3C, T7-3B, T11-2B, T26-7A
Fullio, CL S23-5, T1-6A
Fusca, D T19-1C

G

Gabele, L T12-1B, T12-2B
Gackstatter, A T11-9B
Gaese, BH T18-4A
Gaffal, E T5-1B
Gail, A S11-3, S11-4, S11-4, T21-1B, T21-3B, T21-5B, T21-3C
Gais, S T25-9A
Gál, L T3-1C
Galanis, C T8-2C, T10-2C
Galizia, CG T27-5C
Galkov, M T7-3B
Gallagher, C T7-16B
Gallegos, S T11-8A
Galvan, A T13-6C
Ganapathy, S S22-5
Ganglberger, F T24-1A
Ganzella, M T7-6C, S26-4
Gao, R S21-4
Gao, S T12-1A
Garcia Caceres, C S34-1
Garcia Miralles, M T1-5A
Garcia Perez, N S30-1
Garcia, AJ T20-2B
Garcia, M T19-2B
Garcia, ME S5-3, T27-2C
Garcia-Miralles, M T1-6A
García-Rama, C T12-6C
Garg, V S10-4
Garrido Charles, A S13-3, T27-7C
Gather, F T10-2C
Gaudrain, E T18-1A
Gaziano, I T22-6A
Gebril, N T9-4B
Gee, C T8-7A, T9-3A
Gee, CE S13-8, T8-4A
Gehrmann, J T10-5A
Geiger, JR T23-5C, T23-6C
Geis, C S7-5, T7-9C, S12-5, T12-1A, T12-9A, T12-3B, T12-4C, T12-5C, S24-5
Gelléri, M T3-1B
Gelpi, E T12-6B
Georgiev, S S33-4
Georgiev, SV S16-5
Georgieva, KS T10-3B
Gerber, B S6-5, T25-1A, T25-

12B, T25-4C
Gerdey, J T4-3C
Geurten, B S10-4
Ghelani, T S32-2
Giannaki, M T6-2C
Giannone, G S26-4
Gierke, K T15-4A
Giese, MA T26-3C
Gilestro, G T26-3A
Giri, G S20-3
Giurfa, M T19-2A
Gjorgjieva, J S21-2
Glickfeld, LL S36-4
Glienke, M T13-5C
Gneisse, P T4-3C
Godesberg, V T21-9C
Goepfert, M S10-4
Goldammer, J T23-2A, T25-8A
Goldschmidt, D T19-6C
Goldsmith, CA S17-1
Gollisch, T T15-1A, T15-3B, T15-4B, T15-5B, T15-6B, T15-6C
Golmohammadi, A T25-11A
Gomes, GM T11-2B
Gomez Guzman, CM T21-1A
Gompert, M T22-3B, T25-17A
Goncalves, L-M T21-6B
Gong, W T1-5B
Gonsek, A T19-8A
Gonzalez-Palomares, E T18-2C
Göpfert, M T17-1A, T17-2C
Gore, F T1-7A
Gorgas, K T11-2A
Gorgi Zadeh, S T26-7A
Gorostiza, A T20-3B
Gorostiza, EA T21-5C
Götthardt, M T7-1A
Götz , TWB T7-12B
Götz, TW S24-5
Götze, J T12-3B
Goy, M T11-9B
Goya-Maldonado, R T13-4B
Grabietz, H T1-4A
Grabner, C T7-6A
Graf, F T2-6A
Graf, I T12-7A, T12-10A, T12-9B
Graff, S T24-3B
Grant, GA T1-7A
Gratz, S S32-2
Greco, D T11-10C
Greguletz, P T12-8B
Grewe, J S13-9, T26-6B
Gribble, FM S1-1
Grob, R S20-4
Grochowska, KM T11-2B
Groeneweg, F T11-2A
Gröger, N T22-8C
Groh, C T8-3C
Groppa, S T21-6C
Groschner, L P2
Groshkova, M T18-2B
Groß, J T4-3C, T27-8A
Großjohann, A T25-8B
Groth, M T12-3B, T12-4C
Grothe, B T18-8B
Grotz, M T1-3C
Grüb, J T24-5B
Gruber, L T26-2A
Gruhn, M T21-9A
Grün, S T23-10B, T26-4B, T26-5C
Grunenberg, J T25-10A
Grünewald, B T11-7C, T12-8A, T19-8B
Grünewald, K T8-3B
Grunwald Kadow, IC T19-10C
Gschwendtberger, T T11-6C
Gu, R-X T17-2C
Guenzel, Y T19-11B
Gulati, S T27-2B
Gumbert, M T18-8B
Gundelfinger, ED T11-4B, T11-5C
Gundi, P T18-8C
Gunes, Z T11-3C
Gunes, ZI T11-1B
Guntermann, A S15-6
Günther, A T15-3A
Günzel, Y S15-9
Guo, H T21-5B
Gür, B T14-2B, T14-1C, T27-1C
Guthrie, C T12-6B
Gutnick, M T6-4B, T23-4C
Gutt, A-S T5-1C
Gutzen, R T26-5C
Guzmán, A T11-8A

H

Haak, A T27-8C
Haas, CA T10-5C, T11-5B, T11-6B, T11-10B
Haase, A T19-8B
Habelt, B S15-8
Haberkern, H T23-5A
Habermeyer, J T11-6A
Hacker, D S2-3
Hadjilaou, A T12-3A
Haerteis, S T5-2A
Hafez, OA T25-15C
Haffner, C T1-2B
Hage, SR S25-4, T26-1C
Hahn, N T12-3B, T12-4C
Hahner, L T24-5A
Haidar, M T14-4B
Haider, C S15-6
Haider, T S15-6
Halavatyi, A T27-1B
Halim, VC T17-5B
Hallermann, S T7-10B, T7-13B,

T7-9C, T8-2B, T8-5B, S12-5, T25-8C
Hamauei, B T20-5B, T25-16C
Hametner, S T12-6B
Hamker, A T12-4B
Hammes, A T1-2C
Hanafy, AS T11-11C
Hanganu-Opatz, IL S21-3, T23-2B, T23-3C, T23-7C, T24-3A, T25-18B
Hansen, N T11-4A **Hansson, BS** T19-4B, T19-10B, T26-2A
Harczos, T T17-3C, T17-5C
Haret, RM T15-6B
Harpaz-Rotem, I S4-4
Harris, A T26-7C
Hartmann, A-M T6-4A
Hartmannsberger, B T20-2B
Harzsch, S T19-9B, T21-1C
Haselmann, H S7-5, T12-9A, T12-3B, T12-5C
Hassan, B S27-1
Hasselmann, T T25-17A
Hatton, C T25-6B
Haubensak, W T24-1A
Haubrich, AN S18-3
Haucke, V T7-15B, T10-4A, S12-5
Haug, N T26-7B
Hauke, V T7-9C
Hause, G T19-9C
Hausen, C T22-4C
Häussler, U T11-5B, T11-6B, T11-10B
Haustein, M T21-5A
Haverkamp, S T15-3A
Hawellek, DJ T26-1C
Hawlitschka, A T11-10A
Hayashi, Y T25-3B
Haybäck, J T11-4B
Hayes, NW S1-4
He, J T22-3B
Hechavarria, JC T18-7A, T18-2C, T24-6C, S25-3
Heck, J T7-13C, S8-5, T27-1B
Hecker, A T3-2A, T22-1B
Heckmann , JR T12-1A
Heckmann, M S7-5, T12-1A
Hedrich, UB S12-4
Hedrich, UBS T6-1A
Hedwig, B T17-1B
Heerdegen, M T11-7A, T11-8C, T21-7A
Hehlert, P S10-4, T17-2C
Heide, M T1-1A, T1-2B
Heidrich, L S30-1
Heiland, DH T8-2C
Heim, F T25-11C
Heim, M-M T25-2B
Heimrich, B T6-4A
Hein, B S27-5
Heine, M T7-10A, T7-13C, S8-5, T8-3B, S32-2
Heining, K T11-5B, T11-6B
Heinrich, R S10-4, T12-5B
Heinz, N T9-7B
Heinze, A S2-3, T2-5C
Heinzl, S T7-6B
Held, M T23-5A, T23-8C
Helfrich, R S35-3
Hempel, N T12-3B
Heneka, MT T11-12B
Henke, C T27-2A
Henneberger, C T9-4B, T9-6B, S18-3, S29-1
Hennessey, P T26-6C
Henning, L T9-8A
Henning, M T14-1C
Henschke, JU T23-7A
Henseler, J T18-1B
Herlitze, S S8-5, T7-13C
Herpertz, SC S19-3
Herrera-Molina, R T27-8B
Herrmann, J T11-9B
Hertenberger, Y T19-4A
Hertrich, N S2-1
Herzel, H-P S5-4
Hess, A T24-1A
Hess, K T12-6B
Hess, S T22-4C
Heuer, H T10-1B, T22-3A, T22-2B
Heutink, P T11-3B
Hiesinger, PR T2-6A, T2-3B, T2-4B, T20-2C
Hilbig, T T17-4C
Hilgert, S T2-4A, T6-3B, T7-5A
Hill, K S18-3
Hiller, K T12-8C
Hilpert, S T23-8C
Hirase, H S18-1
Hirnet, D T9-3A, T12-3A
Hirrlinger, J T10-3C
Hirtz, JJ T18-7C, T25-15C
Hiryu, S T17-6A
Hnida, M T23-3C
Ho, W-K T7-2B
Hoch, G T17-3C
Hodapp, A T23-1B
Hodzic, S T7-1C
Hoeftberger, R T12-6B
Hoffmann, A T25-10C
Hoffmann, C T7-6C, S26-4
Hoffmann, L T2-2B
Höftberger, R S7-4, S15-6
Hogrefe, N T27-2B
Hohl, T S23-5
Höhn, L T11-4B
Höhne, L T22-5C
Hojas García-Plaza, I S15-3
Holcman, D S32-2
Holthaus, D T11-9C

Holvoet, H T13-5A
Holzbaur, EL T11-4C
Holzer, M T7-9C
Homberg, U T14-5B, T14-3C
Honnorat, J T12-3C
Hore, P S31-1
Hore, PJ S31-4
Hörnberg, H S9-1, T13-1A, T13-1C
Ho-Shing, O S14-4
Hosokawa, K T17-6A
Hosseini, S T12-9C
Hosseini, S T12-1B, T12-2B, T12-8C
Hu, H T10-4C
Hu, X T13-6C
Hua, C T25-10C
Huang, G T7-4B
Huang, W T9-1A, T9-6B, T9-7B
Huang, Y T15-3C
Huber, D S11-1, T27-4B
Huber, S T10-5C
Huebert, A T19-8C
Hüer, J T21-5B
Huet, A T17-6B
Huet, AT T18-1B
Huetteroth, W T20-4C
Huettl, R T25-12A
Huettl, RE T8-4C
Huguenard, JR T1-7A
Hunniford, V S22-2
Hürkey, S T2-4A, T6-3B, T21-4A
Hurler, C-A T11-1B
Hußler, W T11-4B
Hust, M S12-5, T12-3B
Huthmacher, L T2-4A, T6-3B
Huttner, WB T1-1A, T1-2B

I

Ibbotson, M T16-3C
Ihbe, N T7-16B
Ikeuchi, Y S30-2
Imig, C T4-2A, T7-4A, T7-14A, S15-3, T27-7A
Ioannidou, M T19-5A
Iqbal, FM S13-2
Ireland, EC T25-12C
Irsen, S T15-3A
Isbrandt, D T11-9A, S12-1, T21-4B
Ischebeck, T S10-4
Islam, MR T11-3B
Ito, J T26-4B
Ito, K T2-4C, T20-2A, T20-1B, T21-7B, T21-5C, T22-6B, T23-2A, T23-8A, T25-8A
Izzo, A T10-1C, S23-1

J

Jabaudon, D T2-2A
Jablonski, L T17-4B, T17-3C, T17-5C
Jabs, R T9-4B, T9-6B
Jack, A S3-4
Jacob, N T25-12B
Jacobs, T T12-3A
Jacquin-Joly, E T19-8C
Jaekel, S T11-1B
Jagannathan, S T23-5C
Jagannathan, SR T25-4B
Jaguttis, S T23-1C
Jahn, O T7-1B, T7-15C, T15-2C
Jahn, S T14-3C
Jahnke, L T9-4A, S15-10
Jahreis, K T11-2C
Jaime Tobon, LM T17-5A
Jäkel, F T26-4C
Jakobsen, L T18-5B
Jakovcevski, M T10-5A
Jankowski, MM T25-18C
Janning, M T14-3C
Jans, JJ T7-9A
Jansen, I T7-6A
Jaske, B T14-2C
Javadova, A T18-5A
Jeanson, L T25-10A
Jeschke, M T25-10A
Jhyont, H T27-7B
Jia, H T25-13B
Jiang, H-J T26-5A
Jiang, S T11-8B
Jiang, Y T22-10C
Joachimsthaler, A T15-2A
Johenning, F S13-5
John, D T10-3C
John, J T9-5B
John, O T25-10C
Jöhren, O T12-7C
Jones, H T26-3A
Joo, W T22-7C
Jucker, M P4
Judkewitz, B S13-5
Jung, S T17-3A
Jung, YJ T16-3C
Junge, T T10-3C
Jurek, B T5-2A
Jürgensen, A-M T25-4C
Jurkus, R T23-10B
Just, J T8-5A, T11-5A, T25-9C
Jüttner, R T7-1A

