

# Annual Report 2013

APPENDIX



A close-up photograph of a microscope's eyepieces. The two black, cylindrical eyepieces are the central focus, with their internal lenses visible. The microscope body is white and slightly out of focus. A dark red vertical bar is on the left side of the image, containing the word 'Content' in white text.

# Content

# Appendix

UNIVERSITY HOSPITAL OF NEUROLOGY



DEPARTMENT OF NEUROLOGY AND STROKE



DEPARTMENT OF NEUROLOGY AND EPILEPTOLOGY



DEPARTMENT OF NEURODEGENERATIVE DISEASES



DEPARTMENT OF COGNITIVE NEUROLOGY



DEPARTMENT OF CELLULAR NEUROLOGY



INDEPENDENT RESEARCH GROUPS



PUBLICATIONS IN 2013





# University Hospital of Neurology

## Clinical Staff

### HEAD OF NURSING SERVICES

Renate D. Fuhr (PDL)  
Monika Renner (stellv. PDL)  
Klaus Siegle (Stationsltg. 45/43)  
Bärbel Hauger (Stationsltg. 42)  
Aika Heinzemann (Stationsltg. 40/41)

### WARD 41

Frey Reiner  
Gockner Martina  
Grunwald Martin  
Kraus Joachim  
Schumann Michelle  
Wurster Benjamin  
Ziaja Lilli

### WARD 42

Hauger Bärbel  
Hutter Anja  
Kern-Braun Gabriele  
Maier-Korneck Renate  
Sadowski Iris  
Schweizer Ulrike  
Sciarrone Sarah  
Siegl Gudrun

### WARD 43

Baur Carola  
Becht Susanne  
Besser Meike  
Bilen Önder  
Chmell Friedhelm  
Eisemann Britta  
Flohr Maria  
Hoffmann Alice  
Kern Eva  
Kronmüller Jürgen  
Layla Gabriele  
Pacholleck Dorothe  
Siegle Klaus

**WARD 45**

Baltes Sigrid  
 Eisele Johanna  
 Emwinghare Isaac  
 Fais Rebecca  
 Graz Tatjana  
 Hansen Werner  
 Herter Sigrid  
 Hesse Annika  
 Heymann Michael  
 Kloster Beate  
 Krämer Olga  
 Kress Nicole  
 Kurz Stefanie  
 Langmann Andrea  
 Mahler Rosemarie  
 Mansour-Tokovic Alisa  
 Sahin Banu  
 Schaible Martina  
 Scholpp Hans Jurg  
 Schweinbenz Karola  
 Siegle Anja  
 Siegle Klaus  
 Stengel Lena  
 Utsch Sellnow Isabel

**NURSING ASSISTANTS**

Allouch Khuzame  
 Allouch Tamazur  
 Amosenka Irina  
 Biedermann Maren  
 Bredehöft Christian  
 Dangel Barbara  
 Kammerlocher Paulina  
 Kübler Christopher  
 Layla Gabriele  
 Matthes Christin  
 Noman Daria  
 Paul Emely  
 Zengerle Inga

**INTENSIVE CARE/  
STROKE UNIT**

Brunner Karin  
 Deile (Geb. Meiß) Jessica  
 Felde Stefanie Zum  
 Fuchs Stefanie  
 Göttermann Tobias  
 Grumann Susanne  
 Haag Carmen  
 Hauber Frank  
 Haug Marc-Sebastian  
 Herholz Stefanie  
 Jankowsky Ilona  
 Johner Regina  
 Kalpakli Eftimia  
 Kaschowitz Petra  
 Kübler Heike  
 Lange Ines  
 Mekanovic Samantha  
 Mögle Annette  
 Moosmann Christine  
 Moryson Birgit  
 Muller Nora  
 Müller Markus  
 Nipprasch Petra  
 Ochieng Simone  
 Rauch-Schmidt Magdalena  
 Reuter Christine  
 Riescher Heidi  
 Romeikat Claudia  
 Schäfer Mirjam  
 Schmuck Johann  
 Schneider Annika  
 Sementilli Gloria  
 Striebich Tanja  
 Villinger Lothar  
 Wagner Erika  
 Wamsler-Lutz Gudrun  
 Weber Angelika  
 Weise Gerda  
 Weisser Bettina  
 Wener Buck Eva  
 Zeller Dieter  
 Zimmermann Ulrike

**CASE/OCCUPANCY  
MANAGEMENT**

Braun Ulrich  
 Clement Silvia  
 Eissler Wilhelm  
 Tomschitz Christina

**TECHNICIANS**

Deutsch Anke (EP)  
 Dubois Evelyn (CFS Chemistry)  
 Ebner Siegfried (CSF Chemistry)  
 Eckert Andrea (CSF Chemistry)  
 Friedrich Carry (ENG)  
 Grimm Jutta (EMG)  
 Mahle Renate (EEG Neurosonography)  
 Schroth Petra (CSF Chemistry)  
 Vetter Nathalie (ENG Neurosonography)  
 Wörner Barbara (EEG)

**SECRETARIES**

Beck Patricia  
 Heller-Schmerold Dagmar  
 Marterer Isolde  
 Riegraf Christine  
 Stimmler Susanne  
 Thomma Diana  
 Wieder Doris

**MEDICAL DOCUMENTATION**

Brandner Sonja  
 Brick Christine  
 Feuerbacher Horst



# Department of Neurology and Stroke



## Clinical and Scientific Staff

### HEAD OF THE DEPARTMENT

Prof. Dr. Ulf Ziemann

### GROUP LEADERS/ATTENDING PHYSICIANS

Prof. Dr. Herrmann Ackermann  
PD Dr. Felix Bischof  
Dr. Jennifer Diedler (Neurointensive Care)  
Prof. Dr. Ulrike Naumann  
Dr. Sven Poli, MSc (Stroke Unit)  
Dr. Christine Zürn (Cardiologist)

### SCIENTISTS/RESIDENTS

Dr. Eleni Adamopoulou (until 12/2013)  
Dr. Bettina Brendel  
Dr. Christian Braun  
Dr. Susanne Dietrich  
Dr. Matthias Ebner  
Dr. Elga Esposito (since 01/2013)  
Dr. Katharina Friebe (until 09/2013)  
Christian Frischholz (until 06/2013)  
Dr. Kirsi Forsberg (since 06/2013)  
Dr. Alexandra Gaenslen (since 11/2013)  
Florian Härtig (since 06/2013)  
PD Dr. Ingo Hertrich  
Dr. Florian Müller-Dahlhaus (since 04/2013)  
Oliver Preische (until 12/2013)  
Isabella Premoli (since 01/2013)  
Franscesca Russo (since 07/2013)  
Dr. Susanne Schiemann (since 12/2013)  
Dr. Carin Schilling (until 09/2013)  
Dr. Simon Schuster (until 03/2013)  
Dennis Schlak  
Johannes Tünnerhoff (since 04/2013)  
Martin Wolf  
Dr. Lena Zeltner  
Dr. Christoph Zrenner (since 11/2013)

**TECHNICAL STAFF/ADMINISTRATION**

Dipl.-Ing. Rüdiger Berndt (Electronics,  
together with the Dept. of Cognitive Neurology)  
Maïke Borutta  
Evelyn Dubois  
Siegfried Ebner  
Andrea Eckert  
Marion Jeric  
Ute Küstner  
Christine Ruth  
Petra Schroth  
Anja Wuttke (since 11/2013)  
Julia Zeller (since 04/2013)

**MEDICAL DOCTORAL STUDENTS**

Heiko Brennenstuhl (Supervisor Prof. Dr. Naumann)  
Hanna Faber (Supervisor Prof. Dr. Ziemann)  
Sandra Falkvoll (Supervisor PD Dr. Bischof)  
Julia Glatzner (Supervisor PD Dr. Bischof)  
Katharina Hadaschik (Supervisor Prof. Dr. Ziemann/Dr. Poli)  
Ruth Hass (Supervisor PD Dr. Bischof)  
Elisabeth Hörig (Supervisor Prof. Dr. Naumann)  
Eloisa Mierswa-Silva (Supervisor PD Dr. Bischof)  
Johannes Mörike (Supervisor PD Dr. Bischof)  
Jan Piel (Supervisor PD Dr. Bischof)  
Miriam Rickemberg-Jara (Supervisor PD Dr. Bischof)  
Katrin Schulz (Supervisor PD Dr. Bischof)  
Toni Silber (Supervisor PD Dr. Bischof)  
Claudius Speer (Supervisor PD Dr. Bischof)  
Charlotte Spencer (Supervisor Prof. Dr. Ziemann/Dr. Poli)  
Jakob Spogis (Supervisor Prof. Dr. Ziemann)  
Marie Süsse (Supervisor Prof. Dr. Ziemann)  
Natalia Tveriakhina (Supervisor PD Dr. Bischof)  
Benjamin Walz (Supervisor PD Dr. Bischof)  
Frabrina Wiessing (Supervisor PD Dr. Bischof)

**PHD STUDENTS**

Hugo Bastida Esteban (Supervisor Prof. Dr. Naumann)  
Kirsi Forsberg (until 05/2013, Supervisor PD Dr. Bischof)  
Oliver Podlech (Supervisor Prof. Dr. Naumann)  
Isabella Premoli (Supervisor Prof. Dr. Ziemann)  
Sonja Schötterl (Supervisor Prof. Dr. Naumann)  
Fabian Tomaschek (Supervisor PD Dr. Hertrich)

**MASTER STUDENTS**

Svenja Espenhahn (Supervisor Prof. Dr. Ziemann)  
Aleksandar Madjovski (Supervisor PD Dr. Bischof)  
Sutirtha Ray (Supervisor PD Dr. Bischof)  
Jennifer Rubel (Supervisor Prof. Dr. Naumann)

**PROFESSORSHIP FOR NEUROREHABILITATION**

Prof. Dr. Herrmann Ackermann  
PD Dr. Ingo Hertrich

## Clinical Studies

### STROKE STUDIES

**CLEAR-IVH III (EudraCT-Nr.: 2008-00691-39):**

Clot Lysis: Evaluating Accelerated Resolution of Intraventricular Hemorrhage Phase III.

*Investigator: Sven Poli*

**DEPTH-SOS:** DEcompressive Surgery Plus Hypothermia in Space Occupying Stroke.

*Investigator: Sven Poli*

**Destiny-R:** DEcompressive Surgery for the Treatment of malignant INfarction of the middle cerebral arterY – Registry.

*Investigator: Sven Poli*

**INCH (EudraCT-Nr.: 2008-005653-37):** Multicenter, prospective randomized trial on the use of prothrombin complex and fresh frozen plasma in patients with intracerebral hemorrhage related to vitamin k antagonists.

*Investigator: Sven Poli*

**Point-of-Care Messung der Blutgerinnung bei Therapie mit neuen oralen Antikoagulantien.**

*Investigator: Sven Poli*

**RASUNOA:** Registry of acute stroke under new oral anticoagulants (RASUNOA).

*Investigator: Sven Poli*

**REVACEPT (EudraCT-Nr.: 2011-001006-10):**

An inhibitor of platelet adhesion in symptomatic carotid stenosis: A phase II, multicenter, randomized, dose-finding, double-blind and placebo controlled superiority study with parallel groups.

*Investigator: Sven Poli*

### NEUROIMMUNOLOGY STUDIES

**WA 21493:** A Phase II, multicenter, randomized, placebo and Avonex controlled dose finding study to evaluate the efficacy and safety of ocrelizumab in patients with relapsing-remitting multiple sclerosis.

*Investigator: Ulf Ziemann*

**WA21092:** A Randomized, Double-Blind, Double-Dummy, Parallel-Group Study To Evaluate The Efficacy And Safety Of Ocrelizumab In Comparison To Interferon Beta-1a (Rebif®) In Patients With Relapsing Multiple Sclerosis.

*Investigator: Ulf Ziemann*

**WA25046:** A Phase III, multicenter, randomized, parallel-group, double-blinded, placebo-controlled study to evaluate the efficacy and safety of ocrelizumab in adults with primary progressive multiple sclerosis.

*Investigator: Ulf Ziemann*

**CFTY720DDE17 (START):** A 1-week, open-label, multicenter study to explore conduction abnormalities during first dose administration of fingolimod in patients with relapsing-remitting multiple sclerosis.

*Investigator: Felix Bischof*

**CFTY720DDE06:** A 21-week, multicenter, open label study to evaluate the safety and tolerability profile of the combination of a SSRI or SNRI antidepressive therapy with oral fingolimod in the treatment of RRMS patients with mild to moderate depression.

*Investigator: Felix Bischof*

**CFTY720D2399:** A single arm, open-label, multicenter study evaluating the long-term safety, tolerability and efficacy of a 0.5 mg fingolimod (FTY720) administered orally once daily in patients with multiple sclerosis.

*Investigator: Ulf Ziemann*

**CFTY720DDE01:** A 6 months multicenter, single-arm, open-label study to investigate changes in biomarkers after initiation of treatment with 0,5 mg fingolimod (FTY720) in patients with relapsing-remitting multiple sclerosis.

*Investigator: Felix Bischof*



**Kompetenznetz MS: Concerted Action on Biomarker for Individualized Multiple Sclerosis Therapy in Germany – Control MS:**

Prospektive Kohortenstudie bei Patienten mit KIS (klinisch isoliertem Syndrom) und früher Multipler Sklerose.

*Investigator: Ulf Ziemann*

**ONO 4641POU007:** A double-blind, placebo-controlled study of the safety and efficacy of ONO-4641 in patients with relapsing-remitting multiple sclerosis.

*Investigator: Ulf Ziemann*

**CFTY720DDE02:** Multizentrische, prospektive, nicht-interventionelle Langzeit-Registerstudie zur Beschreibung der Sicherheit und des Stellenwerts von Gilenya® (fingolimod 0.5 mg) in der Behandlung von MS Patienten. Akronym PANGAEA: Post-Authorization non-interventional German safety study of Gilenya® in MS patients.

*Investigator: Felix Bischof*

**MOVE-1:** Beobachtungsstudie – zur retrospektiven Datenerhebung zu Versorgung, Krankheitskosten und Lebensqualität bei Multiple Sklerose Patienten mit Spastik in Deutschland.

*Investigator: Felix Bischof*

**MOVE-2:** Multizentrische, prospektive Beobachtungsstudie, kombiniert mit einer Patientenbefragung in Deutschland. Die Studie wird über einen Zeitraum von 3 Monaten für alle Patienten durchgeführt, die auf Sativex® eingestellt wurden (Responder/Non-Responder).

*Investigator: Felix Bischof*

**Percept:** Nicht-interventionelle, beobachtend, prospektive, open label, multizentrische Studie bei Patienten mit schubförmig-remittierender Multipler Sklerose in Deutschland, bei denen eine Therapie mit TYSABRI® indiziert ist und in der klinischen Routine durchgeführt wird.

*Investigator: Felix Bischof*

**101MS326 (ASCEND):** A Multicenter, Randomized, Double-Blind, Placebo-Controlled Study of the Efficacy of Natalizumab on Reducing Disability Progression in Subjects With Secondary Progressive Multiple Sclerosis.

*Investigator: Felix Bischof*

**101-MS-206 (REFINE):** A Randomized, Blinded, Parallel-Group, Phase II Study Exploring the Safety, Tolerability, and Efficacy of Multiple Regimens of Natalizumab in Adult Subjects With Relapsing Multiple Sclerosis.

