



Graduate Training Centre of Neuroscience

Integrating Neuroscience Education



The University of Tübingen – Facts and figures

Since 2012: 1 of 11 German Universities of Excellence



Winter semester 2024/25

Students	28,610
Female	17,116
International students	4,466
Granted degrees	4,824



Core Research Areas

Artificial Intelligence and Machine Learning

Neuroscience

Translational Immunology and Cancer Research

Microbiology and Infection Research

Plant Molecular Biology

Geoscience and Environmental Research

Human Evolution and Archaeology

Language and Cognition

History

Education and Media

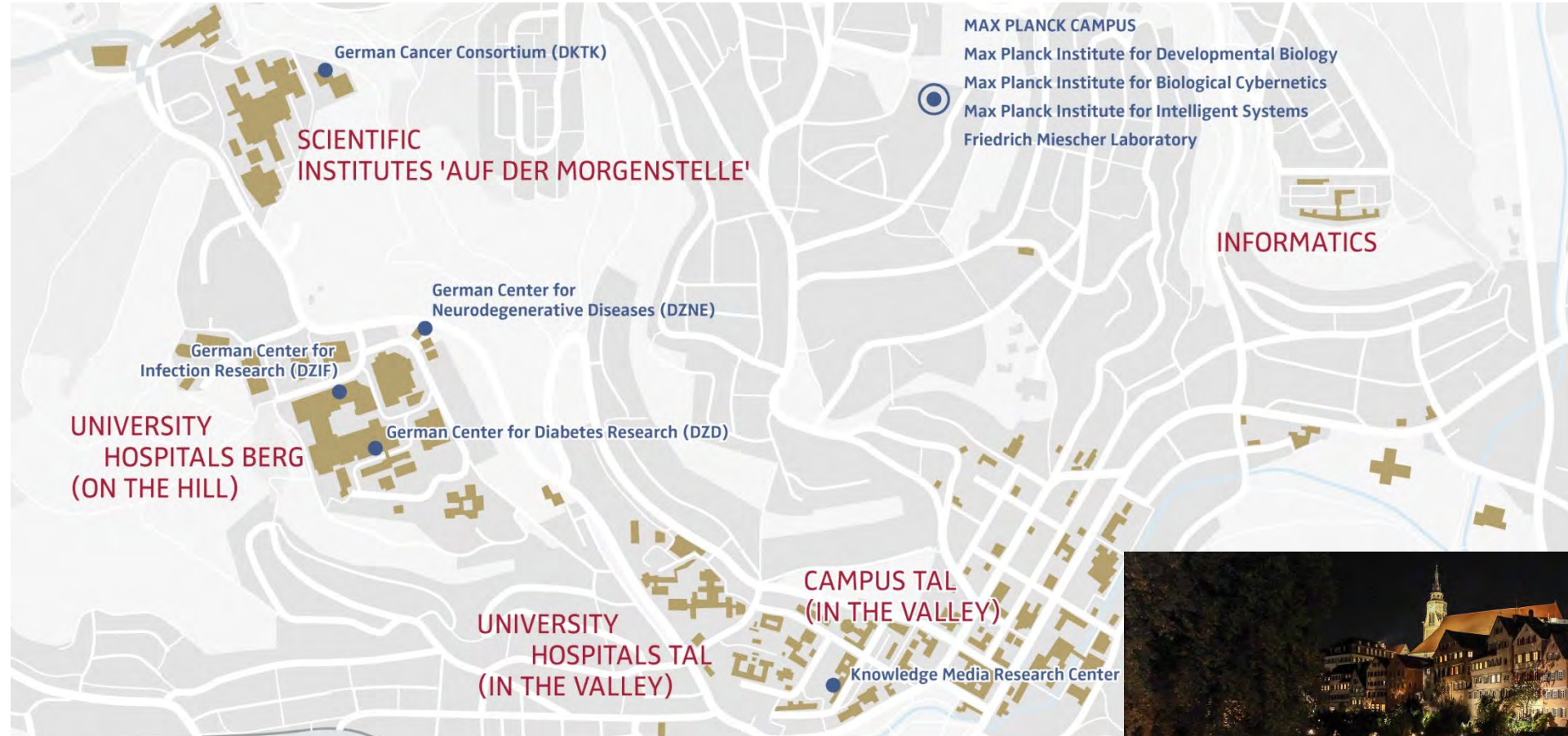
The Excellence Strategy at the University of Tübingen

The Excellence Strategy of the German federal and state governments promotes cutting-edge research and enhances the international appeal of Germany's top universities.