K

Kaas, T T7-9C
Kacmaz, H S1-1
Kaczanowska, J T24-1A

Kafitz, KW T1-5C, T9-8B
Kahl, E T25-5B
Kaindl, A T10-4C
Kaiser, B T25-10C
Kaiser, M T18-6C
Kaiser, ME T23-1B
Kalin, N T13-6C
Kalinichenko, LS T7-2C
Kalinicheno, L T25-5B
Kaltofen, S T19-4B
Kaminski, J T11-1A
Kampa, B T24-3B
Kampen, TS T9-5B
Kämpf, F T15-1C
Kanaci, DE T25-18A
Kaneko, H T7-8A, T11-2B, S13-10
Kannan, AL T7-4C
Kapadia, A T11-12B
Kaplan, H T16-1C
Kapoor, R T17-1C
Karagulyan, N S32-5
Karakatsani, A T20-4B
Karakut, A T14-1C
Karcher, T T19-9C
Kargar, M T16-2A
Kargl, D T24-1A
Karpova, A T4-1A, S10-3, T11-2B
Karwinkel, T S31-4
Kasch, L-S T22-5B
Kaschube, M S27-5, S36-5
Kasemir, J T11-9A
Kasprian, G S30-2
Kattler, K T7-16C
Kauer, M T2-3C
Kaurani, L T9-7A, T11-3B
Kaushik, R T8-1C
Kaye, S T19-2C
Kazakov, A T25-18C
Keays, D T2-2C
Keays, DA T1-6B, T16-1C
Kelley, KW T1-7A
Kelly, T S12-3
Kempe, IL T5-1A
Kempkes, M T27-2C
Kempter, R T23-5C
Kenkel, A-K T20-4B
Keppeler, D T17-4B
Kersten, Y T23-3A, T24-2B
Kessels, M T12-9A
Ketkar, MD T14-2A
Kettenmann, H S33-4
Khare, P T20-1A
Kherbouche, O T9-8A
Khodaie, B T8-1B
Khosravian, M T19-10B
Khudayberdiev, S S2-3, T2-5C
Khurana, L T17-4B
Kiai, A T24-6C
Kiani, N S29-1
Kilb, W T3-2B
Kilb, PDW T2-3A
Kilimann, M T17-5B
Killian, M T12-3C
Kilo, L T6-2B, T6-5C, T7-2A
Kim, J T8-4C
Kim, T S32-1
Kim, YK T11-2C, T11-6C
Kins, S T11-2A
Kirchhoff, F T9-1A, T9-4B, T9-6B, T9-7B
Kirischuk, S T7-3A
Kirmann, T T7-9C, S12-5
Kirsch, J T11-2A
Kirsch, M S33-2
Kirschenmann, E T14-5C
Kirwan, P T5-2C
Kiss, E T11-2A
Kiss, V T27-3A
Kittel, RJ T7-9C, T7-15C, T8-2B, T8-5B, T8-7B, T25-8C, T25-13A
Kittel-Schneider, S T1-4B
Kizilirmak, J T10-4B
Kladisios, N T7-7C, T18-9A
Klämbt, C T9-8C, S17-2
Kleidonas, D S33-2
Klein, R T24-7A
Kleinert, J T11-6C
Kleinjohann, A T26-4B
Kleinlogel, S T15-6C
Kleinridders, A T22-4C
Kleinschnitz, C T12-4B
Kleis, P T11-5B, T11-6B
Klemm, P T22-6A, T22-4C
Klimmt, H T8-4C, T25-12A, T25-13C
Kling, A T26-4A
Klingler, E T2-2A
Klinkowski, S T25-9A
Kloppenburg, P T7-8B, T19-1C, T22-6A, T22-4C, T26-6A
Klumpp, M T23-1B, T23-3B, T23-9C
Klußmann, JM T19-1C, T23-2A
Knabbe, J T9-5B
Knaden, M T19-10B
Knapska, E S9-2
Knief, C T14-4B
Knipper, M T18-1A
Knoblich, J S30-2
Knörnschild, M S25-2
Knorr, DY T12-5B
Knowles, JK T1-7A
Knutson, K S1-1
Kobayasi, KI T17-6A
Kobel, K T11-1C
Koch, M T5-1A, T9-3C
Koch, L T18-4A
Koch, P T12-3B
Kochlamazashvili, G T10-4A
Koesling, J T10-5A

Koessl, M T18-7A, T24-6C
Kohl, J S13-1, S34-3
Kohl, T T17-1C, S20-1
Köhler, I T2-2B, S3-4
Köhler, S T10-3C
Köhling, R T11-7A, T11-8C, T21-7A
Kohrs, FE T2-4B
Kölbel, H S28-1
Kolligs, P T7-6B
Kolodziejczyk, M T25-5B
Konar-Nie, M T11-8A
Kong, D S27-5, T22-4C
Konietzny, A S2-1
König, C S6-5, T25-1A
Königsmann, S T25-1A
Kononenko, NL S10-2
Koparkar, A T25-11C
Koparkar, AP T21-3A
Köpke, H T10-1B
Kopp, MA S15-6
Koppe, G T26-2C
Kopplin, L T19-6A
Körbelin, J T10-1B
Körber, C T18-6C
Korff, W T21-7B
Korotkova, T S9-4, S13-7, S14-3, T22-3C, T22-9C, T24-7B, T24-5C
Korsching, SI T19-1B
Korte, M T8-5A
Korte, M T7-4C, T11-5A, T12-1B, T12-2B, T12-2C, T12-8C, T12-9C, T13-6A, T25-15B, T25-9C
Kosinska, JM T11-11B
Koß, C T26-4C
Kossen, R T27-2A
Kostka, JK T25-18B
Kotler, OD T6-4B
Kowalczyk , I T1-2C
Kowatschew, D T19-1B
Kozmava, K T13-3C
Kraft, M T17-2B
Kraft, N T8-3C
Kragelund, FS T11-7A
Kramer, BW T12-6C
Krämer, N T10-4C
Kranz, D T21-2C
Krause, GM T22-8B, T27-5B
Krause, M T24-3C
Krause-Utz, A S19-2, S19-5
Krauße, S T26-5C
Krebs, AA S17-2
Kreis, S T21-6C
Kremers, J T15-2A
Kremers, L T15-4C
Kretzschmar, D T13-5A
Kreutz , M T4-1A
Kreutz, MR P8, S10-3, T11-2B
Krick, N T8-6A, T22-2A
Krieger, J T19-10B, T19-7C, T19-9C
Krishnan, K T22-7C
Kristóf, R S15-7
Krizbai, IA S15-7
Krizman, M T27-7A
Krohn, J T9-6C
Krohn, M T10-1B
Kronenberg-Versteeg, D T9-7A
Kropf, J T25-5A
Kruashvili, L T11-11A
Krueger-Burg, D S8-3
Krüger, DM T9-7A
Krüger, S T19-9C
Krumm, L T23-5C
Kruse, P T8-6B
Krutenko, T S30-1
Kubisch, C T17-2A
Kubista, H S15-6
Kubitschke, M T27-4C
Kubitschke, MCM T4-3C
Kübler, H S15-9
Kügler, A-S T22-1A
Kügler, S T7-8C
Kühn, N T15-5A
Kuhn, P S12-5
Kühn, R S33-4
Kuhse, J T11-2A
Kuijpers, M S10-5
Kulkarni, AJ T2-5B
Kulkarni, S T1-7A
Kulshrestha, D S18-4
Kumar, S T11-12B
Kumaraswamy, A T27-5C
Kümmel, M-L T6-1C
Kümmerlen, KD T19-9B
Kuner, T T9-5B
Kunkel, S T26-7B
Kupke, J T23-3B
Kuropka, B T7-9B
Kurt, S T6-3A
Kürten, A T9-1B
Kurth , C T1-4B
Kurz, EF T25-15A
Kurzke, J T23-10A
Kusch, H T27-2A
Kusch, K S13-3, T17-3A, T17-4A, T17-5B, T27-7C, S32-1
Kusumi, A T7-6C, S26-1, S26-4

L

La Marca, C T12-3C
Laber, D T25-16B
Labus, J T5-2B, T11-6C
Labus, JL T11-2C
Lacal, I S11-3, S11-4, S11-4, T21-1B
Lacin, H T23-5A
Lacoste, B T23-1A
Lakes-Harlan, R T23-5B

Lamberty, MA T7-15C
Lamothe, P S18-2
Lamothe-Molina, P S13-8, T8-7A
Lampe, J T12-6A
Lamprecht, A T11-11C
Landgraf, M T22-2A
Lange, H T5-1B
Langebrake, C S31-2
Lang-Roth, R T17-2A
Lantheaume, A T11-1C
Lanzarini, F T25-14C
Laprell, L S18-2
Larcher, V T19-2A
Larkum, M S3-5, S13-5
Larsen, LE S15-2, T27-6B
Lascorz Massanet, R T23-9A
Lasser, D S15-5, T7-14C
Lassmann, H S15-6
Laube, B T1-3C, T4-2C, T11-3A
Laue, M T19-9C
Lauer, G T1-4A
Laumann, M T19-4C
Laurens, J T25-14C
Lavalley, A T2-2A
Layer, N T6-1A
Lazarov, E T26-2B
Le, S T1-5C
Leber, SL T11-4B
Leberecht, B S31-4
Lederle, L T19-7A
Lee, BJ T7-2B
Lee, C T7-5B
Lee, S T13-7A
Lee, S-H T7-2B
Lee, SY T7-2B
Lee, W-K T20-3A
Lehmann, J T19-10B
Lehmann, N T21-6B
Lehmann, N T23-1B
Lehnart, S T17-1C
Lehr, AB T25-2C
Lehtimäki, M T26-5A
Leibold, C T25-7A, T25-9A, S30-5
Lenschow, C T23-1A
Lenz, M T8-6B
Lenzi, I T24-3B
Leopoldo, M T11-2C
Lerche, H T6-1A
Lesse, A T22-8C
Lesslich, HM T27-8C
Leßmann, V T8-1B, T11-7B, T25-5C, T25-6C
Levina, A S21-1
Leypoldt, F T12-3B, T12-6B
Li, C T15-5A
Li, J S4-4
Li, M-Y T1-7A
Li, Y S15-10
Liang, L S36-3
Libnow, J T19-10B
Liebmann, M T10-3C
Liebsch, F T7-8B
Liebscher, S S7-2, T11-1B, T11-8B, T11-3C, T12-2A
Liebscher, T S15-6
Liedvogel, M S31-2
Lien, Y T11-5C
Lieser, MK T13-5C
Liessem, S T23-5A, T23-8C
Lim, H T24-7A
Lim, S T11-2C, T11-6C
Lima, SQ T23-1A
Lin, C-H T9-7B
Lin, D S14-2, T22-10C
Lin, P T3-1C
Lind, R T26-3A
Linde, JRN T25-14B
Lindner, B S13-9
Lindner, L T17-4A
Link, J T11-5B, T11-6B
Linne, M-L T26-5A
Linne, U T2-5C
Linneweber, GA T14-4B
Lion, L S15-5
Lippert, MT T18-3A
Lippert, MT T25-3C
Lippert, R T22-5A, T22-7A, T22-5B
Lippmann, K T23-10A
Lipstein, N T7-9A, T7-1B, T7-7B
Lis, S S19-2, S19-5
Lischka, K T16-1A
Litke, C T20-4B
Liu, Q T9-1A
Liu, X T19-7A
Liu, Y-C T23-8B
Liutikaite, N T1-1A
Livesey, M T5-2C, T5-2C
Lo, H S13-5, T19-11C
Loannidou, M T25-19B
Lodge, M T8-4B
Logiacco, F S33-4
Lohr, C T9-3A, T12-3A
Lohse, M T7-9A, T7-1B
Loi, EA S12-5, S24-5
Long, MA T21-2C
Lootens, T T1-1B
López Carballo, J T7-1A
Lopez-Jury, L T18-7A
López-Murcia, FJ S15-3
Lorch, CM S1-4
Lörsch, LH T14-1B
Löschner, J S25-4
Lourenço dos Reis, SC T13-2A
Lovett, A S14-4
Löwel , S T16-2A, T16-3B, T16-2C
Lowell, B T22-4C
Lu, V S1-2
Luarte, A T27-8B

Luboeinski, J T25-2C
Lübstorf, T S15-6
Ludewig, S T8-5A
Lugo Ramos, J S31-2
Luhmann, HJ T3-1A, T3-1B, T3-2B, T12-8A, T21-6C
Luhmann, PDH T2-3A
Luikart, BW S3-3
Luksch, H S20-1
Lurz, K-K T27-5A
Lüttig , A T11-7A, T11-8C, T21-7A
Lütz, A T7-8B
Lutz, DA-K S13-4
Lutz, H T11-3A
Lützkendorf, J S32-2
Lux, U T15-2C
Luxem, K S13-10
Lyons, D T22-7C
Lysiuk , V T7-12B
Lyutova, R T25-2A

M

Ma, M T19-6A
Ma, X T25-5C
Maaß, F T7-4A
Macarron Palacios, D T11-3A
Mach, J T20-2C
Machnik, P T27-3C
Machts, T T24-5B
Maciag, F T8-3B
Mackay, S S35-5
Macke, JH S21-4
Mager, T S13-3, S22-2, T27-6A, T27-7C
Maglione, M T10-4A, S32-2
Maheu, M T27-6C
Maiellaro, I T8-2B
Mali, I T5-2C
Malkemper, P T20-4A, T20-5B, T25-16C
Malzacher, A T17-4C
Mamedova, E T7-14A
Mamo, TM T1-2C
Mancini, N S6-5, T25-12B
Mangodt, C T1-1B
Mani, S T10-4C
Maniom, JE T8-7B
Manke, T T10-1C, S23-5
Mann, RS T10-6B
Manninen, T T26-5A
Manthey, G S31-2
Manzella, S T27-6B
Mao, X T1-3A
Mapelli, L T23-6A
Maraslioglu-Sperber, A T7-16C
Marcato, S T25-2A
Marcello, E S2-2, S2-3
Marcoli, M T23-6A
Marcus, K S15-6
Margrie , TW T16-4A
Marguet, S T21-4B
Maric, B T27-3C
Mark, M T7-13C, S8-5
Markova, B T22-3A
Martelli, C T2-1B, T19-5A, T19-5B, T19-3C, T25-19B, S27-2
Martinez-Reza, F T2-2C
Martins-Costa, C S30-2
Marton, A T3-1C
Martus, P S15-6
Marty, S T19-11A
Masala, N S18-3
Masouti, E T1-2A
Masseck, DOA T5-1A, T4-3C, T9-3C, T13-3A, S22-3, T27-8A, T27-4C
Mastrobattista, EP T24-6A
Mathejczyk, T T14-4B
Mathias, GP T21-4B
Matitaishvili, T T13-3C
Mauceri, D T20-4B
Mawrin, C T12-3B
May, C S15-6
Mayer, S S3-2
Mayer, S T26-6B
Mayer, U T24-4C
Mayerl, S T22-3A, T22-2B
Mazzaferro, S T5-2C
McFadden, M T7-16A
McNeill, R T1-4B
Meenakshisundaram, A S3-5, T10-1A
Meier, C T9-7B
Meijer, JH S5-1
Mein, N T12-3B
Meinhardt, M S15-8
Meis, S T25-5C, T25-6C
Meisel, C S15-6
Melchers, A T18-1A
Melley Sadanandan, S T7-2C
Melloni, L S35-2
Mencacci , N T7-17C
Mendes, ARP T23-1A
Mendoza, E T25-11C
Meng, X S22-5
Menon, R S9-3
Menyhárt, Á T22-7B, S29-5
Menzel, R P5
Mercader Huber, N T9-4A
Mercado-Perez, A S1-1
Merdan-Desik, M T18-3B
Meric, A T21-6A
Meric, AM T21-2B
Merkle, F T5-2C
Merseburg, A T11-9A, S12-1, T21-4B
Merz, CJ S4-3
Mészáros, Á S15-7
Methi, A T11-3B
Metz, I S2-3