*Investigator: Ulf Ziemann*

**SIGNS:** An open, uncontrolled, non-interventional observational cohort outcome study of immunoglobulins in 3 indications: primary and secondary immunodeficiencies and neurological auto-immune disease.

*Investigators: Christian Frischholz (until 07/2013),*

*Felix Bischof (since 07/2013)*

**ADON Studie – CFTY720D2402 (deactivated 12.Dec 2013):**

A 48-week, double-blind, randomized, multicenter, parallel-group study comparing structural changes in the retina and evolution of visual function after immediate versus delayed treatment with fingolimod in patients with acute demyelinating optic neuritis – Eudract-Nr.:2012-002968-27.

*Investigator: Felix Bischof*

**BEL 115123-TITLE:** A Randomized, Placebo-Controlled, Double-Blind Study to Evaluate the Efficacy, Safety, Tolerability, and Pharmacodynamics of Belimumab in Subjects with Generalized Myasthenia Gravis (MG) EudraCT NUMMER: 2011-002068-26.

*Investigator: Felix Bischof*

## Clinical Studies

### NEUROONCOLOGY STUDIES

**Glarius:** Randomisierte, offene, multizentrische Phase II Studie zum Einsatz von Bevacizumab und Strahlentherapie gefolgt von Bevacizumab und Irinotecan im Vergleich zu Temozolomide und Strahlentherapie gefolgt von Temozolomid bei Patienten mit neu diagnostiziertem Glioblastom und nicht methyliertem MGMT-Promotor.

*Investigator: Christian Braun*

**EORTC 26101:** Phase II trial exploring the sequence of bevacizumab and lomustine in patients with first recurrence of glioblastoma (will be expanded from 2014 as Phase III trial).

*Investigator: Christian Braun*

**CATNON Intergroup Trial (EORTC 26053):** Phase III trial on concurrent and adjuvant temozolomide chemotherapy in non-1p/19q deleted anaplastic glioma.

*Investigator: Christian Braun*

**CODELETER Intergroup Trial (EORTC26081):**

Phase II randomized trial assessing intergroup study of radiotherapy versus temozolomide versus radiotherapy with concomitant and adjuvant temozolomide for patients with newly diagnosed anaplastic oligodendroglioma or anaplastic mixed glioma with chromosomal co-deletions of 1p and 19q.

*Investigator: Christian Braun*

**EORTC 26062:** A randomized phase III study of temozolomide and short-course radiation versus short-course radiation alone in the treatment of newly diagnosed glioblastoma multiforme in elderly patients.

*Investigator: Christian Braun*

**Act IV:** An International, Randomized, Double-Blind, Controlled Study of Rindopepimut/GM-CSF with Adjuvant Temozolomide in Patients with Newly Diagnosed, Surgically Resected, EGFRvIII-positive Glioblastoma.

*Investigator: Christian Braun*

## Third-Party Funding

### ONGOING GRANTS

**Perzeption ultraschneller synthetischer Sprache: Mechanismen der Neuroplastizität auditiver Sprachwahrnehmung bei Blinden (AC55/9-1)**

*Project leader: Prof. Dr. Hermann Ackermann, MA, Prof. Dr. E. Zrenner*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

**Neuronale Kontrolle sprachlicher und nichtsprachlicher Bewegungen des Sprechbewegungsapparates:**

Klinische Untersuchungen (AC55/10-1)

*Project leader: Prof. Dr. Wolfram Ziegler, Prof. Dr. Hermann Ackermann, MA*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

**Erforschung der molekularen Mechanismen einer ISCADOR Behandlung des Glioblastoms**

*Project leader: Prof. Dr. Ulrike Naumann*

Funding institution: Hans Sauer Stiftung, Innovationstiftung Sauer

**Funktionelle und therapeutische Bedeutung des Neuropeptid-prozessierenden Enzyms Carboxypeptidase E im Glioblastom**

*Project leader: Prof. Dr. Ulrike Naumann*

Funding institution: German Cancer Foundation

**Einfluss von Interferon beta-1a auf die Oberflächenglykosylierung von Immunzellen bei Patienten mit schubförmiger Multipler Sklerose**

*Project leader: PD Dr. Felix Bischof*

Funding institution: Merck Serono

**Pharmacological characterization of TM S-EEG biomarkers of excitability and effective connectivity in human cortex**

*Project leader: Prof. Dr. Ulf Ziemann*

Funding institution: Werner Reichardt Centre for Integrative Neuroscience (CIN)

**NEW GRANTS****Toleranz und Autoimmunität im zentralen Nervensystem***Project leader: PD Dr. Felix Bischof*

Funding institution: Novartis

**Verarbeitung multimodaler emotionaler Signale bei Patienten mit Multipler Sklerose***Project leader: PD Dr. Felix Bischof*

Funding institution: Novartis

**Funktionelle und therapeutische Bedeutung einer Behandlung des Glioblastoms mit Mistellektinen***Project leader: Prof. Dr. Ulrike Naumann*

Funding institution: Innovationstiftung Sauer, Software AG, Verein für Krebshilfe

**Correlated oscillations as biomarkers of neuronal dysfunction in multiple sclerosis***Project leader: Prof. Dr. Ulf Ziemann, Dr. Markus Siegel*

Funding institution: Werner Reichardt Centre for Integrative Neuroscience (CIN)

**Nichtinvasive zentrale Schmerzmodulation durch TMS-Hemmung des sekundären somatosensorischen Kortex gesunder Probanden***Project leader: Prof. Dr. Ulf Ziemann, Prof. Dr. Jörn Lötsch*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

**Bewegungsverklanglichung zur Rehabilitation der Armmotorik nach Schlaganfällen***Project Leader: Prof. Dr. Ulf Ziemann, Prof. Dr. Eckart Altenmüller (Hochschule für Musik, Theater und Medien Hannover), Prof. Dr. Udo Dahmen (Popakademie Baden-Württemberg)*

Funding institution: Hertie Foundation

**Awards****Elisabeth Höring**

Promotionspreis der Universität Tübingen, Medizinische Fakultät, 2013

**PhD Theses**

(Completed in 2013)

Oliver Podlech

**Effekte des Mistelextrakt-Präparats ISCADOR im Glioblastom in vitro und im experimentellen Mausmodell***Supervisor: Prof. Dr. Ulrike Naumann*

Fabian Tomaschek (PhD in Language Sciences)

**Behavioral and neural correlates of vowel length in German and of its interaction with the tense/lax contrast***Supervisor: PD Dr. Ingo Hertrich***Medical Theses**

(Completed in 2013)

Elisabeth Höring

**Carboxypeptidase E – Tumormarker und/oder Tumorsuppressor im Glioblastom? Evaluation der Funktion von Carboxypeptidase E in Gliomzellen***Supervisor: Prof. Dr. Ulrike Naumann*

Marie Süsse

**Mechanisch evozierte Potenziale – Methodologie, Normwerterstellung und klinische Anwendung bei vibrations- und impulsinduzierten evozierten Potenzialen.***Supervisor: Prof. Dr. Ulf Ziemann*

## Diploma/Master Theses

(Completed in 2013)

Svenja Espenhahn

**Investigation of paired-pulse inhibition by TMS-evoked EEG potentials**

*Supervisor: Prof. Dr. Ulf Ziemann*

Jennifer Rubel

**Quantification of the influence of CPE on “Go or Grow” in Glioblastoma**

*Supervisor: Prof. Dr. Ulrike Naumann*

## Student Training

### LECTURES

(Summer Term/Winter Term)

**Introduction to Clinical Neurology**

*Prof. D. Berg, PD Dr. F. Bischof*

**Graduate School of Cellular and Molecular Neuroscience:  
Genetic and Molecular Basis of Neural Diseases II**

*PD Dr. F. Bischof*

**Genetic and Molecular Basis of Neural Diseases II;  
Part 5: Brain tumors – Malignant growth in the CNS**

*Prof. U. Naumann*

### SEMINARS AND COURSES

(Summer Term/Winter Term)

**Neurology Seminar and Bedside Teaching**

*Prof. D. Berg, PD Dr. F. Bischof*

**Oncolytic viruses as cancer therapeutic drugs**

*Prof. U. Naumann*

**Basics in Gene Therapy**

*Prof. U. Naumann*

**Molecular Neurooncology and Neuroimmunology**

*Prof. U. Naumann*

**Expression and involvement of I $\kappa$ B $\zeta$  in cell death  
in GBM cell lines**

*Prof. U. Naumann*

**Cyclic-GMP-dependent protein kinases and their role  
in glioblastoma cells**

*Prof. U. Naumann*

**Determination of the paracrine effects of CPE on GBM  
cell migration and proliferation using live cell imaging**

*Prof. U. Naumann*

**Sprachverarbeitung in der Tiefe des Gehirns – Subcortical  
networks**

*PD Dr. I. Hertrich*

**Das „Jetzt“ in der Sprachwahrnehmung – Cortical/  
subcortical neural circuits representing rhythm and timing**

*PD Dr. I. Hertrich*

## Conferences & Workshops

### **Tübinger Therapiefortbildung Neurologie**

University Hospital Tübingen, Neurology, 20.04.2013

*Scientific Coordinator: Prof. D. Berg*

### **Update Hirntumore: bildgebende Diagnostik und adjuvante Therapie**

University Hospital Tübingen, 22.06.2013

*Scientific coordinators: Prof. U. Ernemann, Prof. M. Neumann,  
Prof. M. Tatagiba, Prof. U. Ziemann, Prof. D. Zips*

### **Hertie Grand Rounds**

University Hospital Tübingen, Neurology, 11.09.2013

*Scientific Coordinators: Prof. U. Ziemann, Dr. S. Poli*

### **17. gemeinsame Herbsttagung der Klinik für Psychiatrie und Psychotherapie und des Zentrums für Neurologie des Universitätsklinikums Tübingen**

Alzheimer-Auditorium der UKPP, 11.-12.10.2013

*Scientific Coordinators: Prof. A. J. Fallgatter, Prof. W. Maetzler,  
Prof. F. Metzger, Prof. U. Ziemann*

## Guest Researcher

Dr. Rita de Cassia Leite Fernandes, Brazil

*Host: Prof. D. Berg*



# Department of Neurology and Epileptology



## Clinical and Scientific Staff

### HEAD OF THE DEPARTMENT

Prof. Dr. Holger Lerche

### GROUP LEADERS/ATTENDING PHYSICIANS

Dr. Niels Focke  
PD Dr. Tobias Freilinger  
Prof. Dr. Yvonne Weber

### SCIENTISTS/RESIDENTS

Felicitas Becker  
Maria Bither  
Merle Bock  
Dr. Nele Dammeier  
Katja Deter (until 05/2013)  
Gina Elsen  
Adham Elshahabi  
Dr. Yvonne Füll  
Dr. Ulrike Hedrich  
Ashish Kaul Sahib  
Dr. Silke Klamer  
Dr. Henner Koch  
Stefan Lauxmann  
Dr. Yuanyuan Liu  
Dr. Pascal Martin  
Dr. Snezana Maljevic  
Stephan Müller  
Cristina Niturad  
Dr. Filip Rosa  
Dr. Caroline Schell  
Christina Schneider  
Julian Schubert  
Sören Stirn  
Nathalie Winter  
Dr. Stephan Wolking  
Dr. Thomas Wuttke

## TECHNICAL STAFF/ ADMINISTRATION

Yasemin Colakoglu  
Ana Fulgencio-Maisch  
Jane Gollub  
Christian Hengsbach  
Nicole Jezutkovic  
Heidrun Löffler  
Sarah Rau

## MEDICAL DOCTORAL STUDENTS

Siona Pfeffer  
Niklas Schwarz

## Clinical Studies

**UCB Phase 1b Study (UP0002):** A multicenter open-label parallel-group study in male and female subjects with epilepsy to evaluate the effect of repeated oral doses of UCB0942 on the pharmacogenetics of carbamazepine-epoxide and the pharmacokinetics safety and tolerability of repeated oral doses of UCB0942 in the presence of concomitant antiepileptic drugs.

*Investigator: Yvonne Weber*

**Vitoba (SP0973):** Eine nicht-interventionelle Beobachtungsstudie zur Evaluation der Verträglichkeit und der Anfallskontrolle mit VIMPAT als Zusatztherapie zu einem Basis-Anti-Epileptikum bei Epilepsiepatienten mit fokalen Anfällen mit oder ohne sekundärer Generalisierung in der alltäglichen klinischen Praxis in Deutschland (UCB)

*Investigator: Yvonne Weber*

**Vimpat i. v. Study/Registry:** Einsatz von Lacosamid (Vimpat) i. v. in der klinischen Praxis (Universitätsklinikum Kiel, Prof. Dr. med. U. Stephani)

*Investigator: Yvonne Weber*

**Eslicarbazepine Study (BIA-2093-311):** An Open-Label, Flexible-Dose Study of Retigabine immediate Release (IR) 'Efficacy and Safety of Eslicarbazepine Acetate' (BIA 2-093) as Monotherapy for Patients with newly diagnosed Partial-Onset Seizures: A Double-Blind, Randomized, Active-Controlled, Parallel-Group, Multicenter Clinical Study (Bial, Scope International)

*Investigator: Yvonne Weber*

**Victos (SP1065):** A non-interventional, observational study evaluating changes in total drug load and seizure frequency using Vimpat (Lacosamide) in daily clinical practice in combination therapy with sodium channel blocking AEDs or non sodium channel blocking AEDs (Victos).