Tübingen receives strategic funding as a University of Excellence and for three Clusters of Excellence for seven years (2019-2025).



Tübingen Campuses





Eberhard Karls Universität Tübingen

@unituebingen · 18.800 Abonnenten · 449 Videos

Die Universität Tübingen ...mehr

uni-tuebingen.de/meta/impressum und 8 weitere Links

Abonniert ▾

Übersicht Videos Shorts Live Podcasts Playlists Beiträge 🔍

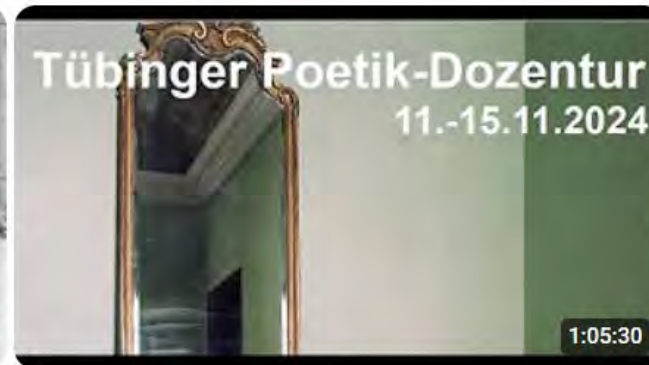


Thesencheck: Diese 11 Mythen zum Muskelaufbau sind fragwürdig

Eberhard Karls Universität Tübingen · 49.616 Aufrufe · vor 1 Monat

Prof. Dr. Barbara Munz, Sportmedizinerin und Leiterin des molekular- und zellbiologischen Forschungslabor am Universitätsklinikum Tübingen, widerlegt 11 Mythen zum Muskelaufbau. 00:00 Vorstellung...

Für dich

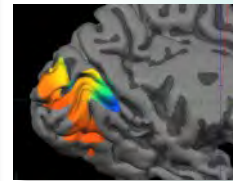




The Graduate Training Centre – Master's programs

1999

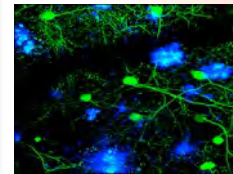
**Neural &
Behavioural
Sciences**



systems & cognitive neuroscience,
neurophysiology, neuropsychology,
sleep and learning & memory,
brain imaging: fMRI, MEG, EEG, TMS