Metzdorf, K T25-9C
Mey, J T12-6C
Meyer, E T9-1A
Meyer, G T1-4A
Meyer, J T9-8B
Meyer, J T7-15C, T15-2C
Meyer, N T4-3C
Meyer, TF T11-9C
Mezriczky, Z T27-3A
Michaelides, M T13-6C
Michaelsen-Preusse, K T12-1B, T12-9C, T13-6A, T25-15B
Michalek, A T25-11B
Middeke, MM T18-4A
Miehl, C S21-2
Miesenböck, G T25-5A
Miguel Telega, L T13-3B
Mihaly, A T27-3A
Mikhaylova, M S2-1, S2-3
Mikulovic, S S13-10
Milani, N T13-2B, S28-4
Milovanovic, D T7-6C, S26-4
Minegishi, R T21-7B
Minev, IR S15-8
Miroschnikow, A T19-4C
Mirzac, D T21-6C
Mishra, P T26-7A
Mitkovski, M T7-9A
Mittag, J T10-1B, T22-1C, T22-5C
Mittag, M T4-3C, T11-2B, T26-7A
Mittmann, T T7-3A, T7-7A, T7-15A, T7-16B
Mizrahi, A S14-1
Mizuta, K T25-3B
Mlynarski, WF S36-2
Mocellin, P S13-10, T25-19A
Möck, M T7-6B, T20-3C, T23-4B
Moebius, W S10-4
Molina Obando, SM T14-1B, T23-9B
Moll, F T24-2B
Moll, FW T21-2C, T23-3A
Möller, C T4-1C
Molnár, K S15-7
Molnár, Z S3-1, S3-5, T10-1A
Monaca, F S13-1
Moneron, G T7-16A, T21-8A
Monga, M T18-4C
Montag, M T7-16C
Montagné, N T19-8C
Montealegre-Z, F T17-1B
Montenegro Venegas, C T11-5C
Monteverdi, A T23-6A
Montgomery, S T19-11A
Monyer, H T23-8B
Monz, E T23-6A
Moodley, Y T24-1A
Morassut, I T2-2A
Morel, J-L T27-3B
Moreno Velasquez, L S13-5
Morgan, D T22-4C
Moritz, C T12-3C
Mørk, HB T26-7B
Mormann, F T25-15A, S35-5
Moscato, L S9-4, T24-5C
Moschref, FS T9-5C
Moser, T T7-6A, S13-3, T17-4A, T17-5A, T17-4B, T17-6B, T17-1C, T17-3C, T17-5C, T18-2B, S22-2, T27-6A, T27-7C, S32-4, S32-5
Motosugi, R S32-1
Mouritsen, H T15-3A, T15-1B, S31-2, S31-3, S31-4
Mudipalli, R T1-7A
Mudter, C T21-2A
Mudunuri, A T19-9A
Mueller, S T13-6C
Mukhopadhyay, M T17-6C
Mulholland, H S27-5
Müller, A T22-8B
Müller, CP T7-2C
Müller, F T26-4A
Müller, FE T9-6A, T9-3B
Müller, I T25-14A
Müller, M T25-17A
Müller, M T4-3C
Müller, M T10-5B
Müller, P T6-1A
Müller, R T14-5C
Müller, TD T10-1B
Müller, U T8-5A
Müller, U T11-5A
Müller, VL S20-4
Müller-Felber, W S28-1
Müller-Fielitz, H T9-7C, T10-1B, T12-6A, T22-1C, T22-5C, T22-6C
Müller-Seydlitz, E T15-3C
Müllner, FE T15-2B
Münch, D T19-6C
Muñiz-Castrillo , S T12-3C
Munk, MH T18-1A
Münkner, S T7-4B
Munoz-Castaneda, R S14-4
Munsch, T T25-5C
Murthy, B T25-13C
Murthy, BK T8-4C
Murthy, M T25-12C
Musacchio, F T26-7A
Musall, S T24-3B
Mushtaq, Z T7-14C, S15-5
Muthuraman, M T21-6C
Muysers, H T24-1C, T25-3A, T25-7A
Mykytiuk, V T24-7B
Myoga, MH T18-8B

N

Na, L T10-4C
Nabavi, BM T2-3B
Nabbefeld, G T24-3B
Nagathihalli Kantharaju, M T13-1C

Nair, TS T16-2C
Nakagawa, JM T10-5C
Nakamura, K S34-5
Nakamura, Y S34-5
Namiki, S T21-7B
Nasri, F T6-3A
Nassar, E S13-1
Nawabi, H S16-1
Nawrot, MP T19-5C, T25-4C, T26-6A
Nawrot, MP T26-2A
Nebeling, F T26-7A
Neckel, P S15-1
Neef, A T23-4C, T26-2B
Neef, J T17-2A
Negri, F T8-1A
Nelken, I T25-18C
Nemcova, P T7-10C
Nerlich, J T7-9C, T8-5B, S12-5
Nesseler, M T19-3A
Neuhaus, R T22-6A
Neukel, C S19-3
Neupert, S T4-2B, T22-1A, T22-2C, T23-7B
Neve, V T9-7C
Niebur, E T25-15C
Nieder, A T23-3A, T24-2A, T24-5A, T24-2B, T24-5B, T24-6B, S25-5, T25-15A
Niediek, J T25-18C, S35-5
Niemann, P T9-8A
Niemeyer, N T21-4A
Niesner, M T12-8B
Niestroj, M T19-6A
Niewalda, T S6-5, T25-1A
Nigi, E T3-1B
Nimpf, S T16-1C
Ninkovic, J S26-5
Ninnemann, O T10-4C
Nishino, S T1-7A
Nocerino, R T21-8C
Nógrádi, A T3-1C, S15-7
Nógrádi, B S15-7
Nogueiras, R T9-7C, T10-1B
Noh, K-M T27-1B
Nordmann, GC T16-1C
Nothwang, HG T18-5C
Nourizonos, A S11-1, T27-4B
Novatchkova, M S30-2
Nowakowska, S T18-1B
Nowotny, M T17-2B, T18-3B, T21-2A
Nuske, M S11-3
Nussbeck, SY T27-2A
Nuttin, B T15-5A

O

O`Connor Giles, K S32-2
Obermayer, K T26-3B
Oberndorfer, S T12-6B
Oberste-Frielinghaus, J T26-4B
Ocsai, K T27-3A
Oelschlegel, AM T11-2B
Oepen, AS T2-4C
Oertner, TG S2-4, S13-8, S18-2, S33-1, T8-4A, T8-7A
Oestreicher, D T17-3A, S32-1
Offermanns, A T23-2B
Ohl, FW T18-3A, T25-3C
Ohlemiller, KK T17-6C
Ohm, M T12-8C
Okamoto, A T17-6A
Okoli, O S14-4
Oler, JA T13-6C
Oliveira, AMM T23-3B
Ollerenshaw, D T27-2B
Olmeo, C T7-17C
Olsen, ME T13-6C
Opitz, S T11-12B
Opitz, T S18-3
Ortner, NJ S32-5
Osakada, T S14-2, T22-10C
Osten, P S14-4
Otsuna, H T21-7B
Ott, T T6-1A
Ottaviani, A T23-6A
Otte, M T19-8B
Ottens, J T27-4C
Ouali Alami, N T10-3B
Oury, N T22-7C
Owald, D S6-5, T6-5A, T23-5C, T23-6C, T25-2B, T25-4B, T25-16B
Özorhan, Ü T12-6A
Ozvár, J T11-5C
Özyer, A T21-8B

P

Paap, M T21-7A
Pabst, O T19-6A
Pajer, K T3-1C, S15-7
Pak, V T27-1B
Pakan, JM T23-7A
Palacios-Muñoz, A T19-7B
Palfi, D T27-3A
Pallinger, T T17-3A, S32-1
Palm, L T22-7A
Palmeira do Amaral , AC S8-5, T7-13C
Pampanin, V T6-2B, T6-5C
Pan, Y T12-7A, T12-10A, T12-9B
Pandamooz, S T5-2A
Pangrsic Vilfan, T S32-1
Pangrsic, T T17-3A, T17-6C
Pankratz, MJ T19-4C
Parbst, F T23-7C
Pardi, N T3-1C
Park, SQ S9-5
Parnas, M T8-7B
Parutto, P S32-2
Pascal, SP T1-7A

Paschen, E T11-5B, T11-6B
Passlick, S S29-1
Paterson, M T22-5B
Patil, BK T26-1A
Patil, K T7-3B
Patriarchi, T S22-1
Pätz, C T7-7C
Pätz-Warncke, C T18-1C
Paul, S T12-3C
Pauls, D T25-13A, T25-8B, T25-8C
Pauls, S T12-5B
Paulußen, I T11-11C
Pecka, M T17-4C, T18-8C, T25-16A
Pedersen, E T1-1C
Peitz, M S30-1
Peña, JL T18-6A
Peng, H T11-9C
Pennartz, CMA T23-10B
Pensold, D T10-5A
Peper, J T27-1C
Perello Amoros, B T8-1C
Perissinotti, PP T6-1B
Perl, O S4-4
Perl, S T11-7A, T21-7A
Perreault, M-C S17-5
Peschke, N T3-1B
Petelski, I T19-11B
Peter, A T1-6C
Peter, S T25-17B
Peters, C T24-7A
Petersilie, L T1-5C, S29-4
Pethe, A T6-4A
Petkar, RS T11-8B
Petri, S T11-6C
Pettengell Jones, S T12-2A
Petzold, A S13-7, S14-3, T22-3C, T22-9C
Petzoldt, A T2-1A
Petzoldt, AG T7-12B
Pfeffer, T S21-5
Pfeifer, D S33-2
Pfeiffer, K T14-5B, T14-2C, T14-4C, T14-5C
Pfennig, VB T23-8B
Pflitsch, P T22-7C
Pham, V S30-2
Pielage, J T7-14C, T11-9B, S15-5, T19-7A, T25-15C
Pierzchlinska, A S6-5, T20-1B
Pies, HS T12-5B
Pinto, C T13-6B
Pinto, R T11-3B
Piro, I T12-7B
Pisupati, V T5-2C
Piszczek, L T24-1A
Pitschelatow, G T25-14B
Pitzalis, M T19-2A
Pizzi, E T7-3C
Platt, R T2-2A
Plesser, HE T26-5B, T26-7B
Plötz, M T12-8B
Pochinok, I S21-3
Poeck, B T13-5A
Poeppel, D T24-6C
Pohl, TT T13-1A
Poll, S T26-7A
Pollok, S T4-3C
Polterovich, A T25-18C
Pomberger, T S25-4
Ponimaskin, E T5-2B, T9-6A, T9-3B, T11-2C, T11-6C, T26-4A
Ponimaskine, K S2-4
Popa, D S6-4
Popovich, PG S15-6
Pöpplau, JA T23-2B, T23-3C, T24-3A
Poulopoulos, A S8-1
Powell, NJ S27-5
Pradhan, R T9-7A, T11-3B
Praetz, M T9-8C
Preat, T T25-10C
Preissing, B T8-6C
Preobraschenski, J T18-4C
Preuss, F T7-6B, T23-4B
Preuss, SJ T16-1A
Prevot, V T9-7C, T10-1B
Priesemann, V S30-4
Prieto, JD T15-5B
Prigge, M T4-1A
Prigione, A T1-5C
Prinz, M T10-5C
Prinz, MR S33-3
Priyarangana Perera, R S10-4
Proce, RO T13-1C
Proschke, S T27-9C
Prüß, H S7-5, S12-5, S15-6
Puchkov , D T7-12B
Pulin, M T4-3C
Puscian, A T19-6A
Puttagunta, R S16-4

Q

Quale, J T4-2A
Qualmann, B T12-9A
Quass, GL T18-2A, T18-7B
Quest, M T24-5A
Quilgars, C T23-1A
Quilitz, T T17-4A, T17-6B

R

Raabe, T T24-4A
Raccuglia, D T6-5A, T23-5C, T23-6C, T25-4B
Rachad, EY T25-1B
Rachel, J T7-6B, T20-3C
Rademacher, N T7-9B
Radermacher, J T26-6A
Radermacher, JE T19-1C