*Investigator: Yvonne Weber*

**Perampanel Study (Eisai332):** A Double-blind, randomized, Placebo-controlled, Multicenter, Parallel-group Study with an Open-label Extension Phase to Evaluate the Efficacy and Safety of Adjunctive Perampanel in Primary generalized Tonic-Clonic Seizures. (Eisai Inc. and Eisai Limited/PPD Germany GmbH)

*Investigator: Yvonne Weber*

**E-36 (Cyberonics):** Seizure Detection and Automatic Magnet Mode Performance Study Device(s), VNS.

*Investigator: Yvonne Weber*

**A randomized, controlled, double-blind, two-arm clinical trial to assess safety and efficacy of transcutaneous vagus nerve stimulation (t-VNS®) in patients with drug-resistant epilepsy (Cerbomed)**

*Investigator: Yvonne Weber*

## Third-Party Funding

### GRANTS

**Epilepsy and Migraine Integrated Network:  
Functional analysis of human ion channel mutations  
in cellular and animal models (EMINet)**

*Project leader: Prof. Dr. Holger Lerche*

Funding institution: Federal Ministry of Education and Research (BMBF, Nationales Genomforschungsnetz, NGFNplus)

**Rekrutierung von Patienten für genetische und  
pharmakogenetische Untersuchungen bei Epilepsien**

*Project leader: Prof. Dr. Holger Lerche, PD Dr. Yvonne Weber*

Funding institution: Deutsche Gesellschaft für Epileptologie, UCB Pharma

**Generierung humaner, funktioneller neuronaler Netzwerke  
durch Kombination von Mikroelektroden Array- und  
embryonaler Stammzell-Technologie, ESSENCE**

*Project leader: PD Dr. Marcel Dihné*

Funding institution: Federal Ministry of Education and Research (BMBF)

**Pharmacogenomics in the treatment of epilepsy' (IZEPHA)  
Twinning Grant**

*Project leader: Prof. Dr. Holger Lerche*

Funding institution: 50% Robert-Bosch-Foundation, 50% University of Tübingen

**EuroEPINOM ICS-FP-005: Complex genetics of Idiopathic  
Epilepsies (CoGIE)**

*Project leader: Prof. Dr. Holger Lerche (coordinator),*

*Dr. Snezana Maljevic*

Funding institution: Deutsche Forschungsgemeinschaft (DFG, via ESF EUROCORES)

**Epilepsy Pharmacogenomics: delivering biomarkers  
for clinical use (EpiPGX)**

*Project leader: Prof. Dr. Holger Lerche (Deputy speaker)*

Funding institution: EU/FP7 (EU-279062)

**German Network of Neurological and Ophthalmological  
Ion Channel Disorders (IonNeurONet)**

*Project leader: Prof. Dr. Holger Lerche (Network-Coordinator),  
Dr. Snezana Maljevic (Project leader)*

Funding institution: Federal Ministry of Education and Research (BMBF Netzwerk „Seltene Erkrankungen“)

**Multimodale Bildgebung bei idiopathischen  
generalisierten Epilepsien**

*Project leader: Dr. Silke Klamer*

Funding institution: University of Tübingen (Pate)

**Multimodal spike localization in non-lesional  
focal epilepsies**

*Project leader: Prof. Dr. Holger Lerche, Dr. Hubert Preissl,  
Prof. Dr. Klaus Scheffler*

Funding institution: University of Tübingen (CIN pool project)

**DFG-Großgeräteantrag zur Beschaffung eines  
hochauflösenden 256-Kanal EEG-Systems, MRT – und  
MEG-kompatibel und hochauflösende (high-density)  
Elektroenzephalographie (HD-EEG) zur Lokalisation  
pathologischer und physiologischer Hirnaktivität  
(Entwicklungsantrag)**

*Project leader: Prof. Dr. Holger Lerche*

Funding institution: Deutsche Forschungsgemeinschaft (DFG), University of Tübingen (AKF)

**Gen-Panel Diagnostik bei Patienten mit Epilepsie**

*Project leader: Prof. Dr. Yvonne Weber*

Funding institution: University of Tübingen (AKF)

**Evaluating voxel-based functional connectivity  
measures in epilepsy**

*Project leader: Dr. Niels Focke*

Funding institution: University of Tübingen (CIN pool project)

## Awards

**Prof. Dr. Yvonne Weber**

Alfred Hauptmann-Preis 2013

## PhD Theses

(Completed in 2013)

Yvonne Füll

**Funktionelle Auswirkungen Epilepsie-assoziiierter Kaliumkanalmutationen/ Functional analysis of potassium channel mutations associated with epilepsy**

*Supervisor: Prof. Dr. Holger Lerche*

## Medical Theses

(Completed in 2013)

Julia Knaus

**Funktionelle Analyse von GABRA5 Mutationen bei idiopathischer generalisierter Epilepsie.**

*Supervisor: Prof. Dr. Holger Lerche*

## Student Training

**Genetic and Molecular Basis of Neural Diseases II: Channelopathies**

*Prof. H. Lerche, Dr. S. Maljevic*

**Ringvorlesung Grundlagen der Neurobiologie – Teil I: Ion channels and Disease**

*Dr. S. Maljevic*

**Promotionskolleg Ringvorlesung: Ion Channels and Epilepsy**

*Prof. H. Lerche*

**IPSC Journal Club**

*Dr. S. Maljevic*

## Conferences & Workshops

**Young Neurologists Summer School 2012**

29.07.–02.08.2013

*Scientific Coordinators: Prof. Dr. H. Lerche, Dr. S. Klamer*

**Tübinger Therapiefortbildung Neurologie**

University Hospital Tübingen, Neurology

20.04.2013

*Scientific Coordinator: Prof. D. Berg*

**Annual Meeting of the EuroEpinomics Consortium**

31.10.–1.11.2013

*Scientific Coordinators: Prof. Dr. H. Lerche, Dr. S. Maljevic*

## Guest Researchers

Prof. Dr. Steven Petrou, Melbourne, Australia

*Hosts: Prof. H. Lerche, Dr. S. Maljevic*

# Department of Neuro- degenerative Diseases



## Clinical and Scientific Staff

### HEAD OF THE DEPARTMENT

Prof. Dr. Thomas Gasser

### DEPUTY HEAD OF THE DEPARTMENT

Prof. Dr. Ludger Schöls

### GROUP LEADERS/ATTENDING PHYSICIANS

Prof. Dr. Daniela Berg  
Dr. Dr. Saskia Biskup  
Prof. Dr. Philipp Kahle  
Prof. Dr. Rejko Krüger  
Prof. Dr. Walter Mätzler  
PD Dr. Tobias Wächter

### SCIENTISTS/RESIDENTS/PHD STUDENTS

Dr. Anja Apel  
Felix Bernhard  
PD Dr. Sorin Breit  
Dr. Kathrin Brockmann  
Andres Caballero  
Michela Deleidi  
Maik Engeholm, PhD  
Dr. Julia Fitzgerald  
Dr. Monika Fruhmann Berger  
Dr. Natalja Funk  
Claudia Funke  
Dr. Alexandra Gaenslen  
Marta Garcia-Miralles  
Dr. Sven Geisler  
Dr. Jana Godau  
Dr. Susanne Gräber-Sultan  
Dajana Großmann  
Friederike Hans  
Dr. Stefan Hauser  
Dr. Holger Hengel  
Dr. Sebastian Heinzl  
Manon Herfurth  
Andreas Hummel  
Dr. Sandra Jäckel  
Dr. Kathrin Karle  
Martin Kuss  
Dr. Stefanie Lerche  
Dr. Inga Liepelt-Scarfone  
Dr. Rajka Liscic  
Dr. Ebba Lohmann  
Dr. Carina Mielke  
Dr. Jennifer Müller vom Hagen  
Dr. Raphael Niebler



Carolin Obermaier  
 Emmy Rannikko  
 Dr. Tim Rattay  
 Erik Riesch  
 Dr. Olga Scheck  
 Heinrich Schell  
 Dr. Julia Schicks  
 Benjamin Schmid  
 David Schöndorf  
 Dr. Rebecca Schüle  
 Claudia Schulte  
 Dr. Manu Sharma  
 Poonam Sood  
 Dr. Karin Srulijes  
 Ulrike Sünkel  
 Dr. Matthis Synofzik  
 Alexandra Taylor  
 Marion Thierfelder  
 Catherine Thömmes  
 Janet van Uem  
 Dr. Daniel Weiss  
 Dr. Isabel Wurster  
 Dr. Judith Zieker

### TECHNICAL STAFF/ ADMINISTRATION

Maren Albers  
 Cindy Boden  
 Christian Deuschle  
 Christian Erhardt  
 Dr. Bettina Faust  
 Katharina Gauss  
 Christine Haaga  
 Tanja Heger  
 Mirjam Knöll  
 Tilman König  
 Jürgen Kronmüller  
 Brigitte Maurer  
 Corina Maetzler  
 Petra Mech  
 Marita Munz  
 Susanne Nussbaum  
 Dr. Angelika Oehmig  
 Clara Pless  
 Ina Posner  
 Jennifer Reichbauer  
 Nicole Runge  
 Franziska Schiele

Caroline Schönfeld  
 Lukas Schwarz  
 Susanne Stimmler  
 Dr. Anna-Katharina v. Thaler  
 Yvonne Theurer  
 Stephanie Weber  
 Doris Wieder

### MEDICAL DOCTORAL STUDENTS

Annegret Abaza  
 Grammato Amexi  
 Carolin Bellut  
 Alice Bernard  
 Aline Beyle  
 Christian Bormann  
 Barbara Brändle  
 Stefanie Brandt  
 Steffen Brenner  
 Bernhard Cerff  
 Josefina Christ  
 Sarah Dilger  
 Daniela Egic  
 Karl Friedrich Ermisch  
 Ellen Fehlert  
 Kathrin Fischerkeller  
 Amina Flinsbach  
 Hannah Glonneger  
 Katharina Greulich  
 Eva Grüner  
 Leonie Guggolz  
 Alexandra Gutfreund  
 Sandra Hasmann  
 Jochen Hallwachs  
 Madeleine Heim  
 Philipp Hemman  
 Carina Hemminger  
 Sonja Herrmann  
 Max Hollweck  
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 Irene Kanyiki  
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 Sebastian Kormeier  
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 Lena Kuhn  
 Sandra Lachemann

Johannes Lang  
 Martin Linzner  
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 Katrin Maier  
 Julian Meinhardt  
 Isabella Nasi-Kordhishi  
 Suzanne Nathan  
 Maxim Nechyporenko  
 Theofanis Ngamsri  
 Senait Ogbamicael  
 Franziska Ott  
 Sylvia Pflederer  
 Natalie Philipp  
 Kathrin Prah  
 Deborah Prakash  
 Benjamin Roeben  
 Jens Rolinger  
 Eva Schäffer  
 Saskia Schattauer  
 Patricia Schöpfer  
 Anna Schöllmann  
 David Schreibner  
 Sonja Schürger  
 Ellen Silberhorn  
 Johannes Sprengel  
 Jana Stäbler  
 Raphaela Stocker  
 Eva-Maria Strohmeier  
 Margarete Walach  
 David Weiss  
 Simon Weiss  
 Sofie Weiss  
 Richard Wüst

### MASTER STUDENTS

Katharina Stegen  
 Stefanie Vollmer  
 Anna Summerer

### DIPLOMA STUDENTS

Christine Bus

## Clinical Studies

**Adagio Studie TVP1012/501 Extension:** TVP multicenter, open-label, follow-up study designed to evaluate the long-term effects of Rasagiline in Parkinson's disease subjects who participated the ADAGIO-study.

*Investigators: Isabel Wurster, Daniela Berg*

**CAFQ056A2217 (AFQ-Extension):** A multicenter, randomized, double-blind, placebo-controlled Phase-III-study to assess the efficacy of AFQ056 in reducing L-dopa induced dyskinesias.

*Investigators: Kathrin Brockmann, Isabel Wurster, Daniela Berg*

**Phytopharm – Cogane<sup>TM</sup> (PYM50028):** Eine multizentrische, randomisierte, doppelblinde, placebokontrollierte Phase-II-Parallelgruppenstudie zur Beurteilung der Wirksamkeit, Sicherheit und Verträglichkeit von Cogane (PYM50028), einem neuen, oral aktiven Induktor neurotropher Faktoren, bei männlichen und weiblichen Studienteilnehmern mit Morbus Parkinson im Frühstadium bei 28-wöchiger, einmal täglicher Verabreichung.

*Investigators: Kathrin Brockmann, Isabel Wurster, Daniela Berg*

**SP 1009 Aurora-Neupro<sup>®</sup> RLS Augmentation –**  
Nicht interventionelle Studie

*Investigator: Daniela Berg*

**AQW051A2209:** A multicenter, randomized, double-blind, placebo-controlled, parallel-group, multiple oral dose study to assess the efficacy and tolerability of AQW051 in reducing L-dopa induced dyskinesias in Parkinson's patients with moderate to severe L-dopa induced dyskinesias.

*Investigators: Karin Srulijes, Daniela Berg*

**BIA:** Efficacy and safety of BIA 9-1067 in idiopathic Parkinson's disease patients with "wearing-off" phenomenon treated with levodopa plus a dopa carboxylase inhibitor (DDCI): a double-blind, randomized, placebo- and active-controlled, parallel-group, multicenter clinical study.

*Investigators: Daniela Berg, Kathrin Brockmann, Karin Srulijes, Isabel Wurster*

**EarlyStim:** The Effect of Deep Brain Stimulation of the Subthalamic Nucleus (STN-DBS) on Quality of Life in Comparison to Best Medical Treatment in Patients with Complicated Parkinson's Disease and Preserved Psychosocial Competence.

*Investigators: Günther Deuschl, Rejko Krüger*

**A Randomized, Double-Blind, Double-Dummy, Efficacy, Safety and Tolerability Study of Levodopa – Carbidopa Intestinal Gel in Levodopa-Responsive Parkinson's Subjects.**

*Investigator: Rejko Krüger*

**Open-Label, 12-Month Safety and Efficacy Study of Levodopa – Carbidopa Intestinal Gel in Levodopa-Responsive Parkinson's disease Subjects.**

*Investigator: Rejko Krüger*

**Combined stimulation of subthalamic nucleus and substantia nigra pars reticulata for the treatment of refractory gait disorders in Parkinson's disease.**

*Investigators: Rejko Krüger, Daniel Weiss*

**Global longterm registry of Levodopa-Carbidopa Intestinal Gel in Levodopa-Responsive Parkinson's disease Subjects.**

*Investigator: Rejko Krüger*

**Wirksamkeit und Sicherheit der tiefen Hirnstimulation des Nucleus pedunculopontinus zur Behandlung von Parkinson-Patienten mit ausgeprägter Gangstörung.**

*Investigators: Sorin Breit, Rejko Krüger, Alireza Gharabaghi, Christian Plewnia*

**Functional electrical stimulation in hereditary spastic paraplegia.**

*Investigators: Rebecca Schüle, Sarah Wiethoff, Kathrin Karle, Ludger Schöls*

**A phase III open-label, single-group extension study to obtain long-term safety and tolerability of idebenone in the treatment of Friedreich's ataxia patients (PROTI).**

*Investigators: Jennifer Müller vom Hagen, Ludger Schöls*

**Randomized, double blind, placebo controlled study of Lu AA24493 in patients with Friedreich's ataxia to evaluate safety and tolerability and to explore efficacy (CEPO Phase IIa).**

*Investigators: Tobias Lindig, Jennifer Müller vom Hagen, Ludger Schöls*

**A multicenter, randomized, double blind, placebo controlled, parallel group, multiple oral dose titration, proof of concept study in patients with Huntington's disease to assess the safety and tolerability of AFQ056 in reducing chorea.**

*Investigators: Tobias Lindig, Jennifer Müller vom Hagen, Ludger Schöls*

**Tower Study:** Prospective, open-label, non-randomized, single-arm, multicenter dose titration study to investigate the safety and efficacy of NT 201 in subjects deemed to require total body doses of 800 U of NT 201 during the course of the study for the treatment of upper and lower limb spasticity of the same body side due to cerebral causes. MRZ60201\_3053\_1.

*Investigators: Tobias Wächter, Karin Schweitzer*

**A phase III, randomised, double-blind and open label phase, active and placebo controlled study comparing the short term efficacy of two formulations of clostridium botulinum type A toxin (Dysport and Dysport RU) to placebo, and assessing the short and long term efficacy and safety of Dysport RU following repeated treatments of subjects with cervical dystonia (CD). IPSEN N°Y-52-52120-134.**

*Investigators: Tobias Wächter, Kathrin Brockmann*

**A phase III, multicentre, double blind, randomised, placebo-controlled, parallel-group study with an open-label extension of the safety and efficacy of Botox (Botulinum Toxin Type A) purified neurotoxin complex as treatment for post-stroke spasticity of the lower limb.**

*Investigators: Tobias Wächter, Karin Schweitzer*

**Y-79-52120-166:** An international observational prospective Study on long-term response to Botulinum toxin type A (BoNT-A) injections in subjects suffering from idiopathic cervical dystonia (CD) – pharmaco-economic impact (INTEREST IN CD2).