2008

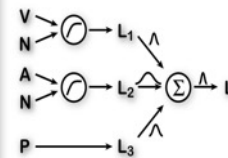
**Cellular &
Molecular
Neuroscience**



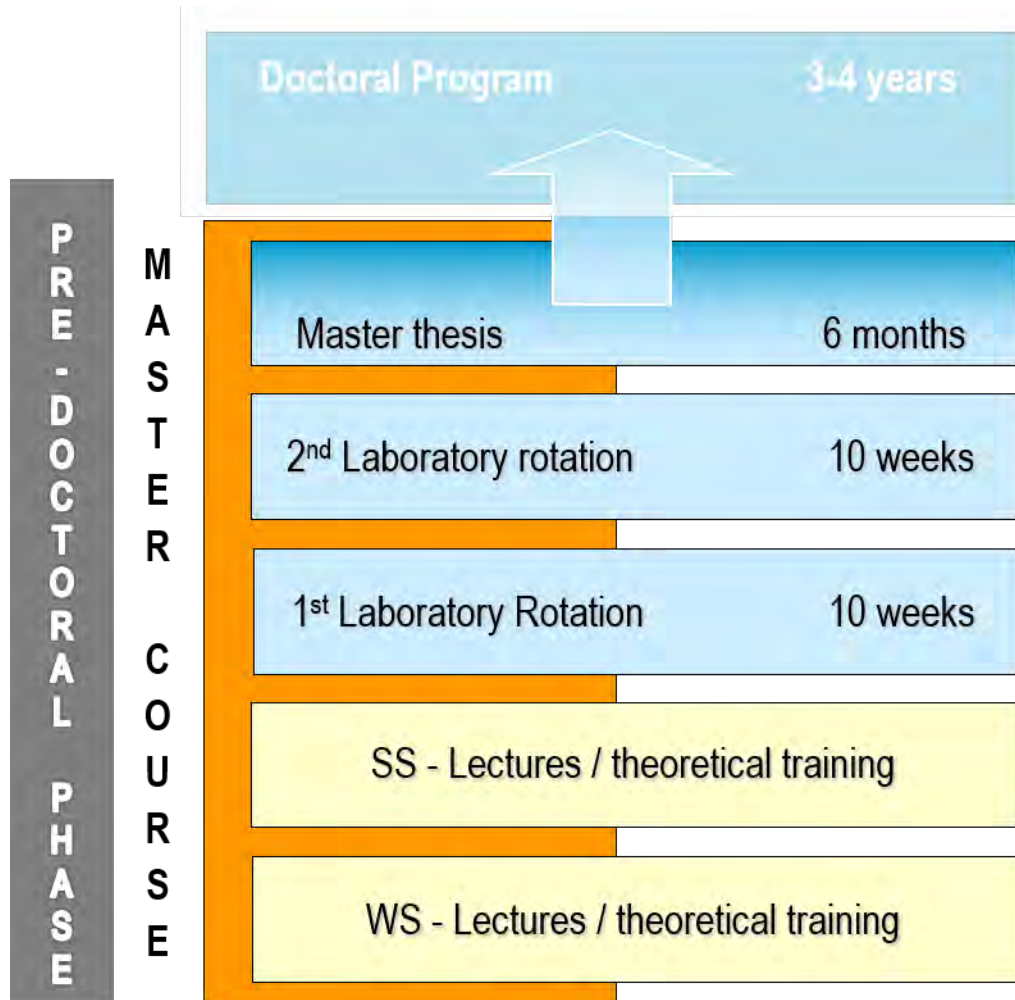
genetic, molecular and cellular
processes of neurodegeneration,
stem cells, genetic mouse models,
molecular imaging techniques

2011

**Neural
Information
Processing**



computational vision, machine learning,
computational motor control, robotics
modelling of neuronal processes,
BCI & neuroprosthetics



Laboratory rotation

- small research projects – different topics / labs
- acquire practical skills in a wide range of methods
- get to know current scientific questions