Raedt, R T1-1B, S15-2, T27-6B
Rahmati, V S24-5
Rahmouni, K T22-4C
Rai, SP S15-4, T22-6C
Rais, C T8-3A
Raiser, G T27-5C
Ramakrishna, V T15-6C
Ramanathan, C T16-3A, T16-2B
Rankovic, V T17-3A, S32-1
Raspe, S T19-9B
Ratz, L T13-4A
Rauch, A T7-9A
Ravindran Nair, S T21-4C
Reber, TP S35-5
Redavide, E T22-8B
Redondo, C T13-5B
Reh, F T22-6B
Rehm, A S3-4
Rehra, L T11-5A
Rehrl, C T3-2A
Reichard, J T10-5A, S23-2, T25-14B
Reifenstein, E T2-3C
Reim, K T7-15C, T15-2C
Reimann, F S1-1
Reiner, A T4-3C, S22-4, S29-2
Reinert, A T10-3C
Reinhard, K T15-5A
Reis, SL T22-4B
Reissner, C T11-2B
Remy, S T7-8A, T8-4C, T11-2B, S13-10, T25-19A
Renken, KL T4-3C, T13-3A
Rennau, LM T2-2B, S3-4
Renner, S T15-3C
Rentsch, J T7-6C, S26-4
Reuss, B T11-4A
Revah, O T1-7A, T23-4C
Rewitz, K S1-5
Rhee, J T7-5B
Rhee, JS T7-8C
Ribeiro, C T19-6C
Richardson, R S8-1
Richter, A S4-2, T10-2A, T10-4B, T11-4B
Richter, A T10-2B, T11-7A, T11-8C, T21-7A
Richter, F T10-2B
Richter, M T22-7B
Richter, V T19-4C
Ricken, G S15-6
Riedel, MK T13-6C
Riedemann, T T7-1C
Rieger, N T23-8A
Riehle, A T26-5C
Rieke, N T12-1B, T12-2B
Riemensperger, T T2-4C, T22-6B, T23-8A
Rigkou, A T6-4C
Rihel, J T22-7C
Rinas, T T6-2B
Rinnert, P T24-5A
Rist, A T19-4C
Ritter, K T22-5A, T22-7A
Ritter, K T12-1C
Rittner, H T20-2B, T20-2B
Ritz, S T3-1B
Ritzau-Jost, A T7-9C, T8-5B, S12-5
Rivalan, M S13-5
Rizalar, FS S12-5, T7-9C
Rizzoli, SO S16-5
Robert, D S20-5
Robertson, C S8-1
Robin Hiesinger, P T2-3C
Robinson, S T12-6B
Rochefort, N T16-1B
Röcken, C T12-6B
Röderer, P S30-1
Rodriguez Polo, I T12-5B
Rogalla, MM T18-2A, T18-7B
Rogemond, V T12-3C
Rohde, SC T12-4B
Rohr, L T8-6C
Rohwedder, A T4-1B
Rojas Caballero, A T10-2C
Rojas, L T7-5B
Rojas, P T27-2C
Roman, B T1-1B
Romaniello, R T1-6B
Romanowski, A S8-1
Romero-Ramírez, L T12-6C
Römschied, FA T25-12C
Roos, L S13-3, T17-4A
Rosário, M T1-1C
Rose, CR S29-4, T1-5C, T6-2C, T9-8B
Rose, R T3-1B
Roseboom, PH T13-6C
Roselli, F S16-2
Rosenbaum, P T21-8B
Rosenmund, C T11-5C
Roska, B T15-2B
Rössler, W T8-3C, T19-5C, S20-4
Rost, B S13-5
Roth, FC T23-9A
Rother, L T14-4C, T14-5C
Rottschäfer, JR T17-3B
Rouach, N P1
Roussa, E T6-4A, T6-2C, T6-4C
Roustazadeh, A T18-3C
Rozenfeld, E T8-7B
Rozov, A T23-1B
Rozsa, BJ T27-3A
Ruban, K T8-3B
Ruckerl, F T21-8A
Ruhwedel, T S10-4
Ruikes, TR T23-10B
Ruiz de Almodóvar, C T20-4B
Russo, E T26-2C
Rust, M S2-3, T2-5C

Ruthe, A T21-8B
Ruther, P T17-5C
Rutherford, M T17-6C
Rüttiger, L T18-1A, T18-6C
Rybak, J T26-2A
Ryglewski, S S32-2, T2-4A, T6-2B, T6-3B, T6-5C, T7-2A, T21-4A
Ryl, M T15-4A

S

Saber, MH T18-6C
Sachidanandan, D T8-2B, T25-8C
Sackmann, T T23-1B
Sadegh, S T12-4B
Safari, N T7-13A
Sainova, I T1-4C
Saka, SK T27-1B
Sakagiannis, P T25-4C
Sakai, N T1-7A
Sakata, E S32-1
Sakib, MS T9-5A, T9-7A
Salehi, S T5-2A
Salfenmoser, L T26-3B
Samara, E T7-14B
Sananbenesi, F T11-3B
Sander, D T19-9C
Sandhaeger, F T26-1C
Sandoz, J-C T19-2A, T19-11A, T19-8B, T25-6B
Sans Dublanc, A T15-5A
Santana Kragelund, F T11-8C
Santinha, A T2-2A
Santoro, B T11-9A
Saraiva, M T13-6B
Sarieva, K T15-4C
Sathiyamani, JS T16-2C
Sato, M T25-3B
Sauer, J-F T24-1C, T25-3A, T25-7A
Saw, NL T1-7A
Sax, U T27-2A
Saxena, S T11-8B
Sayin, S T14-4A, T19-4A, T19-11B
Scammell, T T22-4C
Schaefer, MK T12-1C
Schäfer, MKE T12-4A
Schäfer, N T5-2A
Schara, U S28-1
Scharff, C T25-11C
Scharr, M S15-1
Scheffer Teixeira, R S9-4
Scheiwe, C T10-5C
Schellenberger, M T11-1C
Scheller, A T9-1A, T9-7B
Scherberger, H T21-8C
Scherberich, J T18-3B
Scherer, S S15-1
Scheunemann, L T25-16B, T25-10C
Schickardt, Z T1-4B
Schildknecht, J T23-6A
Schiller, D S4-4
Schirmeier, S S18-4
Schirmer, E T27-3C
Schirmer, I T22-2C
Schlagenhauf, F T11-1A
Schleimer, J-H T21-4A
Schleyer, M T25-4C
Schlungbaum, M S13-9
Schlüter, OM T16-2A, T16-3B
Schmahl, C S19-1, S19-2
Schmaljohann, H S31-4
Schmid, S T10-6B
Schmidbauer, P T24-2A
Schmidl, L T12-3B
Schmidt, A T25-3B
Schmidt, H T12-4B
Schmidt, H T7-10B, T7-13B, T8-5B
Schmitt, FJ T19-5C
Schmitt, O T11-10A
Schmitt, TTX T18-7C
Schmitz, A T4-1C
Schmitz, D S7-3, T7-9B, S13-5, S24-5
Schnaitmann, C T14-1A
Schneider, A T19-2B
Schneider, AC S5-3, T23-2C
Schneider, F S2-3
Schneider, J T10-4C
Schneider, T T2-3C, T6-2A
Schoch, S T7-3B, T7-10C, T9-2A, T9-4C
Schoch-McGovern, S T11-12B
Schödel, SY T24-3C
Schoenherr, A S13-5
Schoer, J T3-2B
Scholz, H T22-3B, T25-17A, T25-18A, T25-17B
Scholz, P S10-4
Schöne, C T16-2A, T16-3B, T16-2C
Schöneich, S T17-2B, T18-3B, T21-2A
Schönhense, EM S18-3
Schönwolf, L T11-7B
Schork, F T7-6B
Schott, BH T10-2A, T10-4B
Schott, J T14-3C
Schreiber, S T21-4A
Schreiber, S T11-4B
Schröder, K S5-3, T19-2B
Schröder, M S3-4
Schröder, S T9-5A, T9-7A, T11-3B
Schroeder, K T19-3B
Schroer, J T3-1A, T12-8A
Schubert, T T15-3C, T15-4C
Schuelke, M S28-3

Schukraft, N T22-4B
Schuldiner, O T2-4C
Schuldt, C S2-3
Schultheiss, P T14-3B
Schultz, T T26-7A
Schulz, A T10-2B
Schulz, AL T18-3A
Schulz, J T25-17C
Schulz, JM T8-4B
Schulz, K T9-3A
Schulze, A S19-5
Schulze, C S2-4
Schulze, H T18-4B
Schulze, W T24-3C
Schulze-Bonhage, A T10-5C
Schumacher, C T22-3C
Schümann, F T11-10A
Schuster, S T3-2A, T22-1B, T24-3C, T27-3C, T27-9C
Schwab, JM S15-6
Schwaninger, M T10-1B
Schwaninger, M T5-1C, T9-7C, T11-11B, T12-6A, S15-4, T22-7B, T22-1C, T22-5C, T22-6C
Schwark, M S15-3
Schwartz, GW S36-1
Schwartz, O S28-1
Schwarz, G T6-2A, T7-8B, T7-11B
Schwarzbrunn, M T12-3B
Schwedhel-Domeyer, N T12-5B
Schweizer, M T8-4A
Schwenzer, N T17-1C
Schwiedrzik, CM S35-4
Sciacca, G T23-6A
Scivoletto, G S15-6
Seeliger, S T21-9A
Segebarth, D T11-1C, T22-4B
Seidenbecher, CI T8-1C, T10-2A, T11-4B
Seidl, R S30-2
Seidler, LE T24-6B
Seifert, FD T19-6A
Seifert, G T9-8A, T9-4B, T9-6B
Seitz, KI S19-3
Sell, J S24-5
Semtner, M S33-4
Sen, E T25-12B
Serdani, L S15-6
Sergaki, M T2-2C
Sermet, BS T21-8A
Serrano-Lope, M T22-5B
Shaaban, A T4-2A, T7-4A, T7-14A
Shabani, H T25-7A
Shadron, K T18-6A
Shafiee, S T8-7C
Shah, MJ T10-5C
Shahidi, N S11-3, S11-4, S11-4, T21-1B
Shamloo, M T1-7A
Sharkov, N T23-3B
Shen, L T22-6A
Shepherd, D T21-7B
Shi, K T18-2A
Shi, X T12-9C
Shin, S T21-3A
Shirdhankar, R T20-4A, T20-5B
Shoaib, SH T23-7B
Shoichet , S T7-9B
Sicorello, M S19-3
Sieben, A T22-4C
Sieben, C T12-1B, T12-2B
Siegel, M T26-1C
Signoret-Genest, J T13-2A, T13-5B, T22-4B
Sigrist, S T10-4A
Sigrist, SJ S32-2, T7-12B
Siklós, L S15-7
Silies, M T14-2A, T14-3A, T14-1B, T14-2B, T14-1C, T23-9B, S27-4, T27-1C
Silva, AI T13-6B
Simacek, C T7-3A, T7-7A
Simon, J T23-9C
Simon, M T11-9B
Simons, M S33-5
Simonson, O S20-2
Singhal, D T20-1C
Sinning, A T3-1A, T3-1B, T3-2B, T12-8A
Sinz, F T27-5A
Sirota, A T25-16A
Sisignano, M T20-2B
Siwanowicz, I T21-7B
Skaar, J-EW T26-5B
Skubal, M T9-6B
Slangewal, K S5-5, T15-1C
Slutsky, I T25-13C
Smalla, K-H T11-4B
Smith, G S27-5
Sobierajski, E T1-4A
Sobolev, A T18-8C, T25-16A
Soch, J T10-4B
Solov`yov, I S31-4
Soltanipour, M T23-4A
Somatakis, S T25-12A
Sommer, C T12-7B
Sommer, JD T7-9A
Song, X T20-1A
Sonnenberg, L T6-3C, T26-6C
Sosulina, L T11-2B
Sotelo Hitschfeld, T T22-6A
Soumyanath, A T13-5A
Soyka, H S1-3
Spanagel, R S15-8
Spanoghe, J T27-6B
Spehr, M T19-3A, T19-6A, T19-10A, T19-6B
Spiecker, F T9-7C, T22-1C
Sporar, K T14-3A
Sporbert, A S33-4

Sprenger, J T26-4B
Springer, MA T26-2A
Spyropoulos, D T5-1C
Sridhar, S T15-4B
Städele, C S5-2, T19-1A
Staiger, J T7-6B
Staiger, JF T1-3A, T20-3C, T23-4B
Stallwitz, NM T15-2A
Stamatakis, A T27-2B
Stange-Marten, A T18-3B
Stapmanns, J T26-5A
Staudacher, EM T14-5B
Stawyskyj, ZR T26-1B
Steffen, J T26-7A
Steigmeier, M T24-4A
Stein, W S5-2, T21-1C, T26-7C
Steinhäuser, C T9-8A, T9-4B, T9-6B
Steinke, S S12-5, T12-3B
Stella, A T26-5C
Stempel, V S14-5
Stengl, M S5-3, T19-2B, T19-3B, T23-7B, T23-1C, T23-2C
Stephan, J S29-4
Stephan, R S15-5
Stern, D T21-7B
Stern, M T4-1C
Sternbach, M T26-1B
Steubing, R T12-4B
Steuernagel, L T22-6A
Stevens, C T1-1B
Stevens, N T23-1B, T23-3B
Stiedenroth, H T2-4B
Stigloher, C T8-3C
Stöber, TM S21-3
Stöhr, P T8-6B
Stolz, C T10-2A
Stopka, P T19-6A
Stork, O T22-8B, T25-14A
Stork, S T25-9C
Strachowitz, M T27-8C
Straehle, J T8-6B, T8-2C
Straka, H S20-1
Strange, B S4-5
Strauss, R T13-5A
Strege, PR S1-1
Strenzke, N T17-2A, T17-3A, T17-5B, S32-1
Striessnig, J S32-5
Stringhi, R S2-3
Strube-Bloss, M T19-8A, T19-5C
Stumpenhorst, K S13-5
Stumpf, A S24-5
Stumpner, A T18-6B
Stüttgen, MC T26-4C
Suárez Grimalt, R T23-5C
Suárez-Grimalt, R T23-6C
Summavielle, T T13-6B
Sun, S T7-9A, T7-1B, T7-7B
Sun, Y T12-2C
Sun, Z T11-9C
Sundaram, S T10-1B
Surbled, P T23-6A
Surdin, T T8-6C
Surendran, D T25-14C
Surges, R T25-15A
Svelha, P T12-2A
Switacz, VK T19-6B
Syed-Nejadi, S T21-9A
Sylte, OC T24-1C
Szczecinski, NS S17-1, S17-4

T

Tabuchi, R T22-10C
Takahashi, N T14-3C
Takao, M T25-9B
Takeoka, A S16-3
Talbot, CB T25-5A
Tam, Y T3-1C
Tamai, Y T17-6A
Tantirigama, ML S13-5
Taschenberger, H T7-9A, T8-5B, S15-3
Tascio, D T9-4B, T9-6B
Tatenhorst, L T12-7A, T12-10A, T12-9B
Taubert, M T21-6B
Tavosanis, G T7-3B
Tedesco, M T23-6A
Tegtmeier, M T25-17B
Teixeira, RS T24-5C
Teng, T T19-2C
Tetzlaff, C T7-13A, T8-1A, T8-7C, T25-11A, T25-2C
Thamm, M T14-5C
Thedieck, K T18-5C
Theil, S T11-12B
Thiel, M T20-2A
Thies, AM T24-3A
Thirumalai, A T17-6B, S32-5
Thoener, J T25-1A
Tholance, Y T12-3C
Thomas, M T8-5C
Thomas, U S32-2
Thome, C T23-1B, T23-3B
Thöner, J T25-12B
Thum, A T25-8B
Thum, AS T4-1B, T19-4C, T25-13A
Thurm, MI T26-2C
Tian, LY S25-1
Timmann, D S6-1
Timmermann, A T9-6B
Tiss, T T11-6C
Tøndel, K T26-5B
Tong, Y T13-3B, T13-4C
Toppe, D T10-4A
Török, D T3-1C
Touboul, D T19-8C
Tovote, P T11-1C, T13-2A, T13-5B,