*Investigator: Tobias Wächter*

**A94-52120-165:** Eine nationale, multizentrische, nicht-interventionelle, prospektive, Längsschnittstudie zur Behandlung mit Botulinumtoxin A Injektionen in bisher nicht behandelten oder vorbehandelten Patienten mit zervikaler Dystonie (Dysport®).

*Investigator: Tobias Wächter*

## Third-Party Funding

### ONGOING GRANTS

#### **NEURASYN: Academic-Industrial Training Network on alpha-synuclein**

*Project leader: Prof. Dr. Philipp Kahle*

Funding institution: EU FP7

#### **Adagio Studie TVP1012/501 – Rasagilin im Langzeitverlauf (Verlängerung)**

*Project leader: Prof. Dr. Daniela Berg*

Funding institution: TEVA

#### **CAFQ056A2217 in dyskinetic Parkinson's disease patients (AFQ-Extension)**

*Project leader: Prof. Dr. Daniela Berg*

Funding institution: Novartis

#### **Phytopharm – Cogane™ (PYM50028)**

*Project leader: Prof. Dr. Daniela Berg*

Funding institution: ICON

#### **PPMI – The Parkinson's Progression Initiative**

*Project leader: Prof. Dr. Daniela Berg*

Funding institution: Michael J. Fox Foundation for Parkinson's Research

#### **Development of LRRK2 BAC transgenic rats**

*Project leader: Dr. Saskia Biskup, Prof. Dr. Olaf Riess (UKT)*

Funding institution: European Project on Mendelian Forms of Parkinson's Disease (MEFOPA)

#### **Mendelian Forms of Parkinson's Disease (MEFOPA), Subproject: MeFoPa-Registry and –Biobank**

*Project leader: Prof. Dr. Thomas Gasser*

Funding institution: EU

#### **MEFOPA (Mendelian Forms of Parkinson's Disease)**

*Project leader: Prof. Dr. Philipp Kahle*

Funding institution: EU

#### **Novel Targets of TDP-43**

*Project leader: Prof. Dr. Philipp Kahle*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

## Third-Party Funding

### ONGOING GRANTS

**Funktionelle Charakterisierung der Bedeutung von Mutationen im Omi/HtrA2 Gen im Rahmen gestörter mitochondrialer Funktion und Dynamik bei der Parkinson-Krankheit**

*Project leader: Prof. Dr. Rejko Krüger*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

**NGFN-Plus Parkinson Network, subproject: Scientific coordinating office**

*Project leader: Prof. Dr. Thomas Gasser (coordinator)*

Funding institution: Federal Ministry of Education and Research (BMBF)

**NGFN-Plus Parkinson Network, subproject: Genomics of Parkinson's disease**

*Project leader: Prof. Dr. Thomas Gasser, Prof. Dr. Daniela Berg*

Funding institution: Federal Ministry of Education and Research (BMBF)

**Mitochondrial stress response in neurodegeneration and aging – dissection of Omi/HtrA2 and DJ-1 mediated signaling pathways**

*Project leader: Prof. Dr. Rejko Krüger*

Funding institution: Federal Ministry of Education and Research (BMBF), NGFNplus Verlängerung Bund 01GS0468

**Die Bedeutung des Parkinson-assoziierten Proteins Mortalin im Rahmen mitochondrialer Signalwege der Neurodegeneration**

*Project leader: Prof. Dr. Rejko Krüger*

Funding institution: Fritz-Thyssen-Stiftung

**Die Bedeutung von DJ-1 bei der Regulation mitochondrialer Dynamik und Autophagie in murinen und humanen neuronalen Modellen der Parkinson-Krankheit**

*Project leader: Prof. Dr. Thomas Gasser, Prof. Dr. Rejko Krüger*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

**SP 1009 Aurora-Neupro Augmentation: Multizentrische, nicht interventionelle Studie**

*Project leader: Prof. Dr. Daniela Berg*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

**MJFF Research Grant “Longitudinal follow up of clinical and neuroimaging sign as well as biomarkers in symptomatic and asymptomatic LRRK2 mutation carriers in comparison to idiopathic PD and controls”**

*Project leader: Prof. Dr. Thomas Gasser, Prof. Dr. Daniela Berg*

Funding institution: Michael J. Fox Foundation for Parkinson's Research

**Progression markers in the suspected premotor phase and early Parkinson's disease (Amendment)**

*Project leader: Prof. Dr. Daniela Berg*

Funding institution: Johnson & Johnson

**PPMI – The Parkinson's Progression Markers Initiative (Amendment 4)**

*Project leader: Prof. Dr. Daniela Berg*

Funding institution: Michael J. Fox Foundation for Parkinson's Research

**Competence Net Degenerative Dementias-Frontotemporal Dementias**

*Project leader: Prof. Dr. Philipp Kahle*

Funding institution: Federal Ministry of Education and Research (BMBF)

**Functional Genomics of Parkinson's Disease**

*Project leader: Prof. Dr. Philipp Kahle*

Funding institution: Federal Ministry of Education and Research (BMBF)

**Genetic disorders in Arab societies of Israel and the Palestinian Authorities**

*Project leader: Prof. Dr. Ludger Schöls*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

**Genetische Grundlagen der Hereditären Spastischen Spinalparalysen**

*Project leader: Prof. Dr. Ludger Schöls,*

*Dr. Rebecca Schüle-Freyer*

Funding institution: HSP-Selbsthilfegruppe Deutschland e.V.

**Protein interaction network analysis and pathway modeling for LRRK2**

*Project leader: Prof. Dr. Thomas Gasser, Dr. Jared Sternecker (MPI), Christian Johannes Gloeckner (Eberhard Karls University Tübingen)*

Funding institution: Michael J. Fox Foundation for Parkinson's Research

**The importance of DJ-1 for the regulation of mitochondrial dynamics and autophagy in murine and human neuronal models of Parkinson's disease**

*Project leader: Prof. Dr. Thomas Gasser, Prof. Dr. Rejko Krüger*  
Funding institution: Deutsche Forschungsgemeinschaft (DFG)

**Polyglutamine repeats and Parkinson's disease**

*Project leader: Prof. Dr. Thomas Gasser, Prof. Dr. Rejko Krüger, Dr. Manu Sharma*  
Funding institution: Michael J. Fox Foundation for Parkinson's Research

**The neuromuscular network of freezing of gait in Parkinson's disease**

*Project leader: Prof. Dr. Rejko Krüger*  
Funding institution: St. Jude Medical

**Nosology and molecular diagnosis of the degenerative recessive ataxias (EUROSCAR)**

*Project leader: Prof. Dr. Ludger Schöls, P. Bauer*  
Funding institution: EU

**AQW051A2209 – Amendment**

*Project leader: Prof. Dr. Daniela Berg*  
Funding institution: Novartis

**BIA-91067-301 – Amendment**

*Project leader: Prof. Dr. Daniela Berg*  
Funding institution: Scope International

**Landscape**

*Project leader: Prof. Dr. Daniela Berg*  
Funding institution: Philipps-University Marburg

**NIC-PD**

*Project leader: Prof. Dr. Daniela Berg*  
Funding institution: Philipps-University Marburg

**DAT-Imaging in LRRK2 Gene Carriers**

*Project leader: Prof. Dr. Daniela Berg*  
Funding institution: Institute of Neurodegenerative Disorders, New Haven

**MJFF Research Grant 2012**

“LRRK2 Mutation and Cancer Risk”  
*Project leader: Prof. Dr. Daniela Berg*  
Funding institution: Michael J. Fox Foundation for Parkinson's Research

**Inclusion of Resting State MRI: A Parkinson's Progression Markers Initiative (PPMI) Substudy**

*Project leader: Prof. Dr. Daniela Berg*  
Funding institution: Michael J. Fox Foundation for Parkinson's Research

**PPMI Amendment – Cognitive Categorization Assessment**

*Project leader: Prof. Dr. Daniela Berg*  
Funding institution: Michael J. Fox Foundation for Parkinson's Research

**PPMI Amendment – Additional PD Subjects**

*Project leader: Prof. Dr. Daniela Berg*  
Funding institution: Michael J. Fox Foundation for Parkinson's Research

**MJFF Research Grant 2011: Gait and Motor Symptoms in healthy asymptomatic relatives of patients with PD carriers of Mutations in the LRRK2 gene**

*Project leader: Prof. Dr. Daniela Berg*  
Funding institution: Michael J. Fox Foundation for Parkinson's Research

**dPV Fellowship Projekt 2012/2013**

*Project leader: Prof. Dr. Daniela Berg*  
Funding institution: Deutsche Parkinson Vereinigung (dPV)

**MDS-UPDRS**

*Project leader: Prof. Dr. Daniela Berg*  
Funding institution: Philipps-University Marburg

**OPTIMED**

*Project leader: Prof. Dr. Daniela Berg*  
Funding institution: Federal Ministry for Economic Affairs and Energy (BMWi)

**Virtual Institute: RNA Dysmetabolism in ALS and FTD**

*Project leader: Prof. Dr. Philipp Kahle*  
Funding institution: German Center for Neurodegenerative Diseases (DZNE)

**Integrated European omics research project for diagnosis and therapy in rare neuromuscular and neurodegenerative diseases**

*Project leader: Prof. Ludger Schöls*  
Funding institution: EU FP7 grant 305121



## Third-Party Funding

### ONGOING GRANTS

#### **27-Hydroxy-Sterol-Toxizität in der Pathophysiologie der SPG5**

*Project leader: Prof. Ludger Schöls*

Funding institution: HSP-Selbsthilfegruppe Deutschland e.V.

**SENSE-PAR K:** Supporting and Empowering Parkinson patients in their home environment using a novel sensory information system that monitors daily-life-relevant parameters of Parkinson disease and their change.

*Project leader: Prof. Dr. Walter Maetzler*

Funding institution: EU FP7

#### **Moving beyond**

*Project leader: Prof. Dr. Walter Maetzler*

Funding institution: EU FP7

#### **Quantitative Analyse der Schrittmittlung beim idiopathischen Parkinson-Syndrom**

*Project leader: Prof. Dr. Walter Maetzler*

Funding institution: Interdisziplinäres Zentrum für Klinische Forschung (IZKF)

#### **Accelerometer-basierte 2-Jahres Verlaufsstudie zu posturaler Stabilität bei über 700 Personen im Alter zwischen 50 und 80 Jahren mit oder ohne Parkinson-Syndrom**

*Project leader: Prof. Dr. Walter Maetzler*

Funding institution: Interdisziplinäres Zentrum für Klinische Forschung (IZKF)

#### **Influence of Immune Subtypes on the LRRK2 Phenotype**

*Project leader: Prof. Dr. Daniela Berg, Prof. Dr. Walter Maetzler*

Funding institution: Michael J. Fox Foundation for Parkinson's Research

#### **Development of a screening tool for the treatment of chronic migraine with Botulinumtoxin**

*Project leader: Dr. Tobias Waechter*

Funding institution: Pharm Allergan

### NEW GRANTS

#### **Förderung: Internationale wissenschaftliche Veranstaltung**

*Project leader: Prof. Dr. Thomas Gasser*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

#### **Functional proteomics of mutant LRRK2 induced Parkinson's disease**

*Project leader: Prof. Dr. Thomas Gasser,*

*Dr. Jared Sternecker (MPI)*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

#### **Functional analysis of LRRK2 phosphorylation in human dopaminergic neurodegeneration**

*Project leader: Prof. Dr. Thomas Gasser, Dr. Jared Sternecker (MPI), Christian Johannes Gloeckner (Eberhard Karls University Tübingen)*

Funding institution: Michael J. Fox Foundation for Parkinson's Research

#### **Multimodal Imaging of rare Synucleinopathies (MultiSyn)**

*Project leader: Prof. Dr. Thomas Gasser (coordinator)*

Funding institution: EU

#### **Comprehensive Unbiased Risk factor Assessment for Genetics and Environment in Parkinson's disease (COURAGE-PD)**

*Project leader: Prof. Dr. Thomas Gasser (coordinator)*

Funding institution: Federal Ministry of Education and Research (BMBF)

#### **Assessing the role of LRRK2 in sporadic PD pathology using iPSC-derived dopaminergic neurons**

*Project leader: Prof. Dr. Thomas Gasser, Dr. Jared Sternecker (MPI), Christian Johannes Gloeckner (Eberhard Karls University Tübingen)*

Funding institution: Michael J. Fox Foundation for Parkinson's Research

#### **P-PPMI – Prodormal subjects**

*Project leader: Prof. Dr. Daniela Berg*

Funding institution: Michael J. Fox Foundation for Parkinson's Research

**P-PPMI – Prodormal subjects***Project leader: Prof. Dr. Daniela Berg*

Funding institution: Michael J. Fox Foundation for Parkinson's Research

**PPMI (Year 2)***Project leader: Prof. Dr. Daniela Berg*

Funding institution: Michael J. Fox Foundation for Parkinson's Research

**Fox Trial Finder***Project leader: Prof. Dr. Daniela Berg*

Funding institution: Michael J. Fox Foundation for Parkinson's Research

**Research Grant “Pathophysiological Mechanisms of Prodromal Motor Changes in Individuals at Risk for Parkinson's Disease”***Project leader: Prof. Dr. Daniela Berg*

Funding institution: Internationale Parkinson Fonds

**Agreement for a non-product related Investigator initiated study***Project leader: Prof. Dr. Daniela Berg*

Funding institution: UCB

**PPMI (Year 3)***Project leader: Prof. Dr. Daniela Berg*

Funding institution: Michael J. Fox Foundation for Parkinson's Research

**MJFF Research Grant 2013 – “Influence of Immune Subtypes on the LRRK2 Phenotype”***Project leader: Prof. Dr. Daniela Berg, Walter Maetzler*

Funding institution: Michael J. Fox Foundation for Parkinson's Research

**PPMI – Amendment: Genetic PPMI***Project leader: Prof. Dr. Daniela Berg*

Funding institution: Michael J. Fox Foundation for Parkinson's Research

**dpV Fellowship (Projekt 2013/2014)***Project leader: Prof. Dr. Daniela Berg*

Funding institution: Deutsche Parkinson Vereinigung (dpV)

**Observational Study in non-demented patients with Parkinson's disease with lowered Abeta1-42 CFS levels***Project leader: Prof. Dr. Daniela Berg*

Funding institution: Johnson &amp; Johnson

**mitoNET: Fission and fusion in mitochondrial diseases***Project leader: Prof. Dr. Ludger Schöls, D. Rapaport*

Funding institution: Federal Ministry of Education and Research (BMBF)

**SLC9A6/NHE6 in Neurodegeneration in Corticobasal Syndrome***Project leader: Dr. Julia Fitzgerald*

Funding institution: Fortüne. University of Tübingen

**Cellular and Molecular Functions of TDP-43 and FUS***Project leader: Prof. Dr. Philipp Kahle*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

## Awards

### **Dr. Kathrin Brockmann**

Habilitationsstipendium, Faculty of Tübingen

### **Dr. Sebastian Heinzl**

Travel Grant for the 3rd World Parkinson Congress 2013, Montreal

### **PD Dr. Walter Maetzler**

Research price of the German Parkinson disease Society

### **Emmy Rannikko**

Biochemical Society Poster-Price, 5th Conference on Advances in Molecular Mechanisms of Neurological Disorders, Bath, UK