Course requirements

- seminar presentation + lab report

Course types

- lectures – exercises – tutorials – seminars
- laboratory visits - retreat

Course requirements

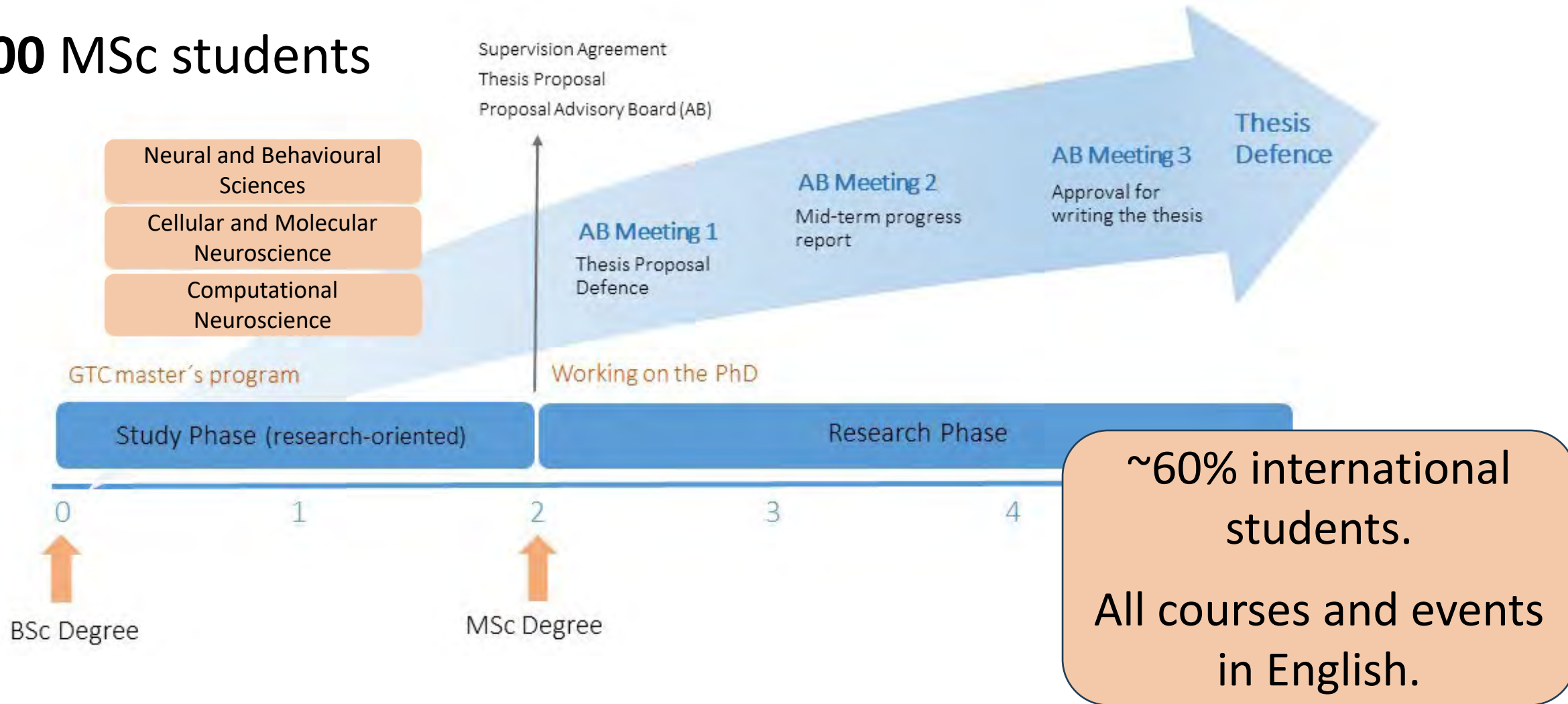
- written exams (mid term / end term)
- problem sheets, essays
- oral presentations

24 of 60 ECTS are
elective courses!



~280 doctoral students.

~100 MSc students





Research Institutes

In Tübingen, neuroscience research and training is ‘without boundaries’:

- it is *interdisciplinary* – it bridges gaps between traditionally separated disciplines,
- it is *interfaculty* – it involves the Faculty of Science and the Faculty of Medicine, including the University Clinics, and
- it is *interinstitutional* – the University of Tübingen, the University Clinics, and several local, extra-university institutions are networked and cooperate in various research centres.

These three ‘inters’ are embodied in the contributions of Tübingen’s numerous Research Centres and Departments to the Graduate Training Centre. In addition to their contributions in the theoretical and practical education of our master and doctoral students, the participating institutions also support the GTC financially.