T22-4B
Trägenap, S S36-5
Tran, TTT T2-5B
Trautwein, N T1-3C
Treede, R-D T20-1C
Treue, S T21-5B
Triesch, J S21-3
Trimbuch, T T11-5C
Triphan, T T20-4C
Tritto, S T23-6A
Trivedi, CA T16-1A
Trnka, F T7-6C, S26-4
Tröger, H-L T19-10A
Truman, J T21-7B
Tsunoyama, T T7-6C, S26-4
Tulke, S T11-10B
Tunc, IA T26-6A
Tuoc, T T1-3A, S23-4
Tura, A T13-4B
Turko, P T8-6B
Tüzün, E T12-7B
Tyagi, S T7-4A
Tynianskaia, L T1-1A
Tziridis, K T18-4B

U

Udwari, D T8-7A
Ueberbach, T T7-3A
Uenaka, M T17-6A
Ugursu, B S33-4
Uhl, M T17-4A
Ul Maula Khan, A T27-1B
Ulivi, A T25-12A
Ulivi, AF T8-4C
Ulmke, PA T1-3A
Umadi, R T18-5B
Unichenko, P S29-1
Urban, J T1-3B, T14-1C
Urbano, F T6-1B

V

Valero Aracama, MJ T7-11A, T7-12A
Vallayer, P-B T12-3C
Vallentin, D T21-1A, T24-2C, T25-10B, T25-11C
Valtcheva, S S34-4
van Agen, L T10-5B
van Albada, SJ T26-5A
van Bommel, B S2-1, S2-3
Van Calenbergh, S T27-6B
van den Munkhof, H S9-4, S14-3, T22-9C, T24-7B
van Heeck, R T4-2C
Vargas Fique, JF T23-9B
Vaughn, E S14-4
Veit, J T16-3A, T16-2B
Veit, L T21-3A, S25-1
Velez-Fort, M T16-4A
Vennemo, SB T26-7B
Venyi, M T12-8A
Vera, J T23-10A
Verbrüggen, M T25-17A
Verdiyan, E T8-4B
Verhage, M S8-4
Verhulst, S T18-1A
Vetter, D T12-1C
Vezzani, A S24-3
Vialou, V T9-2C
Vida, I T8-6B
Vieira, DM T11-5B, T11-6B
Vieira, JR T20-4B
Vielhaber, S T11-4B
Vijayan, A S5-3, T19-2B
Vilceanu, AC T2-2C
Vill, K S28-1
Villacampa, N T11-12B
Villmann, C T9-2B, T12-7B, T12-8B
Viotti, JS T7-8C
Viskaitis, P S34-2
Vizler, C T3-1C
Vlachos, A T8-6B, T8-2C, T10-2C, T10-5C, S33-2
Vlasenko, A T25-3C
Vogel, J T25-3B
Vogel, T T1-5A, T1-6A, T10-1C, T10-2C, S23-5
Vogels, R T26-3C
Vogg, R S11-3
Vogl, C T17-5A, T17-5B
Vogt, K T19-9A, T24-1B
Voigtländer, VA T26-1C
Volk, AE T17-2A
Vollbrecht, A-L T11-6C
von den Berg, S T18-1C
von Engelhardt, J T11-7C, T12-8A
von Haeseler, A T24-1A
von Hörsten, S T11-6A
von Kalben, L T9-3A
von Kleist, M T2-3C
von Loh, S T17-2A
von Sivers, J T7-9B
von Stackelberg, N T12-3B
von Wittgenstein, J T15-4A
Vonck, K S15-2, T27-6B
Vonhof, SE T12-4B
Voorn, R T17-5A
Vuyyuru, H T25-6C
Vystrcilová, M T15-4B

W

Wadle, SL T18-7C
Wagh, N T14-3A
Wahle, P T1-4A, T2-2B, S3-4
Wai, P S13-1
Walker, MC S24-1

Wall, J S20-2
Wallace, G T18-7B
Wallhorn, L T4-3C
Wallmeier, J S28-2
Walter, A S32-2
Walter, F T2-2C
Walter, J T11-12B
Walter, SM T2-1A
Walther, J-C S19-2
Wang, AJ T24-6A
Wang, Q T7-15A
Wang, R T8-4A
Wang, Y T24-4A, T24-4B
Wang, Y T12-4A
Wang, Y T10-4C
Wang, Y S4-4
Wang, Z-Q T12-3B
Wani, MA T11-7C, T12-8A
Warchol, M T17-6C
Warm, D T2-5A, T3-1A, T3-2B
Warren, TL T21-3A
Watkins, P T15-3A
Weber, A T27-8B
Weber, L T27-2A
Weber-Fahr, W T9-5B
Wee, A T11-10A
Wegener, C T24-4A, T24-4B
Wegmann, J S20-4
Wegner, M T1-6C
Wegner, W T8-2A
Wei, W T12-7A, T12-10A, T12-9B
Weichard, I T8-5B, S12-5
Weiglein, A T25-14A
Weiler, S T16-4A
Weissbach, S T7-10A
Weissmann, D T3-1C
Welle, A T9-1A
Welzel, G T27-9C
Wempe, J T4-2C
Wen, J S30-1
Wender, M T7-10B
Wendlandt, ED T18-5C
Wendlandt, M T9-3A
Wenk, P T21-6B, T25-11B
Wenzel, J T5-1C, T12-6A, T22-7B
Werchner, Y T17-5A
Werner, C T12-7B
Wernersbach, I T12-4A
Wernet, M T14-4B
Wernet, MF S27-3
Wesch, NL T26-2B
Weßling, J T25-14C
Westendorff, S T24-6B
Wetekam, J T18-7A
Wetzel, A T27-8B
Whitehead, SC T21-7B
Whiteman, S S1-1
Whitney, DE S36-5
Wicher, D T19-4B
Wicke, KD T7-7C, T18-9A
Wickel, J T12-3B
Widmann, A T25-17C
Wiegert, SJ T4-3C, T8-3A, T27-1A, T27-6C
Wiegrebe, L T18-5B
Wieland, L T11-1A
Wiesel, E T19-4B
Wigger, D T17-2A
Wilhelm, I S15-7
Wilknitz, P T17-2B
Willecke, PM T1-1C
Williams, ZM T24-6A
Willig, KI T8-2A
Willis, J T26-3A
Wilms, H T11-10B
Wiltfang, J T11-4A
Windmöller, BA T12-5A
Winhart, V T18-8C
Winiarski, M T19-6A
Winkelhoff, J T7-3C
Winkler, U T10-3C
Winklhofer, M S31-4
Winter, C T13-5C
Winter, Y S13-5, T23-5C
Wirth, A T26-4A
Wischmeyer, E T12-5A, T20-3A
Wissing, C T27-6C
Wit, C T2-3C
Wit, CB T2-3B
Witkowska, A T7-15B
Witte, M T7-6B, T20-3C, T23-4B
Witte, W T12-5A
Wittenmayer, N T7-8C
Witzke, I S22-2
Wöhner, A T7-9C
Wolf, B S13-3, S22-2
Wolf, BJ T17-5C
Wolf, F T23-4A, T23-4C, T25-3B, T26-1B, T26-2B
Wolf, J T7-10C, T9-2A, T9-4C
Wolff, P T10-5A
Wong Fong Sang, IE T3-2B
Wong, SY S31-4
Wörgötter, F S11-3
Wouters, M T18-1A
Wright, A T25-1C
Wright, TM T21-7C
Wrobel, C T17-4A
Wu, S T12-6C
Wu, Y S26-3
Wunderlich, FT T22-6A
Wunderlich, T T22-4C
Wurm, C T7-6A
Wuttke, T T6-1A
Wuttke, TV S12-2

X

Xia, J S1-4
Xia, P S33-4
Xiao, M T17-6C
Xiao, X T22-4C
Xin, W T12-7A, T12-10A, T12-9B
Xu, J S31-1

Y

Yagoub, S T2-1C, T22-5A, T22-5B
Yan, R T22-10C
Yang, A T5-2C
Yang, S T12-1A
Yang, W S4-1
Yang, X T1-7A
Yang-Hood, A T17-6C
Yardley, H T18-7B
Ye, X T11-3C
Yeghiazaryan, G T22-4C
Yellapantula, S T25-1C
Yeo, J T13-7A
Yildirim, GN T1-2C
Yildiz, B S13-4
Yildiz, CB T10-5A, T25-14B
Yildiz, D T27-8C
Yilmazer-Hanke, D T10-3B
Yiu, YH S30-5
Young, M T15-1A
Yuan, Y T12-5C
Yuan, Z S18-2
Yu-Strzelczyk, J T12-1A
Yvon-Durocher, G T23-5C

Z

Zacher, AC T23-10C
Zagrebelsky, M T7-4C, T12-2C, T25-9C
Zandawala, M T23-8C
Zandi, S T9-4A, S15-10
Zapp, SJ T15-3B
Zavialov, V S29-1
Zdravkovic, M S19-5
Zeitouny, C T25-15B
Zenobi-Wong, M S30-3
Zerche, M S22-2, T27-6A
Zeug, A T5-2B, T9-6A, T9-3B, T26-4A
Zhang, C T26-2B
Zhang, J T2-4C, T23-8A
Zhang, J T19-2C
Zhang, L T20-5B
Zhang, X T17-1B
Zhao, N T9-7B
Zhao, R T9-7B
Zheng, F T7-11A, T7-12A, T7-2C, T13-1B
Zhou, J T11-3B
Zhu, J T22-5A, T22-5B
Ziaie Nezhad, F T25-14C
Ziebarth, T T4-3C, S29-2
Ziegler, ML T11-8B
Ziegler, RL T19-7A, T25-15C
Ziemens, D T5-1C, T22-7B
Zierenberg, J S30-4
Zimmer, A S18-3
Zimmer-Bensch, G T10-5A, S23-2, T25-14B
Zimmermann, J S11-5
Zimmermann, K T20-1A
Zirpel, F S13-6
Zitelli, K T27-2B
Zmiskol, F T8-1C
Zöller, Y T24-4A
Zolmon, H T23-1C
Zolnik, T S3-5, T10-1A
Zortéa, J T7-11C
Zrzavy, T S15-6
Züfle, P T2-1B
Züftle, P T19-5B
Zuschratter, W T27-8B
Zwaka, H T22-7C
Zyhowski, WP S17-1

Keyword Index

The numbers behind the keywords refer to the numbers of the oral or poster presentations, but not to page numbers in this program booklet.

A

ADULT NEUROGENESIS T1-2A, T1-3C
AGGREGATION T11-6C
ALZHEIMER`S DISEASE P4, S2-2, S15-4, S33-5, T8-5A, T10-3B, T11-2A, T11-4A, T11-5A, T11-6A, T11-8A, T11-7B, T11-12B, T11-9C, T11-11C
AMYGDALA S4-5, S19-1, S19-3, T13-7A, T13-6C, T22-5A, T24-7A, T25-5C, T25-6C
AMYLOID P4, S15-4, T11-12B
AMYLOID PRECURSOR PROTEIN T8-5A
ANESTHESIA T18-8B
ANIMAL MODEL S9-1, T1-1B, T10-6B, T13-5B, T27-2A
ANOREXIA T22-6B
ANTAGONIST T5-2A
ANTIBODY S7-1, T1-4C, T11-4A, T12-2A, T12-3C
ANTICONVULSANT T27-6B
ANXIETY S8-3, S19-2, T13-6C
APOPTOSIS T3-1A, T3-1B, T3-2B, T9-7B
APPETITE T22-3B, T24-7A
ARCUATE NUCLEUS T22-6A
AROUSAL S34-2
ASSOCIATIVE LEARNING T25-17A, T25-4C, T25-12C, T25-16C
ASTROCYTE P1, S18-1, S18-5, S29-4, S29-5, S34-1, T1-2A, T1-6C, T7-3A, T9-3A, T9-5A, T9-6A, T9-8A, T9-1B, T9-2B, T9-3B, T9-8B, T9-3C, T9-6C, T12-3A, T12-7A, T13-6B, T22-3A, T26-5A, T26-7C, T27-8C
ASTROGLIA S18-3, T11-3C
ATTENTION T18-5B, T24-5A, T24-3C, T25-4B
AUDITORY S13-3, S22-2, S25-4, T7-16C, T17-3A, T17-4A, T17-1B, T17-3B, T17-2C, T17-3C, T17-4C, T18-1A, T18-3A, T18-4A, T18-5A, T18-8A, T18-1B, T18-2B, T18-5B, T18-1C, T18-5C, T18-6C, T23-5B, T23-10C, T24-6C, T25-10A, T25-16A, T25-11B, T27-6A, T27-7C
AUDITORY CORTEX S14-1, T18-2C, T18-3C, T25-13B
AUTISM S3-3, S9-1, S13-4, T2-2C, T10-1A, T10-6B, T13-1C
AUTOIMMUNITY S7-1, S7-2, S7-3, S7-4, S7-5, S12-5, S15-6, S24-5, T12-1A, T12-9A, T12-7B, T12-8B, T12-3C, T12-5C
AVIAN S31-4, T15-3A, T18-6A, T21-1A, T23-3A, T24-5A, T24-2B, T24-4C
AVOIDANCE S14-2, T22-10C
AXON S27-1, T1-5B, T2-2A, T2-5B, T6-4B, T7-9C, T23-1B, T23-3B
AXON GUIDANCE S8-1, T2-3C
AXON TERMINAL S36-1
AXONAL TRANSPORT S10-3, S10-4, S15-5, T4-1A, T11-10A, T11-4C

B

BALANCE S21-1, T23-4A
BARREL T23-4B, T23-4C
BARRIER T20-2B
BASAL GANGLIA T11-10A
BDNF T7-4C, T12-2C, T22-3C
BEHAVIOR S1-5, S5-5, S6-5, S9-1, S9-4, S12-5, S13-1, S14-3, S14-5, S17-2, S18-1, S18-4, S19-5, S20-2, S21-5, S25-2, S25-3, S27-1, T9-8C, T11-6A, T11-7B, T13-1A, T13-2B, T13-1C, T13-3C, T13-5C, T14-2A, T14-4A, T14-5A, T14-3B, T14-4B, T15-1C, T16-3B, T17-5C, T18-4A, T19-5A, T19-6A, T19-9A, T19-11B, T19-2C, T19-6C, T20-5B, T20-2C, T21-2A, T21-1B, T21-4C, T22-1B, T22-6B, T23-9C, T24-4A, T24-3B, T24-6B, T24-2C, T24-3C, T24-6C, T25-14B, T25-15B, T25-16B, T25-14C, T25-16C, T25-17C, T26-3A
BIRD S31-1, T15-1B, T16-1C, T23-3A, T24-2A
BIRDSONG S25-1, S25-5, T21-3A, T21-2C, T25-10B
BLOOD FLOW T27-2B
BLOOD-BRAIN BARRIER S24-4, T10-1B, T11-11C, T12-3A, T12-6A, T22-3A, T27-3B
BRAIN S24-2, S31-3, S33-3, T2-6A, T4-2B, T13-2A, T19-2A, T19-8B, T25-8A
BRAIN IMAGING T11-1A, T19-4A
BRAIN INJURY T9-1A, T12-4A
BRAIN SLICE T23-6A