### **Dr. Saskia Biskup**

Entrepreneur Award 2013

### **Dr. Rebecca Schüle**

Travel award of the Movement Disorders Society, Sydney, Australia

### **Dr. Daniel Weiss**

Poster-Award of the German Parkinson's disease Society, Würzburg, Germany

### **Caroline Obermaier**

Travel Grant of the Genetic Epidemiology of Parkinson's disease Consortium to participate at the 8. Annual Meeting of the GEO-PD, Lübeck, Germany

## PhD Theses

(Completed in 2013)

Marta Garcia Miralles

### **Implications of Human LRRK2 Protein on the Regulation of Cytoskeleton Dynamics in Parkinson's Disease**

*Supervisor: Dr. Saskia Biskup*

Benjamin Schmid

### **Modelling Parkinson's Disease with iPS-cells**

*Supervisor: Prof. Dr. Thomas Gasser*

## Medical Theses

(Completed in 2013)

Ümmügülsüm Baysal

### **Eine Follow-up Studie zur Evaluation der Stabilität des kognitiven Leistungsprofils bei Patienten mit Morbus Parkinson**

*Supervisor: Prof. Dr. Daniela Berg*

Anne Feseker

### **Kognitives Leistungsprofil von Patienten mit Morbus Parkinson**

*Supervisor: Prof. Dr. Daniela Berg*

Manon Herfurth

### **Klinische Studie über den Einfluss von Nordic Walking auf idiopathischen Morbus Parkinson, Untersuchung auf prädiktive Faktoren für ein positives Outcome**

*Supervisor: Prof. Dr. Daniela Berg*

Katharina Hinger

### **Nicht-motorische Symptome bei Patienten mit sporadischem Parkinson-Syndrom im Vergleich zu Patienten und Angehörigen mit LRRK2-Mutation**

*Supervisor: Prof. Dr. Daniela Berg*

Nikoletta Mollova

**Prävalenz der Osteoporose bei Patientinnen mit Morbus Parkinson**

*Supervisor: Prof. Dr. Daniela Berg*

Katharina Brigitte Müller

**Analyse charakteristischer Merkmale in der prämotorischen Phase von Morbus Parkinson**

*Supervisor: Prof. Dr. Daniela Berg*

Nike Spinnler

**Leitliniengerechte Therapie des Restless Legs Syndroms im Klinischen Alltag – Wirksamkeit und Einflussfaktoren**

*Supervisor: Prof. Dr. Daniela Berg*

Anne Stapf

**Liquor- und Serum-Harnsäurewert bei Lewy-Körper-Erkrankungen: Assoziation zu demographischen und genetischen Variablen**

*Supervisor: Prof. Dr. Daniela Berg*

Maren Ellerbrock

**Feinmotorikstörungen bei Parkinson-Patienten: Eine Quer- und Längsschnittstudie mit hochauflösendem Sensor**

*Supervisor: Prof. Dr. Walter Maetzler*

Marie Karam

**Quantitative autonome Parameter beim idiopathischen Parkinsonsyndrom: Potential für Verlaufsdarstellung?**

*Supervisor: Prof. Dr. Walter Maetzler*

Lara Paulig

**Einfluss von tiefer Hirnstimulation auf das Dual-tasking Verhalten von Parkinson-Patienten**

*Supervisor: Prof. Dr. Walter Maetzler*

## Habilitation

**Tobias Wächter**

The Function of the Basal Ganglia during Learning

## Student Training

### Introduction to Clinical Neurology

*Prof. D. Berg, PD Dr. F. Bischof*

### Genetic and Molecular Basis of Neural Diseases

*Prof. T. Gasser, Prof. M. Jucker, Prof. L. Schöls, Prof. F. Baumann*

### Modul Neurobiologie

*Prof. T. Gasser, Prof. H. Lerche, S. Maljevic, Prof. A. Melms, Prof. U. Naumann, Prof. B. Wissinger*

### Vorlesung Neurologie

*Prof. T. Gasser, Prof. H. Lerche, Prof. U. Ziemann, Prof. H. Karnath*

### Neurochemistry and Neurotransmitters

*Prof. P. Kahle, Lecturer*

### Biochemistry II

*Prof. P. Kahle, Lecturer*

### Neurobiochemistry

*Prof. P. Kahle*

### Genetic and Molecular Basis of Neurological Diseases

*Prof. M. Jucker*

### Parkinson für Pharmazeuten

*Prof. P. Ruth*

### Neurogenetic Disorders

*Prof. H. Lerche*

## Seminars and Courses

(Summer Term/Winter Term)

### IPSC Journal Club

*Dr. S. Maljevic*

### Neurologische Untersuchung für Fortgeschrittene

*Prof. T. Gasser, Prof. R. Krüger, Prof. W. Maetzler,  
Prof. L. Schöls*

### Geriatrisch-neurologische-psychiatrische Fallkonferenz

*Prof. T. Gasser, Prof. G. Eschweiler, Prof. W. Maetzler,  
Dr. T. Wächter*

### Seminar Neurocolloquium

*Prof. Dr. M. Jucker, Prof. T. Gasser*

### Therapieseminar der Neurologischen Klinik

*Prof. Dr. M. Jucker, Prof. T. Gasser, Prof. R. Krüger,  
Prof. H.-P. Thier*

### Neuropathologische Fallbesprechung

*Prof. T. Gasser, Prof. H. Lerche, Prof. U. Ziemann*

### Laboratory Rotation

*Prof. M. Jucker, Prof. T. Gasser, Dr. I. Ehrlich*

### Laboratory Rotation Neuroscience/Neurobiology

*Prof. Dr. M. Jucker, Prof. T. Gasser, Prof. L. Schöls,  
Prof. R. Krüger, Prof. P. Kahle, Prof. H. Lerche*

### Neurologischer Untersuchungskurs

*Prof. T. Gasser, Prof. H. Lerche, Prof. U. Ziemann*

### Wissenschaftliches Kolloquium

*Prof. T. Gasser, Prof. M. Jucker, Prof. R. Krüger,  
Prof. H. Lerche, Prof. U. Ziemann, Prof. H. Thier*

### Genetische Diagnostik in der Neurologie

*Prof. R. Krüger*

### Pathologische oszillatorische Aktivität bei Bewegungsstörungen: Pathophysiologische Konzepte und klinische Implikationen

*Prof. R. Krüger*

### Behandlung der Carotisstenosen:

#### operativ vs endovaskulär

*Prof. R. Krüger*

### Die klinische Variabilität der

#### Glucose-Transporter-Typ-1-Syndrome

*Prof. R. Krüger*

### Iron in the Brain

*Prof. R. Krüger*

### Neuropsychologische Aspekte von Stress und Lampenfieber

*Prof. R. Krüger*

### Translational Implications of alpha-Synuclein Research

*Prof. R. Krüger*

### Neues zu den muskulären Kanalopathien

*Prof. R. Krüger*

### Vorhofohrverschluss – Alternative zur Antikoagulation?

*Prof. R. Krüger*

### Functional Imaging in the Epilepsies

*Prof. R. Krüger*

### Fallbericht Station 43

*Prof. R. Krüger*

### Using *Drosophila* to Study Mechanisms of Axonal Regeneration and Degeneration After Injury

*Prof. R. Krüger*

### Spatial Attention and Parietal Subregions: Lesion Mapping and fMRI Converge

*Prof. R. Krüger*

### Hirntoddiagnostik

*Prof. R. Krüger*

### EEG-Seminar

*Prof. R. Krüger*

## Seminars and Courses

(Summer Term/Winter Term)

### **Epidemiology of neurodegenerative diseases: Lessons from the past and plans for the future**

*Prof. R. Krüger*

### **The Potential of Induced Pluripotent Stem Cells in Development and Regenerative Medicine**

*Prof. R. Krüger*

### **Reward Representation and Rule-based Cognitive Decisions in Auditory Cortex**

*Prof. R. Krüger*

### **Mechanisms of Axonal De- and Regeneration in the CNS**

*Prof. R. Krüger*

### **Epileptic Seizures in the MNRI: Haemodynamic Mapping of Ictal Networks**

*Prof. R. Krüger*

### **Lipid Metabolism and Neurodegeneration**

*Prof. R. Krüger*

### **Stem Cell-derived In Vitro Neuronal Network Activity**

*Prof. R. Krüger*

*Seminar: Neurologie (PD Dr. F. Bischof)*

### **Therapieseminar: Genetische Diagnostik**

*Prof. R. Krüger*

### **Neurology Seminar and Bedside Teaching**

*Prof. D. Berg, PD Dr. F. Bischof, Prof. Dr. T. Haarmeier,  
Prof. R. Krüger, Prof. L. Schöls, PD Dr. Y. Weber, and staff  
of the Departments of General Neurology and  
Neurodegenerative Diseases*

### **Bedside Teaching:**

#### **Neurologische Untersuchung für Fortgeschrittene**

*Prof. L. Schöls*

### **Bedside teaching in the final year of medical studies**

*Prof. D. Berg, PD Dr. Bischof, Prof. Dr. T. Haarmeier,  
Prof. R. Krüger, Prof. A. Melms, Prof. L. Schöls, PD Dr. Y. Weber,  
Prof. T. Gasser, Prof. H. Lerche, Prof. A. Melms, Prof. H.-O. Karnath*

### **TüKliS “Treatment of Neurological Disorders”**

*Prof. D. Berg, PD Dr. Bischof, Prof. Dr. T. Haarmeier,  
Prof. R. Krüger, Prof. A. Melms, Prof. L. Schöls, PD Dr. Y. Weber,  
Prof. T. Gasser, Prof. H. Lerche, Prof. A. Melms, Prof. H.-O. Karnath*

### **Neurobiologisches Montagskolloquium**

*Prof. D. Berg, PD Dr. Bischof, Prof. Dr. T. Haarmeier,  
Prof. R. Krüger, Prof. A. Melms, Prof. L. Schöls, PD Dr. Y. Weber,  
Prof. T. Gasser, Prof. H. Lerche, Prof. A. Melms, Prof. H.-O. Karnath*

## Guest Researchers

Dr. Andrea Pilotto, Italy

*Host: Prof. Dr. Daniela Berg*

# Department of Cognitive Neurology



## Clinical and Scientific Staff

### HEAD OF THE DEPARTMENT

Prof. Dr. Peter Thier

### GROUP LEADERS/ATTENDING PHYSICIANS

Prof. Dr. Martin Giese  
Dr. Marc Himmelbach  
Prof. Dr. Uwe Ilg  
Prof. Dr. Dr. Hans-Otto Karnath  
Prof. Dr. Cornelius Schwarz  
PD Dr. Fahad Sultan

### SCIENTISTS/RESIDENTS

Dr. Daniela Balslev (until 08/2013)  
Dr. Marissa Barabas  
Dr. Alia Benali  
Dr. Dominik Brugger (until 02/2013)  
Dr. Shubodeep Chakrabarti  
Dr. Enrico Chiovetto  
Dr. Peter Dicke  
Dr. Dominik Endres  
Dr. Bianca de Haan  
Dr. Winfried Ilg  
Dr. Eva Joosten  
Dr. Axel Lindner  
Dr. Jason Martin (until 08/2013)  
Dr. Christine Pedroarena  
Dr. Jörn Pomper  
Dr. Maren Prass  
Piret Rebassoo

### TECHNICAL STAFF/ADMINISTRATION

Mirjana Angelovska  
Ina Baumeister  
Rüdiger Berndt  
Dr. Friedemann Bunjes  
Ute Großhennig  
Dagmar Heller-Schmerold  
Dr. Martin Löffler  
Björn Müller  
Ursula Pascht



**PHD DOCTORAL STUDENTS**

Daniel Arnstein  
 Artin Atabaki (until 03/2013)  
 Tobias Beck  
 Svenja Borchers (until 02/2013)  
 Christoph Budziszewski  
 Andrea Christensen  
 André Maia Chagas  
 Sonja Cornelsen  
 Nabil Daddaoua (until 03/2013)  
 Leonid Fedorov  
 Petya Georgieva  
 Salah Hamodeh  
 Julian Hofmann  
 Bettina Joachimsthaler  
 Marc Junker  
 Mohammad Khazali  
 Bingshuo Li  
 Dongyun Li  
 Joana Loureiro  
 Nicolas Ludolph  
 David Mack  
 Haian Mao  
 Karolina Marciniak  
 Urszula Mihulowicz (until 09/2013)  
 Jens R. Müller  
 Albert Mukovskiy  
 Bartholomäus Odoj  
 Maysam Oladazimi  
 Artur Pilacinski  
 Hamidreza Ramezanpour  
 Johannes Rennig  
 Manuel Roth  
 Cornelia Schatton  
 Akshay Sharma  
 Azam Shahvaroughi-Faharani  
 Aleksandra Smilgin  
 Oleg Spivak  
 Zong-Peng Sun  
 Nick Taubert  
 Christian Waiblinger  
 Melanie Wallscheid  
 Ann-Kristin Weiser (until 03/2013)  
 Shengjun Wen  
 Barbara Wirxel (until 09/2013)  
 Lisa Wittenhagen  
 Ida Zündorf (until 10/2013)

**MEDICAL DOCTORAL STUDENTS**

Heike Beha  
 Maria Bither  
 Zofia Fleszar  
 Karla Lauer  
 Lukas Olszewski  
 Evgeny Sheygal  
 Tine Stoll  
 Carlo Wilke  
 Lisa Ziegler

**MASTER STUDENTS**

Ghazal Darmani  
 Rümeysa Gündüz  
 Nele Hellbernd  
 Kathrin Kutscheidt  
 Cody Merritt (until 09/2013)  
 Sumit Pai (until 09/2013)  
 Dmytro Velychko  
 David Wojnar (until 06/2013)

**DIPLOMA STUDENTS**

Björn Müller (until 05/2013)

## Clinical Studies

### **Quantification of subtle movement changes in healthy subjects with increased echogenicity of the substantia nigra.**

*Investigators: Winfried Ilg, Inga Liepelt, C. Urban, N. Röhrich, Martin A. Giese, Daniela Berg*

### **Motor learning in patients suffering from cerebellar ataxia.**

*Investigators: Winfried Ilg, Matthis Synofzik, S. Burkhard, D. Brötz, Martin A. Giese, Ludger Schöls*

### **Examination of the influence of visual feedback on real and pantomimed object use in apraxia.**

*Investigators: Andrea Christensen, Winfried Ilg, Martin A. Giese, Hans-Otto Karnath*

### **Affective biological motion recognition in schizophrenia.**

*Investigators: J. Peterman, S. Park, Martin A. Giese, Andrea Christensen, J. Mayer*

### **Die Rolle des parietalen Kortex bei der Wahrnehmung der eigenen Bewegungen.**

*Investigators: Matthis Synofzik, Axel Lindner*

### **Examination of the influence of the cerebellum on the interaction between action and perception.**

*Investigators: D. Timmann-Braun, Winfried Ilg, Andrea Christensen, Martin A. Giese*

### **Videogame-based coordinative training in children with degenerative ataxia.**

*Investigators: Winfried Ilg, Matthis Synofzik, Martin A. Giese, Ludger Schöls*

### **Neurobiologische Grundlagen der Emotionserkennung aus menschlichen Gangsequenzen bei Gesunden und Patienten mit psychischen Erkrankungen.**