- [University of Tübingen / Faculty of Science and Faculty of Medicine](#), incl. [University Hospital](#)
- [Tübingen Neuro Campus](#)
- [Werner Reichardt Centre for Integrative Neuroscience](#)
- [Hertie-Institute for Clinical Brain Research](#)
- [German Centre for Neurodegenerative Diseases](#)
- [Bernstein Centre for Computational Neuroscience](#)
- [Centre for Mental Health](#)
- [Centre for Neurosensory Systems \(Inst Ophthalmic Res // Hearing Res Ctr\)](#)
- [Natural & Medical Sciences Institute](#)
- [Institute for Neurobiology](#)
- [Max-Planck-Institute for Biological Cybernetics](#)



The Institute Grows

Two new buildings for basic neuroscience research at the Max Planck Campus in Tübingen



Department for Computational Neuroscience

Dr. Peter Dayan

> [\[more\]](#)



Department for Body-Brain Cybernetics

Dr. Ivan de Araujo > [\[more\]](#)



Department for Sensory and Sensorimotor Systems

Prof. Dr. Zhaoping Li

> [\[more\]](#)



Department for High-field Magnetic Resonance

Prof. Dr. Klaus Scheffler

> [\[more\]](#)

<https://www.kyb.tuebingen.mpg.de/en>



Brain States for Plasticity

Dr. Svenja Brodt

> [\[more\]](#)



Cognitive Neuroscience & Neurotechnology

Dr. Romy Lorenz

> [\[more\]](#)



Dynamic Cognition Group

Dr. Assaf Breska

> [\[more\]](#)



Molecular Signaling

Dr. Robert Ohlendorf

> [\[more\]](#)



Neurodynamics

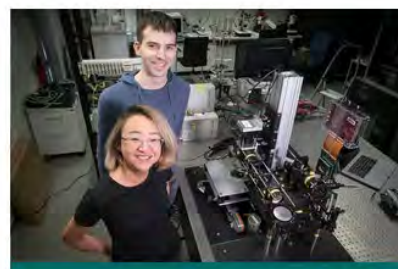
Dr. med. Pascal Fries > [\[more\]](#)



Translational Sensory and Circadian Neuroscience

Prof. Dr. Manuel Spitschan >

[\[more\]](#)



Systems Neuroscience & Neuroengineering

Dr. Jennifer Li & Dr. Drew Robson



**International Max Planck Research
School for the Mechanisms of Mental
Function and Dysfunction**

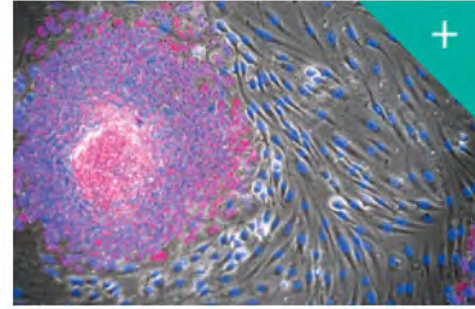
The 'International Max Planck Research School (IMPRS) for The Mechanisms of Mental Function and Dysfunction' (MMFD) provides state-of-the-art training and research under the guidance of leading neuroscientists, psychologists, psychiatrists and computational scientists in Tübingen. Excellent graduates will enjoy an unparalleled opportunity to start their research career in neuroscience.