BRAIN STEM T7-16C
BRAINSTEM S17-5, T7-7C, T18-7A, T18-9A, T18-1B, T18-5C, T23-10C
BURST T25-13B

C

CA1 T8-4B, T16-1B
CA3 T25-15B
CALCIUM S10-5, T1-5C, T3-2B, T7-13B, T8-7C, T9-2A, T18-4C, T22-2A, T27-4C
CALCIUM CHANNEL S1-1, S8-5, S32-1, S32-2, S32-5, T6-3A, T6-5A, T6-2B, T6-5C, T7-2A, T7-5A, T7-6A, T7-10A, T7-2B, T7-4B, T7-10B, T7-13C, T8-6A, T17-1A, T17-3A, T17-1C, T25-6A
CALCIUM IMAGING S7-2, S17-5, S18-5, S22-3, T2-5A, T5-2C, T6-1C, T7-8A, T8-3A, T9-6A, T9-3B, T12-2A, T12-9C, T14-1A, T15-3C, T16-1C, T17-1B, T18-2A, T18-7C, T19-5B, T19-11B, T19-6C, T19-10C, T23-7B, T24-3B, T24-7B, T24-5C, T25-3A, T27-2B, T27-4C, T27-5C
CALLOSUM S30-2, T16-4A
CALMODULIN T7-2B, T27-4C
CAMP T8-2B, T25-17A, T25-7B
CARDIOVASCULAR T13-2A
CELL CULTURE T5-2A, T7-14A, T9-5A, T23-7B, T27-7A
CELL DEATH S15-1, T12-6A
CENTRAL PATTERN GENERATOR T21-4A
CEREBELLUM S6-1, S6-3, S6-4, S32-3, T7-16A, T7-10B, T8-6C, T11-7A
CEREBRAL BLOOD FLOW T5-1C
CEREBRAL CORTEX S23-3, S23-4, S30-2, T3-1A, T21-8A, T27-3B
C-FOS T20-5B
CHANNEL S32-4, T27-6A, T27-7C
CHOLINERGIC T6-1C, T11-6A
CINGULATE T7-1C
CIRCADIAN S13-6, T19-3B, T23-1C
CIRCADIAN RHYTHM S5-1, S5-3, S5-4, T23-7A, T27-5B
CLASSICAL CONDITIONING S6-1
CNS T3-2A
COCHLEA S22-2, T17-2A, T17-6A, T17-4B, T17-6B, T17-3C, T17-5C
CODING S32-4, T14-5B, T23-4A
COGNITION P5, S11-2, S19-2, S35-3, T5-1C, T10-2A, T11-3B, T18-7A, T24-1A, T24-2A, T24-3A, T24-6A, T24-2B, T24-6B, T25-10A, T25-18B
COGNITIVE T25-9B
COHERENCE T14-4A, T18-2C
COMPUTER S36-2, S36-5, T26-5A, T26-7B, T27-5A
CONDITIONING T25-4A, T25-1B, T25-12B
CONFOCAL MICROSCOPY T9-6A, T11-5C, T22-6C, T26-4A
CONNECTION T13-4C, T15-3A, T23-3A, T23-8A, T23-4B, T27-2C
CONSOLIDATION S4-4, T25-2C
CONTEXT S4-1, S25-1, S35-3
CONTRAST T14-3A
CONTROL T26-3B, T27-1A
CORTEX S3-1, S3-5, S23-5, S27-5, S28-2, S35-4, S36-4, T1-4A, T1-5A, T1-7A, T1-6B, T1-1C, T2-5A, T3-2B, T7-13B, T7-11C, T10-1A, T11-1B, T18-7C, T21-8C, T24-5B, T26-5B, T26-7C
CORTICAL PLASTICITY T7-16B
CORTICOSTERONE T7-2C
CPG S5-2, S16-3, T21-1C
CREB T11-2B
CRUSTACEA T19-9B
CULTURE S21-1, T1-5C
CURRENT T27-9C
CYCLIC AMP T8-7A, T9-3A
CYTOKINE S3-2, S24-3, S33-2, T12-5B
CYTOSKELETON S2-1, S2-2, S2-3, S15-5, S23-2, S26-3, T8-5

D

DEEP BRAIN STIMULATION T11-11A, T11-5B, T11-8C, T13-3B, T21-7A
DEFENSE T22-4B
DEGENERATION S15-5, S15-10, T9-4A, T15-4A, T17-5B
DEMENTIA S7-3, T11-3B, T11-2C, T11-9C
DEMYELINATION T11-11B
DENDRITE S18-3, T2-3A, T2-4A, T8-7C, T13-3A, T15-5A, T18-1C, T26-2B
DENERVATION T11-10C
DENTATE GYRUS S3-3, S13-8, T8-4B, T11-10C, T13-1B, T25-14A, T27-6B
DEPRESSION T8-1A, T9-3C, T13-3A, T13-4A, T13-5A, T13-6A, T13-3B, T13-4B, T13-3C, T13-4C
DESENSITIZATION S22-4
DEVELOPMENT P1, S3-1, S12-1, S13-4, S21-3, S21-4, S23-1, S23-3, S23-5, S27-2, S27-5, S30-4, S36-5, T1-1A, T1-5A, T1-6A, T1-4B, T1-1C, T1-2C, T2-2A, T2-3A, T2-6A, T2-1B, T2-2B, T2-3B, T2-5B, T2-1C, T2-4C, T3-1A, T7-7A, T10-1C, T10-2C, T13-2B, T18-5C, T21-4B, T22-2A, T23-2B, T23-7C

DIABETES T22-5B
DIAZEPAM T24-4B
DIET S1-5, T11-11B
DIFFERENTIATION S3-4, T1-7A, T1-3C, T1-4C, T2-2B, T27-7B
DIFFUSION T7-10C
DIRECTIONAL T14-1C
DISINHIBITION T23-4B
DOPAMINE S6-2, T2-4C, T18-3A, T22-6A, T24-7B, T25-1A, T25-2B
DOPAMINE TRANSPORTER T13-5C
DOPAMINERGIC T25-17B, T25-19B
DORSAL HORN T20-4B
DRINKING T22-9C
DROSOPHILA P2, S6-3, S13-2, S17-1, S18-4, S20-2, S27-3, S32-2, T2-1A, T2-4A, T2-4B, T2-3C, T2-4C, T4-1B, T4-2B, T6-5A, T6-2B, T6-3B, T6-5C, T8-6A, T8-7B, T13-5A, T14-1A, T14-2A, T14-1B, T14-4B, T14-1C, T17-1A, T17-3B, T19-7A, T19-9A, T19-4B, T19-5B, T19-7B, T19-1C, T19-3C, T19-4C, T19-10C, T20-2A, T20-4C, T21-4A, T21-5A, T21-2B, T21-4C, T21-7C, T21-9C, T22-1A, T22-2C, T23-2A, T23-9B, T23-5C, T23-6C, T24-1B, T24-4B, T25-1A, T25-2A, T25-4A, T25-8A, T25-17A, T25-1B, T25-7B, T25-12B, T25-16B, T25-12C, T25-15C, T25-17C, T26-2A, T27-1C
DRUG T12-1C, T27-4A
DRUG ABUSE T9-2C
DYSKINESIA T10-2B, T11-7A, T11-8C, T21-7A

E

EEG S35-1, T10-2A
ELECTRICAL STIMULATION T11-6B, T27-9C
ELECTRON MICROSCOPY S15-3, T8-3C, T9-4C, T14-1B, T23-2A, T25-8A, T27-7A
ELECTROPHYSIOLOGY S5-3, S6-4, S11-1, S11-3, S11-4, S12-2, S12-3, S12-4, S15-8, S22-5, S24-5, T6-1B, T6-4B, T7-7A, T7-9A, T7-14A, T7-3C, T7-5C, T9-4B, T12-1A, T14-2C, T14-4C, T14-5C, T15-2A, T15-5B, T16-2A, T16-4A, T18-7A, T18-9A, T18-3B, T18-6B, T18-3C, T19-8A, T19-6B, T19-10B, T19-5C, T21-1B, T21-2B, T21-8C, T23-1A, T23-1B, T23-8B, T23-9C, T24-5B, T25-15C, T26-6A, T26-4B, T27-3A, T27-2C, T27-3C
EMOTION S4-5, S6-4, S19-4, T13-5B, T22-4B, T24-4A, T24-7A
ENDOCRINE S1-5, T7-4A
ENDOCYTOSIS S23-2, T7-4B, T7-15B, T12-9A
ENDOPLASMIC RETICULUM S10-5, S26-3, T7-15C, T8-3B
ENERGY METABOLISM T2-1C, T22-7A
ENTERIC S15-1, T4-2A
ENTRAINMENT S5-4, S35-2
ENZYME T10-3C
EPILEPSY S7-3, S8-1, S8-4, S12-1, S12-2, S12-3, S12-4, S24-1, S24-2, S24-3, S24-4, S35-2, T2-2C, T6-1A, T6-3C, T7-15A, T9-8A, T10-5C, T11-9A, T11-5B, T11-6B, T11-10B, T22-2B, T23-9A, T26-6C, T27-6B
EPSC T7-5C
ETHANOL T13-1B
EVOLUTION S23-4, T1-1A, T1-2B, T16-3C, T19-11A, T19-1B, T24-1A
EXCITABILITY S24-1, T6-5C, T7-12A, T13-7A, T18-9A, T25-9C
EXCITOTOXICITY T12-9C
EXERCISE T21-6B
EXOCYTOSIS T7-6A, T17-3A
EXPLORATION S13-10, T19-5A, T21-1B, T25-19B
EXTINCTION S4-3, S4-4
EXTRACELLULAR T19-8A
EXTRACELLULAR MATRIX S16-5, T5-2B, T8-1C
EYE S15-10, T25-1C
EYE MOVEMENT S11-2

F

FACILITATION S15-3
FEAR T13-2A, T13-7A, T25-6C
FEAR CONDITIONING S4-3, S4-4, S9-3
FEEDBACK S6-5, T13-5B, T21-3C
FEEDING S1-4, S13-5, S14-3, T19-6C, T19-11C, T22-1A, T22-7A, T22-3C, T22-9C, T24-1B
FLUORESCENCE T5-1A, T9-8B, T26-4A, T27-1A, T27-8B
FMRI T10-4B, T21-6B, T25-9A, T25-11B
FOOD INTAKE T22-5A, T22-6A
FOS T8-7A
FREQUENCY S13-9
FRONTAL CORTEX T18-2C
FUNCTIONAL MRI S19-3

G

G PROTEIN T5-2C, T12-6C
GABA S8-3, S33-4, T2-3A, T7-11A, T9-1B, T13-1B, T21-9A, T25-14A
GABA RECEPTOR S24-5, T7-3A, T7-11B, T8-1B, T11-2A, T18-5A
GABAERGIC T1-6A, T7-7A, T7-15A, T11-5C, T25-6A
GAD T7-11C
GAP JUNCTION S29-4, T9-8A, T21-4A, T22-1B
GASTROINTESTINAL S1-1, S1-2
GATING T17-2C, T25-10C
GENDER T13-4A
GENE EXPRESSION P8, S3-2, T1-6A, T1-4B, T1-2C, T8-6B, T22-8C, T27-7B
GENE REGULATION S23-3, T1-3A, T2-5C, T9-7A, T10-1C
GENE THERAPY S13-3, S22-2, S28-1, T10-1B, T15-5C
GENETICS S28-2, S31-2, T2-5B, T24-1A, T25-18A, T25-8B, T27-7A
GFAP T12-6B
GFP S22-1
GLIA S17-2, S18-4, T9-4A, T9-8C, T11-1B, T12-4C, T12-7C, T22-6C
GLIOMA T6-2C, T9-2B, T11-3A
GLOBUS PALLIDUS T21-7A
GLOMERULUS T19-1A, T19-10A
GLUCOSE S1-3, T22-4C
GLUTAMATE S29-1, T4-2C, T8-3B, T11-3A, T17-6C
GLUTAMATE RECEPTOR S22-4, T4-2C, T6-3A, T9-4B, T12-8A, T12-9A, T12-5C
GLUTAMATE RELEASE S29-2
GLYCINE T6-2A, T7-3C, T11-8A, T12-7B
GOLGI T7-12B, T13-3A
GPCR S3-4, S18-1, S22-1, T5-1A, T22-7B
G-PROTEIN T5-1C, T11-11B, T15-2C
GRAFT S30-3
GRANULE CELL T11-10C
GROWTH CONE S2-3
GROWTH FACTOR T6-2C, T6-4C
GUIDANCE S16-1
GUSTATORY S13-5, T19-7A, T19-1B, T19-11C

H

HAIR CELL S32-1, S32-5, T6-3A, T7-4B, T17-4A, T17-5A, T17-5B, T17-1C, T18-4C
HEARING S32-1, T17-1A, T17-2A, T17-6A, T17-2B, T18-3B, T18-4B
HINDBRAIN S20-1
HIPPOCAMPAL NEURONS S7-2, S10-3, T7-8A, T7-4C, T11-2B, T25-13C, T26-1A
HIPPOCAMPUS S9-2, S12-3, S15-2, S21-3, T7-1A, T7-11A, T7-12A, T7-2C, T8-3A, T8-1B, T8-4C, T10-1C, T11-6B, T11-7B, T13-6A, T22-2B, T22-8B, T23-7A, T23-10B, T24-4C, T25-16A, T25-19A, T25-3B, T25-15B, T26-7A, T27-5B
HISTAMINE T4-1B
HISTOCHEMISTRY T4-1B, T24-2B
HORMONE S34-3, T22-2B, T22-1C
HPLC S28-4
HUMAN S4-2, S28-2, S35-4, S35-5, T1-5C, T8-6B, T8-2C, T11-4B, T12-5B, T18-4B, T21-3C, T25-15A, T25-9B, T26-1C
HYPEREXCITABILITY T11-2B
HYPOCRETIN S34-2, T16-2C, T22-4C
HYPOTHALAMUS S13-1, S13-7, S14-2, S14-3, S15-4, S34-1, S34-2, S34-3, S34-4, S34-5, T2-1C, T9-7C, T12-7C, T22-5B, T22-1C, T22-3C, T22-5C, T22-10C
HYPOXIA T10-3B, T12-7C