*Investigators: Ann-Christine Ehlis, Andrea Christensen, Andreas Fallgatter, Martin A. Giese*

## Third-Party Funding

### ONGOING GRANTS

#### **Corticofugal control of brainstem sensory gating in the rodent whisker system (CH 1232/1-1)**

*Project leader: Dr. Shubhodeep Chakrabarti*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

#### **Selektive Aufmerksamkeit und bewusste Wahrnehmung: Die Überprüfung der Hypothese konkurrierender Interaktionen (HA 5839/3-1)**

*Project leader: Dr. Bianca de Haan,*

*Prof. Dr. Dr. Hans-Otto Karnath*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

#### **Setup and maintenance of the Section for Computational Sensomotorics (EXC 307 – CIN)**

*Project leader: Prof. Dr. Martin Giese*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

#### **Neural encoding of visual action stimuli in mirror neurons in monkey premotor area F5 (GI 305/4-1)**

*Project leader: Prof. Dr. Martin Giese, Prof. Dr. Peter Thier*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

#### **Adaptive modular architecture for rich motor skills (ICT-248311-AMARSi)**

*Project leader: Prof. Dr. Martin Giese*

Funding institution: EU

#### **Emotional interaction grounded in realistic context (ICT-249858 TP 3-TANGO)**

*Project leader: Prof. Dr. Martin Giese*

Funding institution: EU

#### **Adaptive Brain Computations (PITN -GA-011-290011-ABC)**

*Project leader: Prof. Dr. Martin Giese*

Funding institution: EU Training Network (ITN)

#### **Human reaching and grasping – cognitive networks of visual action control (ERC-2007-StG 211078-GRA SP-CN)**

*Project leader: Dr. Marc Himmelbach*

Funding institution: EU

#### **Beteiligung der Colliculi superiores an der räumlichen Planung und Ausführung von visuell gesteuerten Handbewegungen (HI 1371/1-1)**

*Project leader: Dr. Marc Himmelbach,*

*Prof. Dr. Dr. Hans-Otto Karnath*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

**Functional neuroimaging of the human tectum**

(EXC 307-CIN)

*Project leader: Dr. Marc Himmelbach,**Prof. Dr. Dr. Hans-Otto Karnath*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

**Bewertung der Funktionalität von Objekten und schlussfolgerndes Denken über mechanische Probleme**

(HI 1371/2-1)

*Project leader: Dr. Marc Himmelbach,**Prof. Dr. Dr. Hans-Otto Karnath*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

**Schülerlabor Neurowissenschaften – Lab2Venture***Project leader: Prof. Dr. Uwe Ilg*

Funding institution: Federal Ministry for Economic Affairs and Energy (BMWi) via Saarland University

**Störungen motorischen Handelns nach Schädigungen des parietalen und des temporalen Kortex beim Menschen**

(KA 1258/10-1)

*Project leader: Prof. Dr. Dr. Hans-Otto Karnath,**Dr. Marc Himmelbach*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

**Symptomorientierte voxelbasierte statistische****Läsionsanalyse bei Aphasie und Akalkulie** (KA 1258/11-1)*Project leader: Prof. Dr. Dr. Hans-Otto Karnath*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

**Selektive auditive räumliche Aufmerksamkeit in akustisch komplexen Situationen** (KA 1258/12-1)*Project leader: Prof. Dr. Dr. Hans-Otto Karnath*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

**Mechanismen und Störungen visuell gesteuerter Alltagshandlungen** (KA 1258/15-1)*Project leader: Prof. Dr. Dr. Hans-Otto Karnath,**Prof. Dr. Martin Giese*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

**Reorganisation kognitiver Funktionen nach Schlaganfall** (56025963)*Project leader: Prof. Dr. Dr. Hans-Otto Karnath*

Funding institution: The German Academic Exchange Service (DAAD)

**Einfluss der Objekterkennung auf die neuronalen Prozesse der Steuerung von Greifbewegungen** (PK 2012-23)*Project leader: Prof. Dr. Dr. Hans-Otto Karnath*

Funding institution: Faculty of Medicine, University of Tübingen, IZKF Promotionskolleg

**How do cortical representations of eye position impact spatial cognition?***Project leader: Prof. Dr. Dr. Hans-Otto Karnath*

Funding institution: The Danish Council, University of Copenhagen (Nr. 09-072209)

**National Network of Computational Neuroscience (Bernstein Center). Projekt “Die neuronalen Grundlagen sensorischer Vorhersagen für Wahrnehmung und Verhalten”, C4***Project leader: Dr. Axel Lindner, Prof. Dr. Martin Giese*

Funding institution: Federal Ministry of Education and Research (BMBF)

**Entwicklung von dynamischer Hirnstimulation für die Anwendung in zukünftigen kortikalen sensorischen Neuroprothesen** (SCHW 577/9-1)*Project leader: Prof. Dr. Cornelius Schwarz*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

**National Network of Computational Neuroscience (Bernstein Center). Projekt “Bildgebung neuronaler Populationskodierungen von Wahrnehmungsgrößen in wachen Tieren”, B2***Project leader: Prof. Dr. Cornelius Schwarz*

Funding institution: Federal Ministry of Education and Research (BMBF)

**D-USA-Verbund: Wie dynamisch ist neuronale Kodierung? Zustandsabhängige Stimulusselektivität in thalamo-cortikalen Netzwerken im Tasthaarsystem der Ratte** (01GQ1113)*Project leader: Prof. Dr. Cornelius Schwarz*

Funding institution: Federal Ministry of Education and Research (BMBF)

**From 3D surface models to the cellular and molecular architecture of the dentate nucleus: characterizing human-typical traits in the cerebellum** (SU 171/3-1)*Project leader: PD Dr. Fahad Sultan*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

## Third-Party Funding

### ONGOING GRANTS

**Move'n Up: Videospiele-basiertes koordinatives Training für rollstuhlpflichtige Kinder mit erblicher Ataxie**

*Project leader: Dr. Matthias Synofzik, Dr. Winfried Ilg*

Funding institution: Katarina Witt-Foundation

**Move'n Fun: Videogame-based coordinative training in children with degenerative ataxia**

*Project leader: Dr. Matthias Synofzik, Dr. Winfried Ilg*

Funding institution: Ataxia UK

**Cerebellar-Cortical Control: Cells, Circuits, Computation, and Clinic (C7) (PITN -GA-2009-238214)**

*Project leader: Prof. Dr. Peter Thier*

Funding institution: EU

**Towards the neural basis of joint attention (TH 425/12-1)**

*Project leader: Prof. Dr. Peter Thier*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

**Schülerlabor Neurowissenschaften (32.5.8051.0149.1)**

*Project leader: Prof. Dr. Peter Thier*

Funding institution: Robert Bosch Foundation

**National Network of Computational Neuroscience (Bernstein Center) Projekt „Inferenzprozesse in der visuellen Bewegungswahrnehmung“, C3**

*Project leader: Prof. Dr. Peter Thier, Prof. Dr. Martin Giese*

Funding institution: Federal Ministry of Education and Research (BMBF)

### NEW GRANTS

**The Human Brain Project**

(FP7-ICT-2013-FET-F/604102 – HBP)

*Project leader: Prof. Dr. Martin Giese*

Funding institution: EU

**Improving humanoid walking capabilities by human-inspired mathematical models, optimization and learning**

(FP7-ICT-2013-10/ 611909 – Koroibot)

*Project leader: Prof. Dr. Martin Giese*

Funding institution: EU

**Schülerlabor Neurowissenschaften – Ferienakademie**

(P1130023)

*Project leader: Prof. Dr. Uwe Ilg*

Funding institution: Hertie Foundation

**Research Unit “Primate Systems Neuroscience” – Project A3:**

**The role of the cerebellum in saccadic adaptation as a window into neural mechanisms of motor learning**

(TH 425/13-1)

*Project leader: Prof. Dr. Peter Thier*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

**Research Unit “Primate Systems Neuroscience” – Central**

**Office Project (TH 425/14-1)**

*Project leader: Prof. Dr. Peter Thier*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

**FG Barrel Cortical Function, TP 6 Neuronal processing of task-specific afferent whisker information in the rat barrel cortex**

(SCHW 577/10-2)

*Project leader: Prof. Dr. Cornelius Schwarz*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

## Awards

### Dr. Daniela Balslev

Attempto Prize 2013, Universitätsbund Tübingen

### Dominik Endres

Sloan-Swartz Fellowship 2013 of the Bernstein Network  
Teaching Award 2013, NIP Graduate School Tübingen

### Martin A. Giese

Teaching Award 2013, NIP Graduate School Tübingen

## PhD Theses

(Completed in 2013)

Nabil Daddaoua

**Why is the world upright? Visual and vestibular information for a stable percept of the world**

*Supervisor: Prof. Dr. Peter Thier*

Falk Fleischer

**Learning-based neural theory for the modeling of the visual tuning properties of mirror neurons**

*Supervisor: Prof. Dr. Martin Giese*

Walter Linzenbold

**The contribution of the superior colliculi to planning and execution of visually guided movements**

*Supervisor: Dr. Marc Himmelbach*

## Medical Theses

(Completed in 2013)

Lukas Olzewski

**Neuropsychologische Störungen und Läsionsanalyse bei Multipler Sklerose**

*Supervisor: Prof. Dr. Dr. Hans-Otto Karnath*

Carlo Wilke

**Plastizität der Wahrnehmung eigener Bewegungen**

*Supervisors: Prof. Dr. Peter Thier, Dr. Axel Lindner, Dr. Matthias Synofzik*

## Diploma/Master Theses

(Completed in 2013)

Rümeysa Gündüz

**Investigation of the contribution of contralateral and ipsilateral posterior parietal cortex to online control of reach to grasp actions using MRI-guided TMS**

*Supervisor: Dr. Marc Himmelbach*

Nele Hellbernd

**Neural correlates of action planning – Does reach planning reflect the visual action-consequences?**

*Supervisor: Dr. Axel Lindner*

Nicolas Ludolph

**Reinforcement learning approach to human motor control and learning for artificial tool usage**

*Supervisor: Dr. Winfried Ilg*

Cody Merritt

**Markov logic networks for action semantics and the measurement of action errors in apraxia**

*Supervisors: Dr. Dominik Endres, Prof. Dr. Martin Giese*

Björn Müller

**Methoden zur Analyse von dynamischer Stabilität und Rumpf-Extremitäten Koordination bei Kindern nach Neurorehabilitation**

*Supervisors: Dr. Winfried Ilg, Prof. Dr. Martin A. Giese*

Sumit Pai

**Modeling coarticulation in human motion with hierarchical probabilistic models**

*Supervisors: Dr. Dominik Endres, Prof. Dr. Martin A. Giese*

Dmytro Velychko

**A segmented full-body controllable avatar model for virtual reality experiments**

*Supervisors: Dr. Dominik Endres, Prof. Dr. Martin A. Giese*

David Wojnar

**Development of a virtual environment for analyzing adaptation and the influence of perspectives**

*Supervisors: Dr. Winfried Ilg, Prof. Dr. Martin A. Giese*

## Conferences & Workshops

### **Lesion Analysis Workshop**

Tübingen, 07.06.2013

*Scientific Coordinators: Prof. Dr. Dr. Hans-Otto Karnath,  
Dr. Bianca de Haan*

### **Ferienakademie Neurowissenschaften**

Tübingen, 30.07.-02.08.2013

*Scientific Coordinator: Prof. Dr. Uwe Ilg*

### **Neuroenhancement – What could we do and what ought we to do?**

Tuebingen International Summer School (TISS)

Cloister Heiligkreuztal, 29.09.-02.10.2013

*Scientific Coordinators: Ruth Conrad and Dominik Gerstorfer  
(Forum Scientiarum) and Axel Lindner and Kirsten Volz (CIN)*

## Student Training

### **LECTURES**

(Summer Term/Winter Term)

#### **Motor Systems**

*Prof. Dr. P. Thier*

Lecture, curricular, for the Graduate Schools of Neural & Behavioural Sciences, Cellular & Molecular Neuroscience, and Neural Information Processing.

#### **Neurophysiology**

*Prof. Dr. C. Schwarz, Dr. C. Pedroarena*

Lecture, curricular, for the Graduate Schools of Neural & Behavioural Sciences, Cellular & Molecular Neuroscience, and Neural Information Processing.

#### **Dynamics of Neural Systems**

*Prof. Dr. M. Giese*

Lecture in the Masters program for neuroscience, mandatory course for the track 'Neural Information processing'

#### **Neuropsychology**

*Prof. Dr. Dr. H.-O. Karnath*

#### **Fundamentals of Sensorimotor Integration**

*Prof. Dr. U. Ilg*

#### **Funktionelle Neuroanatomie**

*PD Dr. F. Sultan*

#### **Machine Learning II**

*Prof. Dr. M. Giese, Dr. D. Endres*

#### **Methods in Neuropsychology**

*Dr. M. Himmelbach, Dr. B. de Haan*

#### **Perception, Cognition & Behavior**

*Dr. Ziad Hafed, Dr. M. Himmelbach, Dr. Tobias Meilinger*

**SEMINARS AND COURSES**

(Summer Term/Winter Term)

**Neurokolloquium**

*Prof. Dr. P. Thier*

Seminar series addressing graduate students and scientists working in different fields of the neurosciences. Curricular seminar for Master students at the Graduate Schools of Neural & Behavioural Sciences, Cellular & Molecular Neuroscience, and Neural Information Processing.

**Neurobiologisches Montagskolloquium**

*Prof. Dr. U. Ilg*

**Lab Practicals Neurophysiology**

*Prof. Dr. C. Schwarz*

**Aktuelle Probleme in der Neuropsychologie**

*Prof. Dr. Dr. H.-O. Karnath*

**Aktuelle Probleme der Sensomotorik**

*Prof. Dr. P. Thier*

**Neurobiologie des Kleinhirns**

*Prof. Dr. P. Thier*

**Machine Learning II**

*Prof. Dr. M. Giese, Dr. D. Endres*

**Dynamics of Neural Systems**

*Prof. Dr. M. Giese*

**Tierphysiologischer Kursus für Studierende der Bioinformatik**

*Prof. Dr. U. Ilg*

**Neural Prosthetics**

*Dr. A. Lindner, Dr. T. Münch*

**Fachdidaktik: Neurobiologie in der Schule**

*Prof. Dr. U. Ilg*

**Guest Researchers**

Prof. Dr. Reza Shadmehr, USA

*Host: Prof. Dr. P. Thier*

Prof. Dr. Chris Rorden, USA

*Host: Prof. Dr. Dr. H.-O. Karnath*

PhD Peii Chen, USA

*Host: Prof. Dr. Dr. H.-O. Karnath*

Dr. Davide Rivolta, Germany

*Host: Prof. Dr. Dr. H.-O. Karnath*



# Department of Cellular Neurology



## Clinical and Scientific Staff

### HEAD OF THE DEPARTMENT

Prof. Dr. Mathias Jucker

### GROUP LEADERS

Dr. Frank Baumann  
Prof. Dr. Christoph Laske (Section of  
Dementia Research, jointly with the  
University Department of Psychiatry  
and Psychotherapy)

### SCIENTISTS/RESIDENTS

Mehtap Bacioglu (since 09/2013)  
Karoline Degenhardt (since 09/2013)  
Dr. Yvonne Eisele  
Sarah Fritschi  
Dr. Petra Füger  
Dr. Jasmin Hefendehl (until 02/2013)  
Götz Heilbronner  
Stephan Käser  
Jasmin Mahler  
Dr. Luis Maia  
Dr. Anne-Marie Marzcesco  
Dr. Amudha Nagarathinam (until 05/2013)  
Dr. Jonas Neher  
Renata Novotny  
Dr. Jörg Odenthal  
Juliane Schelle (since 12/2013)  
Manuel Schweighauser  
Dr. Angelos Skodras  
Dr. Mathias Staufenbiel (since 03/2013)  
Dr. Nicholas Varvel (until 04/2013)  
Dr. Bettina Wegenast-Braun  
Ulla Welzel (until 10/2013)  
Jan Winchenbach (until 01/2013)  
Lan Ye

**TECHNICAL STAFF/  
ADMINISTRATION**

Andrea Bosch (until 10/2013)  
 Isolde Breuer (until 09/2013)  
 Anika Bühler  
 Simone Eberle  
 Bernadette Graus  
 Christian Krüger  
 Marius Lambert (since 01/2013)  
 Ulrike Obermüller  
 Claudia Schäfer

**MASTER STUDENTS**

Karoline Degenhardt  
 Juliane Schelle

**Clinical Studies****DIAN Dominantly Inherited Alzheimer Network:**

The goal of DIAN is to study brain changes and biomarker changes in people who carry an Alzheimer's disease mutation to determine how the disease process develops before any symptoms are detected.