Hertie-Institut
für klinische Hirnforschung



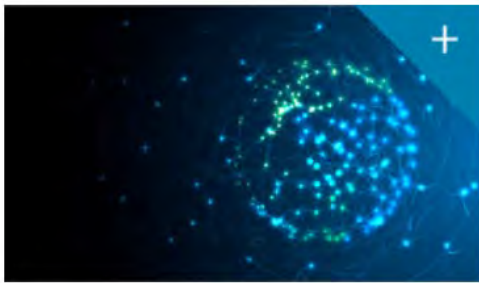
Neurology with Neurovascular
Medicine



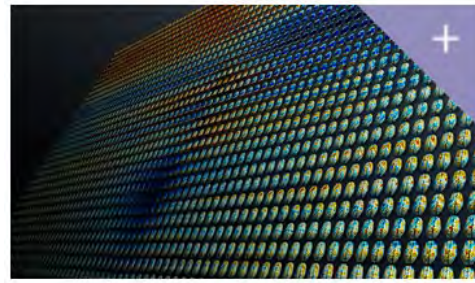
Neurodegenerative Diseases



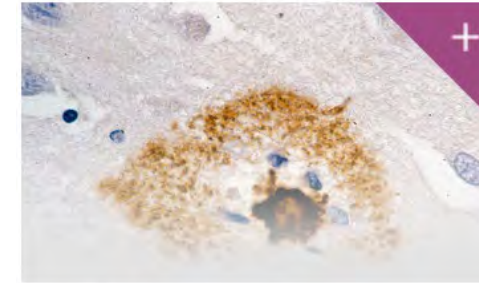
Neurology and Epileptology



Neurology and Interdisciplinary
Neuro-Oncology



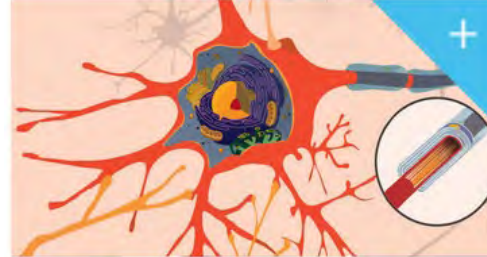
Neural Dynamics and
Magnetoencephalography



Cellular Neurology



Department N3
Neurorehabilitation
Neuroprosthetics
Neurotechnology



Independent Research Groups

<https://www.hih-tuebingen.de/en/>



Overview of research groups

- Brockmann Lab
(Clinical Parkinson Research)
- Fitzgerald Lab
(Mitochondrial Biology of Parkinson's Disease)
- Gasser Lab
(Dystonia)
- Gasser Lab
(Genetics of Parkinson's disease)
- Giese Lab
(Section for Computational Sensomotrics)
- Grimm Lab
(Neuromuscular Imaging Group)
- Hafed Lab
(Active Perception Lab)
- Häufle Lab
(Motor Control Modeling)
- Hedrich-Klimosch Lab
(Experimental Neurophysiology of Channelopathies)
- Lerche Lab
(Experimental Epileptology)
- Mayer Lab
(Molecular Brain Development)
- Merk Lab
(Experimental Pediatric Neuro-Oncology)
- Naumann Lab
(Molecular Neurooncology)
- Neher Lab
(Experimental Neuroimmunology)
- Poli Lab
(Stroke and Neuroprotection)
- Renovanz Lab
(Health Care Research in Neuro-Oncology)
- Schöls Lab
(Section for Clinical Neurogenetic)
- Schüle Lab
(Genomic of Rare Movement Disorders)
- Schwarz Lab
(Systems Neurophysiology Lab)
- Helfrich Lab (Human Intracranial Cognitive Neurophysiology)
- Himmelbach Lab
(Neuropsychology of Action)
- Ilg Lab
(Oculomotor Laboratory)
- Jucker Lab
(Experimental Neuropathology)
- Kahle Lab
(Functional Neurogenetics)
- Karnath Lab
(Section for Neuropsychology)
- Kowarik Lab
(Neurological B-Cell Immunology Group)
- Kühn Lab
(Translational Imaging of Cortical Microstructure)
- Laske Lab
(Dementia Research)
- Siegel Lab
(Neural Dynamics and Magnetoencephalography)
- Snaidero Lab
(Neuron-Glia Interactions)
- Synofzik Lab
(Section for Translational Genomics of Neurodegenerative Diseases)
- Tabatabai Lab
(Laboratory for Clinical and Experimental Neuro-Oncology)
- Thier Lab
(Cognitive Neurology)
- Weiss Lab
(Deep Brain Stimulation)
- Wuttke Lab
(Molecular and translational neurosurgical epileptology)
- Ziemann Lab
(Brain Networks and Plasticity)