I

IMAGING S22-3, S28-4, S29-2, S33-3, T3-1B, T4-3C, T7-16A, T7-3B, T7-7B, T7-9B, T8-2A, T8-4C, T14-5A, T14-2B, T15-1C, T17-6B, T18-8B, T19-8B, T19-8C, T21-8A, T25-13C, T26-3A, T26-7A, T27-2A, T27-3A, T27-8B
IMMEDIATE EARLY GENE S13-8, T25-9C
IMMUNITY S24-3, T12-3B, T22-6B
IMMUNOCYTOCHEMISTRY T21-9A, T22-2C
IMMUNOFLUORESCENCE T1-1B
IMMUNOHISTOCHEMISTRY S13-4, T4-1C, T10-2B, T14-1B, T17-6B, T23-10C
IMMUNOREACTIVITY S15-6
IMPLANT T17-3C, T17-5C
IN VITRO S30-2, T1-5B, T9-2B, T9-6C, T18-5A
IN VIVO T4-1A, T8-2A, T11-8B, T15-5A, T25-13C, T26-4B, T27-3C
INFERIOR COLLICULUS T18-2A, T18-7B, T18-7C
INFLAMMATION S15-7, S19-4, S24-2, S24-4, T5-1B, T12-3A, T12-7A, T12-1B, T12-2B, T12-2C, T12-8C, T12-9C

INFORMATION THEORY T25-18C, T27-5A
INHIBITION S14-5, S21-2, S21-4, T7-8B, T16-2B, T25-12A, T25-11C
INJURY T7-16B
INSECT S15-9, T4-1C, T8-3C, T14-2B, T14-4C, T14-5C, T17-1B, T17-2B, T18-3B, T18-6B, T19-2A, T19-4A, T19-11A, T19-8B, T19-10B, T19-11B, T19-5C, T19-7C, T19-8C, T19-9C, T20-2C, T21-2A, T21-7B, T23-5B, T25-6B, T26-3A, T27-5C
INSULIN S1-3, T23-5A, T23-6B, T23-8C
INTERLEUKIN T3-1C
INTERNEURON S13-6, S16-2, T1-3A, T1-5A, T7-6B, T8-4B, T11-10B, T15-2B, T19-9B, T23-10A, T23-2B, T25-14B
INTRACELLULAR RECORDING T14-4C, T27-3C
INVERTEBRATE S20-5, T14-3C, T19-8A, T21-9A, T21-7B, T21-8B, T21-5C, T25-8B
ION CHANNEL S3-3, S12-1, T6-2A, T6-3C, T11-9A, T14-3A, T17-2C, T20-3A, T21-4B, T23-2C
IPSC S28-3, T1-5B, T7-9C, T7-17C
IRON T11-1A
ISCHEMIA S22-4, S29-1, S29-2, S29-4, S29-5
ISOLATION S19-5

K

KAINIC ACID T12-8A
KINASE T7-16B, T11-5A
KINEMATICS T21-5A
KNOCKOUT T2-4B
KNOCKOUT MICE S3-5, S26-4, T13-1C, T15-2A, T16-2C

L

LEARNING S9-2, S25-1, S25-2, S35-4, T18-8C, T25-9A, T25-5B, T25-10B, T25-11B, T26-2C
LEARNING AND MEMORY P5, S4-2, S6-2, S6-3, S18-2, S20-4, T11-5B, T23-3B, T25-1A, T25-2A, T25-3A, T25-5A, T25-7A, T25-11A, T25-13A, T25-18A, T25-1B, T25-2B, T25-3B, T25-4B, T25-6B, T25-12B, T25-17B, T25-3C, T25-8C, T25-11C
LEPTIN T6-1B
LESION T21-3A
LIMBIC SYSTEM T23-8B, T23-7C, T25-18B
LIPID T12-9B, T20-3A, T20-2B
LIPOPOLYSACCHARIDE T12-8C
LIPOPROTEIN T11-4A
LOCALIZATION S2-1, T7-8B
LOCOMOTION S6-5, S13-10, S17-3, S17-4, T9-8C, T14-4A, T20-2A, T20-4C, T21-6A, T21-5C, T21-7C, T25-14A, T27-4B
LOCUS COERULEUS S10-3, S15-2, T4-1A, T27-6C
LTD T25-5C
LTP S33-1, T8-4A, T8-5B, T8-5C

M

MACAQUE S11-3, S11-4, S11-4, S11-5, T21-8C, T24-6A, T24-5B, T24-6B, T26-5C
MAGNETIC S20-4, S31-1, S31-2, S31-3, S31-4, T8-2C, T15-1B, T20-4A, T20-5B
MAPK T24-4A
MAPPING T7-1B, T20-1B
MATERNAL S34-4, T22-5B
MATING T22-9C, T23-1A
MATRIX T9-2C
MATURATION T26-2B
MAZE S11-1
MECHANOSENSORY S1-1, S20-3, S20-5
MEDIAL SEPTUM S13-10, T11-11A, T23-8B
MELATONIN T22-7C
MEMBRANE T8-3B, T17-5B, T27-8C
MEMBRANE POTENTIAL S22-5
MEMORY S4-1, S4-5, S13-8, S33-1, S35-1, S35-2, S35-5, T5-1B, T10-4B, T11-11A, T14-3B, T25-4A, T25-6A, T25-9A, T25-13B, T25-16B, T25-10C, T25-17C
METABOLISM S1-3, S9-5, S28-3, T8-8A, T12-6C, T17-5A, T20-1A, T22-5C, T23-5A, T27-8B
METABOTROPIC RECEPTOR T8-6C
METADATA T27-2A
METHAMPHETAMINE T13-6B
METHODS P3, T16-2B
MICE S9-4
MICROGLIA S16-2, S18-2, S26-5, S33-1, S33-2, S33-3, S33-4, S33-5, T9-7A, T9-5C, T12-4A, T12-10A, T12-1B, T12-3B, T12-9B, T12-2C, T12-8C, T13-1A, T13-6B
MICROTUBULE T1-6B, T7-14C, T10-4C
MIDBRAIN T21-1A

MIGRATION S23-2, S31-4, T10-5A, T22-1C
MITOCHONDRIA S18-5, S28-3, T10-5B, T11-9B, T25-17B, T27-8A
MODEL S30-4, T15-6B, T18-4B, T25-4C, T26-6B
MODELING S5-3, S5-5, S17-4, S21-4, S30-1, T15-1A, T15-4B, T17-4B, T18-6A, T21-5A, T23-6B, T25-15C, T26-2A, T26-5A, T26-6A, T26-5B, T26-6B, T26-7B, T26-2C, T26-3C, T27-5A
MODULATION S8-5, T19-7A, T19-2C, T25-13A
MONKEY S25-5, T13-6C, T21-5B
MONOAMINE T23-8A, T25-5B
MORPHINE / MORPHOMETRY T18-1C
MOSSY FIBER S15-3, T10-4A
MOTION PERCEPTION S27-4, T14-1C, T24-2A
MOTIVATION T24-5C, T25-2B
MOTONEURON S10-4, S15-7, S28-1, T2-4A, T6-3B, T8-2B
MOTOR T26-5C
MOTOR CONTROL T16-1A, T20-1B, T20-3B, T21-1A, T21-6A, T21-4B
MOTOR CORTEX T11-3C
MOTOR LEARNING T21-3C
MOTOR NEURON T21-7B
MOUSE S17-5, T7-6B, T7-7B, T9-2A, T10-1A, T11-9A, T18-2A, T21-6C, T27-6C
MOVEMENT T21-5B
MRI S6-1, T12-6B, T13-4B
MRNA S28-1, T23-1C
MULTIELECTRODE T15-3B, T15-4B
MULTISENSORY T19-1A, T19-7B, T19-10C, T21-3B, T24-3B, T26-1A
MUTAGENESIS T9-6C
MUTANT T25-18A
MUTATION T2-2C, T7-17C, T10-3C
MYELINATION T1-4A, T9-6B, T9-4C, T10-5C

N

NAVIGATION S11-1, S11-2, S11-4, S18-3, S20-4, S27-3, T14-3B, T14-5B, T14-3C, T16-1B, T17-4C, T25-16A, T25-19A, T25-14C, T25-16C
NEOCORTEX T1-1A, T1-2B, T2-2A, T10-5C
NEONATAL T2-5A
NERVE INJURY S30-3
NETWORK S5-1, S21-2, S21-3, S21-5, S25-3, S27-2, S27-3, S27-5, S35-1, T7-3A, T9-7C, T11-1C, T12-5C, T18-1B, T23-2A, T23-6A, T23-10A, T23-9B, T23-3C, T23-8C, T25-2A, T25-11A, T26-6C
NEURAL CODING S32-3, T15-3B, T15-6C, T23-4C, T24-1C, T25-15A, T25-2C, T26-6B
NEURAL STEM CELLS T1-2B, T1-3B, T1-4B, T1-3C, T1-6C
NEURODEGENERATION P4, S8-2, S10-2, S10-4, T11-1B, T11-3B, T11-4B, T11-8B, T11-9B, T11-3C, T11-4C, T11-6C, T11-7C, T12-2B, T12-4C
NEUROENDOCRINE S14-4, T4-2A, T10-1B
NEUROGENESIS S15-1, S23-1, S23-4, T1-3A
NEUROIMAGING S9-5, S19-1, T26-4A
NEUROMODULATION S15-8, S17-3, S21-5, T6-1C, T9-5C, T18-2B, T23-5A, T23-8A, T23-6B, T23-2C, T23-8C, T24-1B, T25-8B
NEUROMUSCULAR JUNCTION T2-1A, T7-5A, T7-14C, T22-2A
NEURON S4-1, S16-5, S33-4, T6-4A, T9-7B, T10-3C, T14-3C, T15-4C, T27-3A
NEURONAL DEATH T3-1B, T12-8A
NEURONAL DIFFERENTIATION T10-2C
NEUROPATHIC PAIN T9-5B, T20-2B
NEUROPATHOLOGY P7, S7-4, S30-3, T10-5B, T11-8B, T12-6B
NEUROPATHY T12-3C, T17-2A
NEUROPEPTIDE S9-4, S22-1, T4-2B, T7-1C, T22-1A, T22-2C, T23-7B, T25-5B
NEUROPEPTIDE Y T22-8B
NEUROPHARMACOLOGY T12-4B, T17-2B, T23-6A
NEUROPLASTICITY P5, T9-5B, T21-6B
NEUROPROTECTION T8-8A, T12-4A, T12-4B, T12-5B, T12-1C
NEUROTRANSMISSION P7, S10-5, S24-1, T7-8C, T9-5C, T17-6C, T18-8A
NEUROTRANSMITTER S1-2, S16-3
NEUROTRANSMITTER RELEASE T4-3C, T7-5B, T27-2B
NEUROTROPHIC FACTOR T25-5C, T25-6C

NITRIC OXIDE SYNTHASE T4-1C
NMDA T11-7A
NMDA RECEPTOR P8, S7-1, S7-4, S7-5, S8-1, S12-5, T11-3A, T12-1A, T12-2A, T23-4C
NOCICEPTION T12-5A, T12-8B, T20-1C
NORADRENERGIC S15-2
NOREPINEPHRINE T13-3B
NPY T10-4A
NUCLEUS ACCUMBENS T11-8A, T25-19A

O

OBESITY S1-4, S34-1, T5-2C
OBJECT RECOGNITION T26-3C
OCULAR DOMINANCE T16-2C
ODOR T25-19B
OLFACTION S13-5, S14-4, S27-2, T2-1B, T8-7B, T19-3A, T19-4A, T19-5A, T19-6A, T19-9A, T19-11A, T19-2B, T19-4B, T19-5B, T19-6B, T19-9B, T19-10B, T19-1C, T19-2C, T19-3C, T19-8C, T19-9C, T19-11C, T23-7C, T24-4C, T25-5A, T25-4C, T26-2A
OLFACTORY T19-1B, T19-7C
OLFACTORY BULB T19-3A, T19-10A
OLIGODENDROCYTE S26-5, S33-5, T9-1A, T9-2A, T9-7B
OPTICAL IMAGING P3, S22-5, T19-3A, T23-9C, T25-7A, T27-8A, T27-5C
OPTICAL RECORDING P3, S13-3, T27-1A
ORGANIZATION S16-5, T16-3C, T26-1B
ORIENTATION S31-2, T26-1B
OSCILLATION T11-2A, T16-3A, T23-9A, T23-1B, T23-2B, T23-3C, T23-5C, T26-3B, T26-5C
OXIDATIVE STRESS T10-5B
OXYTOCIN S9-3, S14-2, S34-4, T5-2A, T22-8C