*Investigators: M. Jucker, C. Laske, S. Gräber-Sultan, E. Kuder-Buletta, N. Köhler*

**DELCODE** (DZNE – Longitudinal Cognitive Impairment and Dementia Study). The aim of the study is to characterize the neuronal network mechanisms of cognitive adaption and decompensation.

*Investigators: C. Laske, M. Gindullis, R. Niebler, T. Trunk*

**A multicenter, open-label, long-term safety extension of phase II studies ABE4869g and ABE4955g in patients with mild to moderate Alzheimer's Disease**

*Investigators: C. Laske, N. Köhler, T. Trunk, S. Müller*

**LipiDiDiet Trail:** Anwendung einer ergänzenden bilanzierten Trinknahrung (Souvenaid®) bei Patienten mit leichter kognitiver Beeinträchtigung. Eine randomisierte, doppelblinde Vergleichsstudie über 24 Monate mit 12-monatiger Verlängerungsstudie

*Investigators: C. Laske, N. Köhler, T. Trunk, Vuckovic*

**12-wöchige, doppel-blinde, randomisierte, zweiarmige Studie zur Wirksamkeit von Bupropion in der Behandlung von Apathie bei Patienten mit Alzheimer-Demenz**

*Investigators: C. Laske, N. Köhler, T. Trunk, S. Müller*

## Third-Party Funding

### ONGOING GRANTS

#### Generation of APP transgenic mice

*Project leader: Prof. Dr. Mathias Jucker*

Funding institution: Koesler

#### EC-FP7 (LUPAS, Luminescent polymers for in vivo imaging of amyloid signatures) FP7-Health-2009-1.2-5, Project No. 242098s

*Project leader: Prof. Dr. Mathias Jucker*

Funding institution: EU

#### Kompetenznetz Demenzen – Amyloid (01G11004F)

*Project leader: Prof. Dr. Mathias Jucker*

Funding institution: Federal Ministry of Education and Research (BMBF)/German Aerospace Center (DLR), Project Management Agency

#### NGFN-Plus: Pathomechanism of Cerebral Amyloid Angiopathy (01GS08131), 2nd funding

*Project leader: Prof. Dr. Mathias Jucker*

Funding institution: Federal Ministry of Education and Research (BMBF)/German Aerospace Center (DLR), Project Management Agency

#### Research fellowship

*Project leader: Luis Oliveira da Maia*

Funding institution: Ministério da Ciência e de Tecnologia, Lisboa

#### Donation for Alzheimer research

*Project leader: Prof. Dr. Mathias Jucker*

Funding institution: Anonymous donor

#### Roman Herzog Postdoctoral Fellowship

*Project leader: Dr. Jonas Neher*

Funding institution: Hertie Foundation

### NEW GRANTS

#### Generation of APP transgenic mice

*Project leader: Prof. Dr. Mathias Jucker*

Funding institution: Koesler

#### Research fellowship, extension

*Project leader: Luis Oliveira da Maia*

Funding institution: Ministério da Ciência e de Tecnologia, Lisboa

#### Roman Herzog Postdoctoral Fellowship, Extension

*Project leader: Dr. Jonas Neher*

Funding institution: Hertie Foundation

#### Donation for Alzheimer Biomarker research

*Project leader: Prof. Dr. Mathias Jucker*

Funding institution: Anonymous donor

#### Organotypic Slice Cultures (031A198A)

*Project leader: Prof. Dr. Mathias Jucker*

Funding institution: Federal Ministry of Education and Research (BMBF)/Project Management Jülich (PTJ)

#### Donation for Alzheimer research

*Project leader: Prof. Dr. Mathias Jucker*

Funding institution: Anonymous donor

#### Charakterisierung der sehr frühen Eiweiß-Aggregationskeime bei der Alzheimer-Demenz

*Project leader: Prof. Dr. Mathias Jucker,*

*Dr. Anne-Marie Marzesco*

Funding institution: Akademie der Wissenschaften, Hamburg

## Awards

### Prof. Dr. Mathias Jucker

Hamburger Wissenschaftspreis 2013,  
Akademie der Wissenschaften Hamburg

### Dr. Nicholas Varvel

Hertie Paper of the Year Award 2013

## PhD Theses

(Completed in 2013)

Amudha Nagarathinam

**Amyloid-beta interaction with cellular membranes accelerates aggregation and neuronal toxicity of Alzheimer's pathology in mice.**

*Supervisor: Dr. Frank Baumann*

## Bachelor Theses

(Completed in 2013)

Marie-Christine Baur

**The Role of Mitochondrial A $\beta$  in Alzheimer's Disease Pathology: Search for an Appropriate Control**

*Supervisor: Dr. Frank Baumann*

## Diploma/Master Theses

(Completed in 2013)

Karoline Degenhardt

**Role of microglial phagocytosis in Alzheimer's disease**

*Supervisor: Dr. Jonas Neher*

Juliane Schelle

**BACE1 as a Therapeutic Target for Cerebral  $\beta$ -Amyloidosis in APP Transgenic Mice**

*Supervisor: Prof. Dr. Mathias Jucker*

## Student Training

### LECTURES

(Summer Term/Winter Term)

#### Genetic and Molecular Basis of Neural Diseases I

*Prof. M. Jucker, Dr. F. Baumann*

#### Cellular and Molecular Neuroscience

*Prof. H. Herbert, Dr. F. Baumann*

#### Neuroglia

*Dr. J. Neher*

#### Cell Imaging Techniques

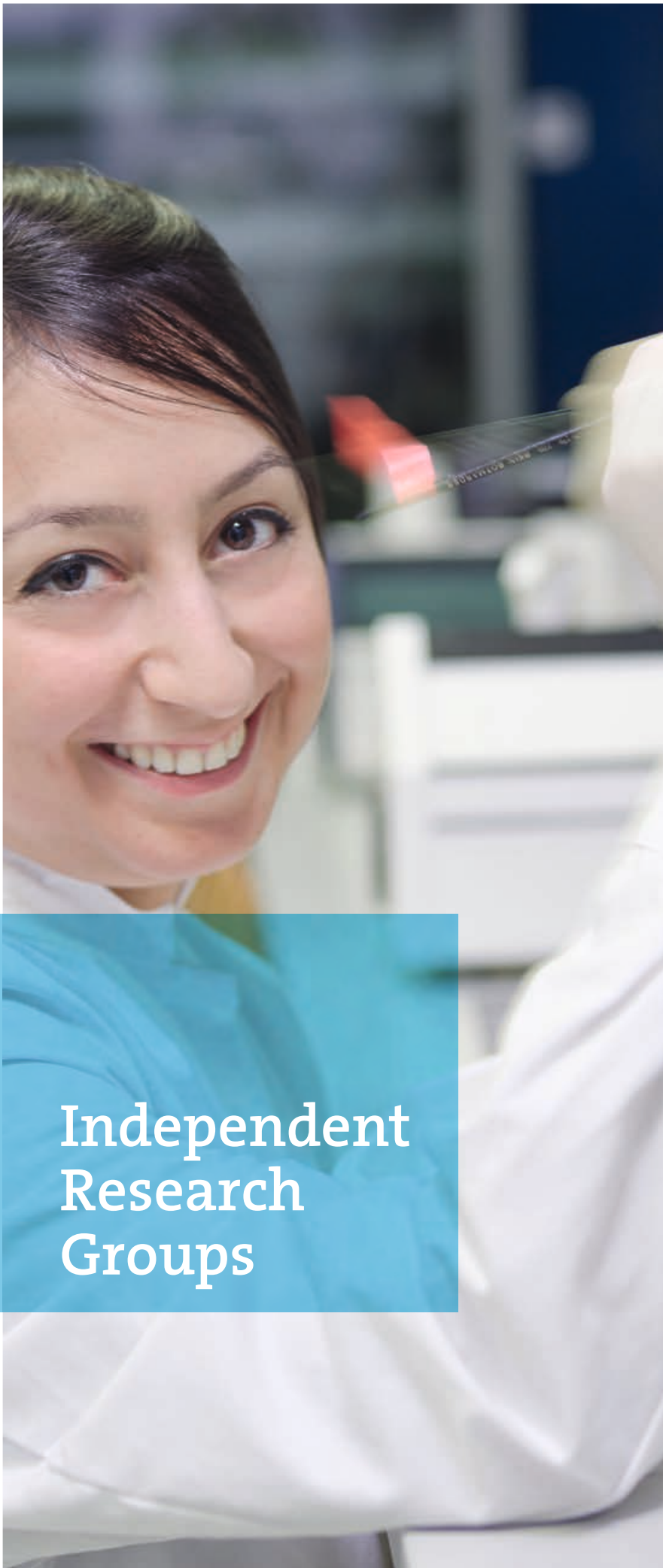
*Dr. C. Liebig, Dr. A. Skodras, Dr. M. Oberländer*

### SEMINARS AND COURSES

(Summer Term/Winter Term)

#### Neurohistology/-pathology and Quantitative Neuromorphology

*Prof. M. Jucker, Dr. B. Wegenast-Braun*



# Neuroregeneration and Repair

## Clinical and Scientific Staff

### HEAD OF THE RESEARCH GROUP

Dr. Simone Di Giovanni

### SCIENTISTS/RESIDENTS

Mohamed Elnaggar  
Kirsi Forsberg  
Arnau Hervera-Abad  
Yashashree Joshi  
Radhika Puttagunta  
Giorgia Quadrato  
Gizem Inak  
Marilia Grando Soria

### TECHNICAL STAFF/ADMINISTRATION

Andrea Sabino  
Anja Wuttke

Independent  
Research  
Groups

## Third-Party Funding

### ONGOING GRANTS

#### Genetic intrinsic control of axonal regeneration

*Project leader: Dr. Simone Di Giovanni*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

#### PCAF-dependent regulation of axonal regeneration after spinal cord injury

*Project leader: Dr. Simone Di Giovanni*

Funding institution: Wings for Life Foundation

#### The role of NFATC4 in the survival and integration of adult new born neurons

*Project leader: Dr. Simone Di Giovanni, co-PI: Olga Garashuck*

Funding institution: Werner Reichardt Centre for Integrative Neuroscience (CIN)

#### The role of p53 in axonal regeneration of the lesioned hypogastric nerve: a novel strategy against incontinence (Project TP4)

*Project leader: Dr. Simone Di Giovanni*

Funding institution: Deutsche Forschungsgemeinschaft (DFG), KFO 273-DFG grant

#### The role of p53 and cGKI pathways in axonal regeneration following CNS injury

*Project leader: Dr. Simone Di Giovanni*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

### NEW GRANTS

#### Genetic intrinsic control of axonal regeneration

*Project leader: Dr. Simone Di Giovanni*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

#### PCAF-dependent regulation of axonal regeneration after spinal cord injury

*Project leader: Dr. Simone Di Giovanni*

Funding institution: Wings for Life Foundation

## PhD Theses

(Completed in 2013)

Elisa Floriddia

#### The role of p53 in spinal cord injury

*Supervisor: Simone Di Giovanni*

Kirsi Forsberg

#### P53 and oxidative stress in neurogenesis

*Supervisor: Simone Di Giovanni*

## Master Theses

(Completed in 2013)

Gizem Inak

#### MDM4/MDM2 in axonal regeneration

*Supervisor: Dr. Simone Di Giovanni, Joshi Yashashree*

# Physiology of Learning and Memory

## Clinical and Scientific Staff

### HEAD OF THE RESEARCH GROUP

Dr. Ingrid Ehrlich

### SCIENTISTS/RESIDENTS

Dr. Daniel Bosch  
Irene Melo

### TECHNICAL STAFF/ADMINISTRATION

Andrea Gall

### MASTER STUDENTS

Alaa Sharif

### PHD DOCTORAL STUDENTS

Douglas Asede  
Cyril Daniel  
Cora Hübner  
Michael Jonnes

### MEDICAL DOCTORAL STUDENTS

Anna Gärtner

## Third-Party Funding

### ONGOING GRANTS

#### **Mechanisms underlying developmental changes in fear and extinction learning**

*Project leader: Dr. Daniel Bosch*

Funding institution: The Werner Reichardt Centre for Integrative Neuroscience (CIN), Exc 307 (Pool Project)

#### **Functional role of AMPA-R signaling at neuron-glia synapses in white matter**

*Project leader: Dr. Maria Kukley, Dr. Ingrid Ehrlich*

Funding institution: The Werner Reichardt Centre for Integrative Neuroscience (CIN), Exc 307 (Pool Project)

#### **Function of axo-axonic synapses in amygdala circuits and fear learning and memory**

*Project leader: Dr. Ingrid Ehrlich, Dr. Hansjürgen Volkmer, Dr. Gal Richter-Levin*

Funding institution: The Werner Reichardt Centre for Integrative Neuroscience (CIN), Exc 307 (Pool project)

### NEW GRANTS

#### **The role of sleep in the consolidation of fear extinction memory**

*Project leader: Dr. Ingrid Ehrlich, Prof. Dr. Christian Büchel*

Funding institution: Deutsche Forschungsgemeinschaft (DFG), SFB-TR 654, TP A12

#### **Anatomische Grundlagen von Angst und Furcht: Morphologische Charakterisierung von interkalierten Neuronen in der Amygdala anhand von Projektionsmustern und postsynaptischen Partnern**

*Project leader: Anna Gärtner, Dr. Ingrid Ehrlich, Prof. Thomas Gasser*

Funding institution: IZKF Promotionskolleg, University of Tübingen



## Diploma/Master Theses

(Completed In 2013)

Alaa Sharif

### **Developmental Changes in Synaptic Properties of Sensory Inputs to Lateral Amygdala Principle Neurons**

Graduate School of Cellular and Molecular Neuroscience

*Supervisor: Dr. Ingrid Ehrlich*

## Conferences & Workshops

### **German American Frontiers in Science Meeting**

#### **Member of the organizing committee 2013/2014**

*Scientific Coordinators: Alexander von Humboldt Foundation, National Academy of Science, USA*