About CIN ▾

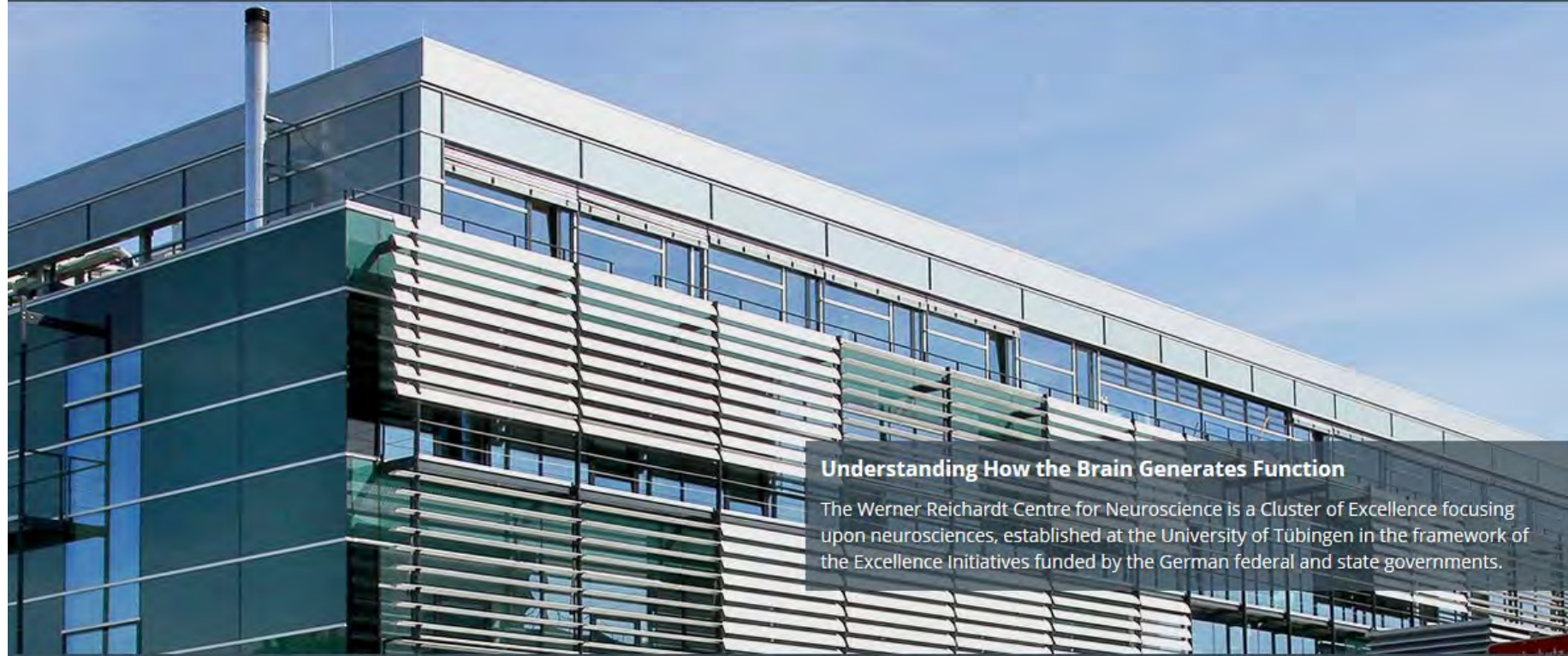
Research ▾

Mission & Methods ▾

News & Events ▾

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Understanding How the Brain Generates Function

The Werner Reichardt Centre for Neuroscience is a Cluster of Excellence focusing upon neurosciences, established at the University of Tübingen in the framework of the Excellence Initiatives funded by the German federal and state governments.

News and Events

Calendar

Overview

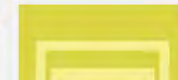
About Us

The Werner Reichardt Centre for Integrative Neuroscience (CIN) is the common platform of custom-oriented neuro



Latest News

Sensory Perception Is Not a One-Way Street





- [Aristides Arrenberg](#)
Systems Neurobiology

- [Andreas Bartels](#)
Vision & Cognition

- [Jan Benda](#)
Neuroethology

- [Philipp Berens](#)
Data Science for Vision
Research

- [Matthias Betghe](#)
Computational Neuroscience

- [Andrea Burgalossi](#)
Neural Circuits and Behaviour

- [Thomas Euler](#)
Ophthalmic Research

- [Henry Evrard](#)
Functional and Comparative
Neuroanatomy

- [Olga Garaschuk](#)
Physiology of Neural Circuits

- [Martin Giese](#)
Computational Sensomotrics
(jointly with Hertie Institute)