P

PACEMAKER T6-5A
PAIN T20-3A, T20-4B, T20-1C
PARIETAL CORTEX T10-4B, T21-5B
PARKINSON`S DISEASE T11-10A, T11-1C, T11-4C, T11-9C
PARVALBUMIN T7-15A, T10-2B, T11-10B
PATCH CLAMP T6-3B, T7-8A, T7-11A, T7-2C, T7-7C, T9-6B, T10-6B, T19-6A, T19-10A, T19-1C, T23-2C, T27-4A, T27-6A, T27-7C
PATTERNING T2-3B, T2-3C, T10-4C
PERCEPTION T17-6A, T18-8C, T26-3C
PERIAQUEDUCTAL GRAY S14-5, T11-1C, T22-4B
PERIPHERAL NERVE S15-7
PH T22-7B
PHOSPHORYLATION S10-2, T6-4A
PHOTORECEPTOR T2-3B, T15-4A
PKA T8-7A
PLACE CELLS S30-5, T20-4A, T25-3B
PLASTICITY S13-1, S14-1, S21-1, S21-2, S26-1, S30-4, S34-3, T7-1A, T7-12A, T7-13A, T8-6A, T8-2C, T16-2A, T18-7B, T20-3C, T23-1C, T25-11A, T25-12A, T25-7B, T25-9C
POSTSYNAPTIC S2-3, S2-4, S26-3, T7-9B, T11-7C, T18-8A
POSTSYNAPTIC DENSITY S26-1, T6-2A, T7-13A, T7-8C
POTASSIUM CHANNEL T6-1A, T12-8B, T18-6C, T23-10A, T27-4A
POTENTIATION T8-1A
PREFRONTAL CORTEX S9-2, S13-7, S35-3, T9-1B, T23-7A, T24-3A, T24-6A, T24-1C, T25-3A, T25-7A, T25-1C, T26-2C
PRENATAL T1-4A
PREOPTIC S34-5
PREPULSE INHIBITION T18-4A
PRESYNAPTIC S8-2, S10-1, T7-2A, T7-4A, T7-9A, T7-10A, T7-1B, T7-5B, T7-12B, T7-15B, T7-9C, T7-15C, T8-5B, T8-7B, T9-4C, T25-8C
PRIMATE S11-3, S11-4, T25-10A, T25-14C
PROLIFERATION T9-1A
PROMOTER T17-4A
PROPRIOCEPTION S16-3, T20-3B, T20-4C
PROTEASE T8-1C, T27-1C
PROTEASOME T15-4A
PROTEIN S31-1, T7-13A
PROTEIN KINASE T8-4A
PROTEOGLYCAN T11-4B
PROTEOLYSIS T11-5C
PSD-95 S2-4, T16-3B
PSYCHOPHYSICS S15-9, T18-8C, T21-3B, T24-5A, T26-4C
PSYCHOSTIMULANT S15-8
PURINERGIC T9-3A
PYRAMIDAL T8-5B, T23-3B

R

RADIAL GLIA S3-2
RAPHE T22-4C
RAT T18-1A, T25-18C, T26-4C
REACHING T21-3B
RECEPTIVE FIELD S36-4, T14-1A, T15-1A
RECEPTOR S26-1, T7-14B
RECEPTOR BINDING T7-11B
REGENERATION S16-1, S16-4, S26-5, T3-2A, T3-1C
REGULATION T1-3B
REHABILITATION T15-6C
REINFORCEMENT S6-2, T25-18C, T26-4C
RETINA S15-10, S31-3, S36-1, S36-2, T9-4A, T15-3A, T15-1B, T15-4B, T15-6B, T15-2C, T15-4C, T15-5C
RETINAL GANGLION CELL S16-1, T15-1A, T15-3B, T15-5B, T15-6B, T15-3C, T15-6C
REWARD S4-2, T25-13A
RHYTHM T23-5B
RNA S8-2, T9-5A, T9-7A, T12-10A, T12-4C, T27-1B, T27-5B

S

SACCADE T15-5B
SCHIZOPHRENIA P7, T11-1A, T23-3C
SECOND MESSENGER T5-2B, T19-2B, T19-3B
SECRETION S8-4
SENSITIZATION T19-4B, T20-4B
SENSORIMOTOR S11-4, S13-2, S17-3, S17-4, S25-4, T14-5B, T16-1A, T19-5C, T21-6A, T21-2B, T21-8B, T21-7C, T21-9C, T24-2C
SENSORY S1-4, S20-5, S36-5, T19-1A, T19-7C, T19-9C, T20-4A, T22-10C, T23-6C, T25-18B, T26-6A
SENSORY NEURONS S1-2, S13-9, S17-1, S20-2, T7-14A, T7-5B, T17-3B, T19-2B, T19-4C, T20-1B
SEPTAL AREA S9-3
SEROTONIN S22-3, S28-4, T4-2A, T4-3C, T7-4A, T9-3C, T13-2B, T22-3B, T24-4B, T25-10C
SEROTONIN RECEPTOR T5-1A, T5-2B, T9-3B, T11-2C, T11-6C
SEX T12-1B
SEX DIFFERENCES S14-4, T7-4C, T9-5B, T12-5A, T21-4C, T25-14B
SIGNAL TRANSDUCTION S17-2, T1-2C, T10-5A, T10-4C
SIMULATION S13-9, T6-3C, T26-5B, T26-7B, T26-6C
SINGLE UNITS S35-5, T18-6B, T23-10B, T25-15A
SKIN T5-1B, T27-9C
SLEEP S5-1, T22-7C, T23-5C, T23-6C, T25-4B
SLEEP DEPRIVATION T22-7C
SODIUM T9-8B
SODIUM CHANNEL T6-4B, T23-9A, T26-2B
SOMATOSENSORY S20-1, S20-3, T20-2A
SOMATOSTATIN T16-2B, T20-3C, T24-5C
SONG T19-7B, T21-2A, T25-12C
SONGBIRD T21-2C, T25-11C
SOUND LOCALIZATION T18-6A, T18-5B, T18-7B, T18-3C
SPATIAL T18-8B, T27-1B
SPATIAL LEARNING T13-5C, T25-9B, T26-1A
SPATIAL ORIENTATION T7-3B
SPEECH T18-1A, T26-1C
SPINAL CORD T23-1A
SPINAL CORD INJURY S15-6, S16-4, T3-1C, T12-6C
SPREADING DEPRESSION T26-7C
STARTLE S15-9
STEM CELL S23-5, S30-1, T1-2A, T1-7A, T1-6B, T1-4C, T10-2C, T12-5A
STIMULATION T13-4B, T17-4B, T21-6C, T25-3C
STOMATOGASTRIC S5-2, T21-1C
STRESS S4-3, S13-7, T11-9B, T13-1A, T13-4A, T13-5A, T13-6A, T13-3C, T20-1C, T22-5A, T22-8B, T22-8C, T24-1C
STRIATUM T18-3A
STROKE S29-5, T12-7A, T12-10A, T12-4B, T12-9B
SUBCELLULAR S26-4
SUBTHALAMIC NUCLEUS T21-6C
SUPERIOR COLLICULUS S36-3, T15-5A
SYNAPSE P2, P8, S2-1, S2-2, S8-3, S10-1, S10-2, S27-4, S32-4, S32-5, T7-1A, T7-3B, T7-7B, T7-8B, T7-14B, T7-6C, T7-10C, T7-11C, T7-13C, T9-2C, T12-3B, T12-7B, T15-4C, T17-1C, T19-3C
SYNAPSE FORMATION S27-1, T7-11B, T7-8C
SYNAPTIC T25-12A
SYNAPTIC DEPRESSION T8-6C
SYNAPTIC PLASTICITY P1, S2-4, S18-2, S33-2, T7-2A, T7-10A, T7-5C, T8-1A, T8-2A, T8-3A, T8-1B, T8-6B, T8-1C, T8-4C, T8-5C, T8-7C, T9-4B, T10-4A, T22-3B, T25-2C, T25-8C, T26-7A

SYNAPTIC TRANSMISSION S3-1, S3-5, S7-5, S8-4, S8-5, S29-1, S32-2, S32-3, T7-5A, T7-6A, T7-9A, T7-16A, T7-2B, T7-9B, T7-10B, T7-13B, T7-1C, T7-6C, T7-7C, T7-15C, T7-17C, T8-8A, T9-6B, T11-7C, T18-2B, T18-4C, T18-6C, T27-1C
SYNAPTIC VESICLES S10-1, S26-4, T7-1B, T7-15B, T7-3C, T7-6C, T8-2B, T8-3C
SYNAPTOGENESIS T2-1A, T2-6A
SYNCHRONIZATION S5-4, T16-3A, T19-3B
SYNCHRONY T23-10B, T26-3B, T26-4B

T

TASTE T19-2A
TAU T8-5A, T11-5A, T11-2C
TECHNIQUES S11-5, T15-5C, T22-6C, T27-1B, T27-8C
TEMPERATURE S5-2, S20-1, S20-3, S34-5, T2-1B, T3-2A, T14-2C, T14-5C, T20-1A, T20-2C, T21-1C, T22-1B
TEMPORAL T1-3B
THALAMOCORTICAL T21-2C
THALAMUS S36-3, T6-1B, T11-8C, T15-2B, T21-3A, T22-7A
THETA S30-5, T10-2A
TIMING S5-5, S11-5, S30-5, T21-8A, T25-5A, T27-2C
TOXICITY T25-6B
TRAFFICKING T2-4B, T7-12B, T11-12B, T15-2C, T17-5A
TRANSCRIPTION S23-1, T7-16C, T10-5A, T27-7B
TRANSCRIPTION FACTOR S30-1, T1-6C, T2-5C
TRANSDUCTION T19-6B
TRANSGENIC MICE S12-2, S12-4, T22-5C
TRANSGENIC MOUSE T2-5C, T6-1A
TRANSMISSION T7-13C
TRANSPLANTATION S16-4
TRANSPORT T27-8A
TRANSPORTER T6-4A, T6-2C, T6-4C, T11-11C, T22-3A
TRAUMA S16-2, S19-1, S19-2, S19-3, S19-4, S19-5, T12-1C
TRIGEMINAL S13-6
TUMOR T1-1B, T4-2C

U

UBIQUITIN T1-1C, T7-14C
ULTRASTRUCTURE T7-10C, T8-4A, T19-4C

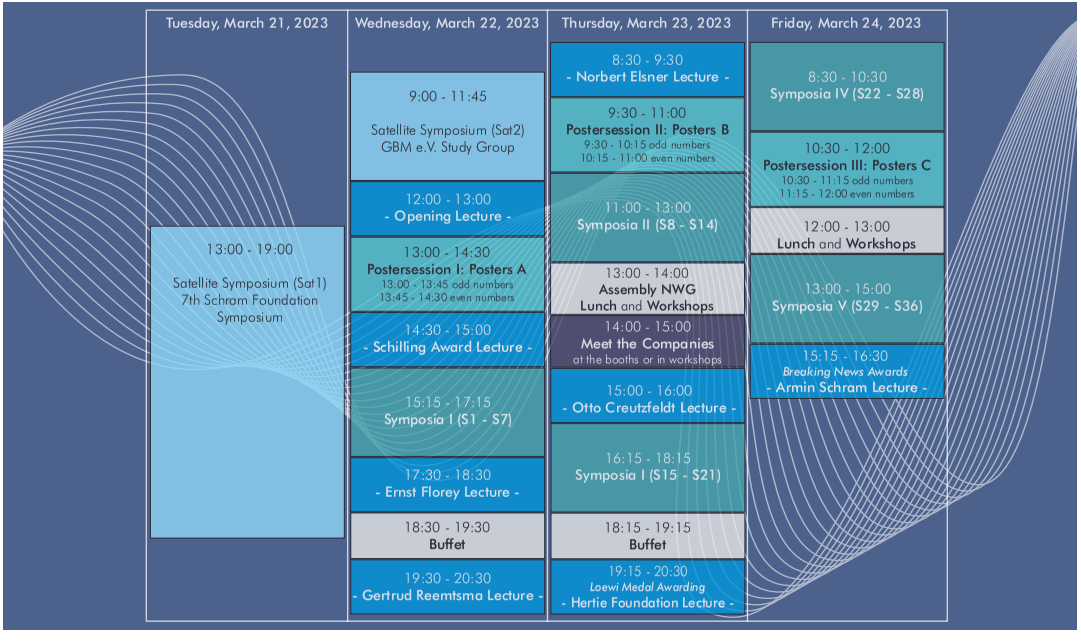
V

VASCULAR T10-3B, T12-6A, T20-1A, T22-7B, T27-3B
VENTRAL TEGMENTAL AREA T24-7B
VENTROLATERAL MEDULLA T6-4C
VESTIBULAR T17-6C
VIP T7-6B, T20-3C
VIRUS T9-7C, T12-2B, T27-6C
VISION S27-4, S36-1, S36-3, S36-4, T6-2B, T7-14B, T14-2A, T14-5A, T14-2B, T15-2A, T15-1C, T15-3C, T16-1A, T16-3B, T16-1C, T17-4C, T23-9B, T24-3C, T27-4B
VISUAL T15-2B
VISUAL CORTEX S3-4, S36-2, T2-2B, T16-2A, T16-3A, T16-4A, T16-1B, T16-3C, T23-4A, T25-1C, T25-3C, T26-1B, T27-4B
VISUAL MOTION P2, T14-3A, T14-2C
VISUAL PERCEPTION S9-5
VOCALIZATION S14-1, S25-2, S25-3, S25-4, S25-5, T24-2C, T24-6C, T25-10B, T26-1C
VTA T13-4C

W

WALKING S13-2, S17-1, T14-4B, T20-3B, T21-8B, T21-5C, T21-9C
WORKING MEMORY T24-3A

Print: Blankenburg Media, 16321 Bernau
info@blankenburg.media
Conception and Layout: Stefanie Korthals/Meino Gibson
korthals@mdc-berlin.de
Cover: Eta Friedrich, 10827 Berlin, mail@et-a.de
Published by Neurowissenschaftliche Gesellschaft e.V. 2023


Tuesday, March 21, 2023
13:00 - 19:00
Satellite Symposium (Sat1)
7th Schram Foundation Symposium
Wednesday, March 22, 2023
9:00 - 11:45
Satellite Symposium (Sat2)
GBM e.V. Study Group
12:00 - 13:00
- Opening Lecture -
13:00 - 14:30
Postersession I: Posters A
13:00 - 13:45 odd numbers
13:45 - 14:30 even numbers
14:30 - 15:00
- Schilling Award Lecture -
15:15 - 17:15
Symposia I (S1 - S7)
17:30 - 18:30
- Ernst Florey Lecture -
18:30 - 19:30
Buffet
19:30 - 20:30
- Gertrud Reemtsma Lecture -
Thursday, March 23, 2023
8:30 - 9:30
- Norbert Elsner Lecture -
9:30 - 11:00
Postersession II: Posters B
9:30 - 10:15 odd numbers
10:15 - 11:00 even numbers
11:00 - 13:00
Symposia II (S8 - S14)
13:00 - 14:00
Assembly NWG
Lunch and Workshops
14:00 - 15:00
Meet the Companies
at the booths or in workshops
15:00 - 16:00
- Otto Creutzfeldt Lecture -
16:15 - 18:15
Symposia I (S15 - S21)
18:15 - 19:15
Buffet
19:15 - 20:30
Loewi Medal Awarding
- Hertie Foundation Lecture -
Friday, March 24, 2023
8:30 - 10:30
Symposia IV (S22 - S28)
10:30 - 12:00
Postersession III: Posters C
10:30 - 11:15 odd numbers
11:15 - 12:00 even numbers
12:00 - 13:00
Lunch and Workshops
13:00 - 15:00
Symposia V (S29 - S36)
15:15 - 16:30
Breaking News Awards
- Armin Schram Lecture -

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