## Student Training

### LECTURES

(Summer Term/Winter Term)

#### **Molecular and Cellular Basis of Learning and Memory**

*Dr. I. Ehrlich*

#### **Neurobiology for students of Molecular Medicine**

*Prof. T. Gasser*

### SEMINARS AND COURSES

(Summer Term/Winter Term)

#### **Neurophysiology for students of Medicine, Dentistry and Molecular Medicine**

*Prof. O. Garaschuk*

# Synaptic Plasticity

## Clinical and Scientific Staff

### HEAD OF THE RESEARCH GROUP

Dr. Tobias Rasse

### SCIENTISTS/RESIDENTS

Katharina Daub  
Shabab Hannan  
Dr. Jeannine Kern  
Ann-Christin Krahl  
Carola Schneider  
Vrinda Sreekumar  
Dr. Karthikeyan Tangavelou  
Dr. Natalia Veresceaghina  
Jun-yi Zhu

## Student Training

### LECTURES

(Summer Term/Winter Term)

#### **Advanced in vivo Microscopy Course**

*Dr. T. Rasse*

#### **Model Organisms in Neurobiology**

*Prof. R. Feil*

### SEMINARS AND COURSES

(Summer Term/Winter Term)

#### **Small Animal Imaging Techniques**

*Dr. T. Rasse*

## Third-Party Funding

### ONGOING GRANTS

#### **Characterizing the role of fluglotse's FHA domain**

*Project leader: Dr. Tobias Rasse*

Funding institution: Deutsche Forschungsgemeinschaft (DFG)

#### **BMBF Antrag: CNDD Research Project 2 (FTD)**

*Project leader: Prof. Philipp Kahle*

Funding institution: Federal Ministry of Education and Research (BMBF)

#### **Synaptic lack of ATP : molecular cause of SPG10?**

*Project leader: Dr. Tobias Rasse*

Funding institution: Fritz Thyssen Foundation





# Publications in 2013

# List of Publications in 2013

(In alphabetical order)

## Peer Reviewed Articles

- Acimovic J, Lövgren-Sandblom A, Olin M, Ali Z, Heverin M, **Schüle R, Schöls L**, Fischler B, Fickert P, Trauner M, Björkhem I. Sulphatation does not appear to be a protective mechanism to prevent oxysterol accumulation in humans and mice. *PLoS One*. 2013 Jul 3; 8(7): e68031
- Ackermann H** (2013) The contribution of the cerebellum to speech and language. *Brain and Language* 127: 315-316
- Adamopoulou E**, Tenzer S, Hillen N, Klug P, **Rota IA**, Tietz S, Gebhardt M, Stevanovic S, Schild H, Tolosa E, **Melms A, Stoeckle C** (2013). Exploring the MHC-peptide matrix of central tolerance in the human thymus. *Nat Commun* 4: 2039
- Ajalloeian M, van den Kieboom J, **Mukovskiy A, Giese MA**, Ijspeert A. A general family of morphed nonlinear phase oscillators with arbitrary limit cycle shape. *Physica D: Nonlinear Phenomena* 2013; 263: 41-56
- Amin B, Maurer A, Voelter W, **Melms A**, Kalbacher H (2013) New Potential Serum Biomarkers in Multiple Sclerosis Identified by Proteomic Strategies. *Current medicinal chemistry (in press)*
- Appenzeller S, **Schulte C**, Thier S, Hopfner F, Pendziwiat M, Papengut F, Klein C, Hagenah J, Kasten M, **Srulljes K, Berg D, Gasser T**, Singleton A, Deuschl G, Kühlenbäumer G. No Association Between Polymorphisms in the Glutamate Transporter SLC1A2 and Parkinson's Disease. *Mov Disord*. 2013 Feb 6
- Aries MJ, Zijlstra JG, **Diedler J** (2013). Letter by Aries et al. Regarding Article, 'Autoregulation of Cerebral Blood Flow is Preserved in Primary Intracerebral Hemorrhage'. *Stroke* 44(9): e114 [Letter]
- Atabaki A, Dicke PW, Karnath HO**, Thier P. The dependencies of fronto-parietal BOLD responses evoked by covert visual search suggest eye-centred coding. *European Journal of Neuroscience* 2013; 37(8): 1320-1329
- Atabaki A, Marciniak K, Dicke PW, Karnath H-O, Thier P**. Parietal BOLD Response Evoked by Covert Visual Search Reflects Set-Size Effect in Monkeys. *European Journal of Neuroscience* 2013; doi: 10.1111/ejn.12427. [Epub ahead of print]
- Azzedine H, Zavadakova P, Planté-Bordeneuve V, Vaz Pato M, Pinto N, Bartesaghi L, Zenker J, Poirot O, Bernard-Marissal N, Arnaud Gouttenoire E, Cartoni R, Tittle A, Venturini G, Médard JJ, Makowski E, **Schöls L**, Claeys KG, Stendel C, Roos A, Weis J, Dubourg O, Leal Loureiro J, Stevanin G, Said G, Amato A, Baraban J, Leguern E, Senderek J, Rivolta C, Chrast R. PLEKHG5 deficiency leads to an intermediate form of autosomal-recessive Charcot-Marie-Tooth disease. *Hum Mol Genet*. 2013 Jun 26
- Balslev D, Odoj B, Karnath HO**. Role of somatosensory cortex in visuospatial attention. *Journal of Neuroscience* 2013; 33(46): 18311-18318
- Barliya A, Omlor L, **Giese MA**, Berthoz A, Flash T. Expression of Emotion in the Kinematics of Locomotion. *Experimental Brain Research* 2013; 225(2): 159-176
- Becker F, Schubert J**, Striano P, Anttonen AK, Liukkonen E, Gaily E, Gerloff C, **Müller S**, Heußinger N, Kellinghaus C, Robbiano A, Polvi A, Zittel S, von Oertzen TJ, Rostasy K, Schöls L, Warner T, Münchau A, Lehesjoki AE, Zara F, **Lerche H, Weber YG**. PRRT2-related disorders: further PKD and ICCA cases and review of the literature. *J Neurol* 2013; 260(5): 1234-44
- Becker HGT, Haarmeier T**, Tatagiba M, Gharabaghi A. Electrical stimulation of the human homolog of the medial superior temporal area induces visual motion blindness. *Journal of Neuroscience* 2013; 33(46): 18288-18297
- Berardelli A, Wenning GK, Antonini A, **Berg D**, Bloem BR, Bonifati V, Brooks D, Burn DJ, Colosimo C, Fanciulli A, Ferreira J, **Gasser T**, Grandas F, Kanovsky P, Kostic V, Kulisevsky J, Oertel W, Poewe W, Reese JP, Relja M, Ruzicka E, Schrag A, Seppi K, Taba P, Vidailhet M. EFNS/MDS-ES recommendations for the diagnosis of Parkinson's disease. *Eur J Neurol*. 2013 Jan; 20(1): 16-34
- Berg D**, Bandmann O. Biomarkers for PD: How can we approach complexity? *Neurology*. 2013 Feb 12; 80(7): 608-9

- Berg D**, Behnke S, Seppi K, Godau J, Lerche S, Mahlke P, **Liepert-Scarfone I**, Pausch C, Schneider N, Gaenslen A, **Brockmann K**, **Srulijes K**, Huber H, Wurster I, Stockner H, Kiechl S, Willeit J, Gasperi A, Fassbender K, **Gasser T**, Poewe W. Enlarged hyperechogenic substantia nigra as a risk marker for Parkinson's disease. *Mov Disord*. 2013 Feb; 28(2): 216-9
- Berg D**, Godau J, Seppi K, Behnke S, **Liepert-Scarfone I**, **Lerche S**, Stockner H, Gaenslen A, Mahlke P, Huber H, **Srulijes K**, Klenk J, Fassbender K, **Maetzler W**, Poewe W; the PRIPS study group. The PRIPS study: screening battery for subjects at risk for Parkinson's disease. *Eur J Neurol*. 2013 Jan; 20(1): 102-108
- Berg D**, Lang AE, Postuma RB, **Maetzler W**, Deuschl G, **Gasser T**, Siderowf A, Schapira AH, Oertel W, Obeso JA, Olanow CW, Poewe W, Stern M. Changing the research criteria for the diagnosis of Parkinson's disease: obstacles and opportunities. *Lancet Neurol*. 2013 May; 12(5): 514-24
- Bidas S, Koh TS, Roder C, **Braun C**, Schittenhelm J, Ernemann U, Klose U (2013). Intravoxel incoherent motion diffusion-weighted MR imaging of gliomas: feasibility of the method and initial results. *Neuroradiology* 55(10): 1189-96
- Bidas S, Ritz R, Bender B, **Braun C**, Pfannenberger C, Reimold M, Naegele T, Ernemann U (2013) Metabolic Mapping of Gliomas Using Hybrid MR-PET Imaging: Feasibility of the Method and Spatial Distribution of Metabolic Changes. *Investigative Radiology* 48(5): 295-301
- Borchers S**, Müller L, **Synofzik M**, **Himmelbach M**. Guidelines and quality measures for the diagnosis of optic ataxia. *Frontiers in Human Neuroscience* 2013; 7: 324
- Borchers S**, **Synofzik M**, Kiely E, **Himmelbach M**. Routine clinical testing underestimates proprioceptive deficits in Friedreich's ataxia. *Cerebellum* 2013; 12: 916-922
- Borchers S**, Verheij R, Smeets JBJ, **Himmelbach M**. The influence of object height on maximum grip aperture in empirical and modelled data. *Journal of Experimental Psychology: Human Perception and Performance* 2013; doi: 10.1037/a0035061 [Epub ahead of print]
- Bösel J, Schiller P, Hook Y, Andes M, Neumann JO, **Poli S**, Amiri H, Schönenberger S, Peng Z, Unterberg A, Hacke W, Steiner T (2013) Stroke-related Early Tracheostomy versus Prolonged Orotracheal Intubation in Neurocritical Care Trial (SETPOINT): a randomized pilot trial. *Stroke* 44: 21-28
- Böttcher T, Rolfs A, Meyer B, Grossmann A, **Berg D**, Kropp P, Benecke R, Walter U. Clinical, genetic, and brain sonographic features related to Parkinson's disease in Gaucher disease. *J Neurol*. 2013 Jun 29
- Boukhris A, **Schule R**, Loureiro JL, Lourenço CM, Mundwiller E, Gonzalez MA, Charles P, Gauthier J, Rekik I, Acosta Lebrigio RF, Gaussen M, Speziani F, Ferbert A, Feki I, Caballero-Oteyza A, Dionne-Laporte A, Amri M, Noreau A, Forlani S, Cruz VT, Mochel F, Coutinho P, Dion P, Mhiri C, **Schols L**, Pouget J, Darios F, Rouleau GA, Marques W Jr, Brice A, Durr A, Zuchner S, Stevanin G. Alteration of ganglioside biosynthesis responsible for complex hereditary spastic paraplegia. *Am J Hum Genet*. 2013 Jul 11; 93(1): 118-23
- Brendel B**, **Ackermann H**, **Berg D**, Lindig T, Schölderle T, **Schöls L**, **Synofzik M**, Ziegler W. Friedreich Ataxia: Dysarthria Profile and Clinical Data. *Cerebellum*. 2013 Aug; 12(4): 475-484
- Brockmann K**, **Schulte C**, **Hauser AK**, Lichtner P, Huber H, **Maetzler W**, **Berg D**, **Gasser T**. SNCA: Major genetic modifier of age at onset of Parkinson's disease. *Mov Disord*. 2013 May 14
- Caesar M, Zach S, Carlson CB, **Brockmann K**, **Gasser T**, Gillardon F. Leucine-rich repeat kinase 2 functionally interacts with microtubules and kinase-dependently modulates cell migration. *Neurobiol Dis*. 2013 Jun; 54: 280-8
- Caggiano V**, **Pomper J**, **Fleischer F**, Fogassi L, **Giese MA**, **Thier P**. Mirror neurons in monkey area F5 do not adapt to the observation of repeated actions. *Nature Communications* 2013; 4: 1433
- Chiovetto E**, Berret B, Delis I, Panzeri S, Pozzo T. Investigating reduction of dimensionality during single-joint elbow movements: a case study on muscle synergies. *Frontiers in Computational Neuroscience* 2013; 7(11). doi: 10.3389/fncom.2013.00011

- Christ JB, Fruhmann Berger M, Riedl E, Prakash D, Csoti I, Molt W, Gräber S, **Brockmann K, Berg D, Liepelt-Scarfone I**. How precise are activities of daily living scales for the diagnosis of Parkinson's disease dementia? A pilot study. *Parkinsonism Relat Disord*. 2013 Mar; 19(3): 371-4
- Christensen A, Borchers S, Himmelbach M**. Effects of pictorial cues on reaching depend on the distinctiveness of target objects. *PLoS One* 2013; 8(1): e54230
- Dash S, **Dicke PW, Thier P**. A vermal Purkinje cell simple spike population response encodes the changes in eye movement kinematics due to smooth pursuit adaptation. *Frontiers in Systems Neuroscience* 2013; doi: 10.3389/fnsys.2013.00003 (13.03.2013)
- Dash S, **Thier P**. Smooth pursuit adaptation (SPA) exhibits features useful to compensate changes in the properties of the smooth pursuit eye movement system due to usage, *Frontiers in Systems Neuroscience* 2013; doi: 10.3389/fnsys.2013.00067 (17.10.2013)
- de Haan B, Rorden C, Karnath H-O**. Abnormal perilesional BOLD signal is not correlated with stroke patients' behavior. *Frontiers in Human Neuroscience* 2013; 7: 669. doi: 10.3389/fnhum.2013.00669
- de la Rosa S, **Giese MA, Bühlhoff HH, Curio C**. The contribution of different cues of facial movement to the emotional facial expression adaptation aftereffect. *Journal of Vision* 2013; 13(1): 23. doi: 10.1167/13.1.23, 1-15
- Di Lazzaro V, **Ziemann U** (2013) The contribution of transcranial magnetic stimulation in the functional evaluation of microcircuits in human motor cortex. *Frontiers in neural circuits* 7: 18
- Dietrich S, Hertrich I, & Ackermann H** (2013) Ultra-fast speech comprehension in blind subjects engages primary visual cortex, fusiform gyrus, and pulvinar – a functional magnetic resonance imaging (fMRI) study. *BMC Neurosci* 14: 74
- Dietrich S, Hertrich I, Ackermann H** (2013) Training of ultra-fast speech comprehension induces functional reorganization of the central-visual system in late-blind humans. *Front Hum Neurosci* 7: 701
- Eick C, Rizas KD, **Zürn CS**, Bauer A. Automated Assessment of Cardiac Autonomic Function by Means of Deceleration Capacity from Noisy, Nonstationary ECG Signals: Validation Study. *Ann Noninvasive Electrocardiol* (in press)
- Endres D, Chiovetto E, Giese MA**. Model selection for the extraction of movement primitives. *Frontiers in Computational Neuroscience* 2013; 7: 185. doi: 10.3389/fncom.2013.00185
- Endres D**, Meirovitch Y, Flash T, **Giese MA**. Segmenting sign language into motor primitives with Bayesian binning. *Frontiers in Computational Neuroscience* 2013; 7: 68. doi: 10.3389/fncom.2013.00068
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