- [Ziad Hafed](#)
Physiology of Active Vision

- [Steffen Hage](#)
Neurobiology of Social
Communication

- [Daniel Häufle](#)
Multi-Level Modeling in Motor
Control and Rehabilitation
Robotics

- [Anna Levina](#)
Self-Organization and
Optimality in Neural Networks

- [Zhaoping Li](#)
Sensory and Sensorimotor
Systems

- [Andreas Nieder](#)
Animal Physiology

- [Ivana Nikić-Spiegel](#)
Molecular Mechanisms of
Axonal Injury

- [Yulia Oganian](#)
Cognitive Neuroscience of
Human Verbal Communication

- [Klaus Scheffler](#)
Biomedical Magnetic
Resonance (jointly with MPI for
Biological Cybernetics)

- [Hans-Ulrich Schnitzler](#)
Echolocation in Bats

- [Cornelius Schwarz](#)
Systems Neurophysiology

- [Markus Siegel](#)
Neural Dynamics and
Magnetoencephalography

- [Hans-Peter Thier](#)
Cognitive Neurology

- [Lena Veit](#)
Neurobiology of Vocal
Communication

- [Felix Wichmann](#)
Neural Information Processing

- [Hong Yu Wong](#)
Philosophy of Neuroscience

- [Eberhardt Zrenner](#)
Retinal Degeneration

Prof. Dr. Kerstin Ritter

Prof. Dr. Kerstin Ritter is a Full Professor of Machine Learning for Clinical Neuroscience at the University of Tübingen and is a Director at the Hertie Institute for AI in Brain Health. She is PI in the Excellence Cluster “Machine Learning – New Perspectives for Science” and the Tübingen AI Center as well as multiple interdisciplinary research consortia focusing on innovative methods at the intersection of machine learning and clinical neuroscience. She focuses on using machine learning in neuroimaging, clinical trials, and is recognized with a DFG Heisenberg Professorship and a Sklerose Gesellschaft Award.

MENU



“ Using AI to assess brain health bridges the gap between rapid technology advances and the need for precise care in neurology and psychiatry.”

ABOUT

PRESENT POSITION

Professor of Machine Learning for Clinical Neuroscience

<https://hertie.ai/>



“ We apply machine learning algorithms to enable and accelerate discoveries in neuroscience and ophthalmology, which will ultimately allow us to diagnose diseases earlier and treat them better.”

Prof. Dr. Philipp Berens

Prof. Dr. Philipp Berens is Full Professor of Data Science at the University of Tübingen and Director of the Hertie Institute for AI in Brain Health. Also, he is Speaker of the Excellence Cluster “Machine Learning – New Perspectives for Science” and is part of the core faculty of the Tübingen AI Center. His goal is to use machine learning to enable discoveries in basic and clinical neuroscience, with a focus on ophthalmology. He is interested in developing new algorithms whose output can be integrated into scientific or clinical workflows. His work has been recognized with a DFG Heisenberg Professorship, an ERC Starting Grant and the Bernstein Award of the German Ministry for Science and Education.

ABOUT

PUBLICATIONS

PRESENT POSITIONS AND TITLE

Professor of Data Science, Director

RESEARCH GROUPS

**Neuronal Modeling
Central Office**

EMAIL ADDRESS

PHONE



Student Council of Neuroscience









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APPLY NOW

Applications for all three master's programs are open from February 1 until March 31.

Welcome to the Graduate Training Centre of Neuroscience

The Graduate Training Centre of Neuroscience (GTC) operates international neuroscience degree programs which offer a comprehensive theoretical and practical training in a wide range of neuroscience topics under the guidance of leading neuroscientists. In addition to three Master's programs the GTC runs a doctoral program with advanced neuroscience and supplementary skills training. The GTC collaborates with the [International Max Planck Research School \(IMPRS\) of the Max-Planck Institute for Biological Cybernetics](#), creating a lively and inspiring community for Neuroscience master's and PhD students in Tübingen.