



Winter 2009/2010

## Obligatory Classes

### ZSN-Seminar

Organization: PD Dr. K.-H. Esser

Joint seminar of the ZSN, invited speakers present research projects in neuroscience (1,5 hours credit for each lecture)

**Time:** Thursdays, 17:15 pm

**Location:** INI Hannover, Rudolf-Pichlmayr-Str. 4, 30625 Hannover

Date	Lecturer	Signature
22.10.09	will be announced	
05.11.09	Prof. Dr. Ruth Itzhaki Faculty of Life Sciences, University of Manchester (AG Weissenborn) "HSV1 in brain is a major risk factor for Alzheimer's disease"	
19.11.09	Prof. Dr. André Fiala Molecular Neurobiology of Behaviour, Johann-Friedrich-Blumenbach-Institute, University of Göttingen (AG Bicker) "Optophysiological approaches to learning and memory in Drosophila"	
03.12.09	Dr. Med. Dipl. Psych. A. Ebner, Epilepsieklinik Mara, Centre of Epilepsy Bethel (AG Löscher) "Epilepsy surgery: predictors of short and long-term seizure outcome"	
17.12.09	Prof. Dr. Manfred Gahr Max-Planck-Institute of Ornithology, Seewiesen (AG Esser) "How to make sexy songs"	
07.01.10	Prof. Dr. Leonard van den Berg Department of Neurology, Rudolf Magnus Institute of Neuroscience, University Medical Center Utrecht (AG Dengler) "Genetics and epidemiology in ALS"	
21.01.10	Prof. Dr. Robin J.M. Franklin University of Cambridge, Department of Veterinary Medicine & Cambridge Center of Brain Repair (AG Baumgärtner) "Stem cells and myelin repair"	

**Continuous Lecture Series**

**Obligatory** lecture series for Ph.D. students (2 hours credit for each lecture).

**1<sup>st</sup> year:** Members of the ZSN give an introduction to selected topics in neuroscience. It is the aim to provide a common neuroscientific base for all Ph.D. students.

**2<sup>nd</sup> year:** Students are divided in two groups. Each group gives a presentation on a topic formerly announced.

**PhD students are supposed to have collected 40 hours credit for continuous lectures during the 1<sup>st</sup> and 2<sup>nd</sup> year, at the latest by end of their study.**

**Missed continuous lectures have to be repeated at another time!**

Time: Thursdays 17.15 h / **CAVE! Different starting time marked in red!**

**1<sup>st</sup> year (obligatory):**

<b>Date</b>	<b>Topic</b>	<b>Lecturer and location</b>	<b>Signature</b>
15.10.09	Introduction to Neuroanatomy	<i>Grothe</i>  MHH, Building I2, Floor H0, Lecture Hall E	
29.10.09	Introduction to Neuropharmacology	<i>Löscher</i>  TiHo, Department of Pharmacology, Toxicology and Pharmacy, Library, Bünteweg 17	
12.11.09	Introduction to Cell Biology	<i>Steinlechner</i>  TiHo, Department of Zoology, Library, Bünteweg 17	
14.01.10 15.00 h	Introduction to Neuropathology	<i>Stan</i>  MHH, Building J6 (Theoretische Institute II), 1 <sup>st</sup> Floor, Room 2420	
04.02.10	Introduction to Psychiatry	<i>Bleich</i>  MHH, Leiterzone Psychiatrie, Building K6, Ebene H0, Seminarraum 90	

**2<sup>nd</sup> year (obligatory):**

<b>Date</b>	<b>Topics of presentations</b>	<b>Supervisor and location</b>	<b>Signature</b>
26.11.09	1. Inter- and intracellular signal pathways 2. Transport pathways in neurons	<i>Steinlechner</i>  TiHo, Department of Zoology, Library, Bünteweg 17	
10.12.09	1. Motor systems - extrapyramidal motor system , principal parts and pathways, -Pyramidal tract including innervation of the cranial nerve nuclei 2. The diencephalon - principal parts and their topography, function and interaction with other brain systems	<i>Grothe</i>  MHH, Building I2, Floor H0, Lecture Hall E	
21.01.10 <b>15.00 h</b>	1. Tumor-associated carbohydrate antigens defining tumor malignancy 2. P-glycoprotein-mediated multidrug resistance in cancer	<i>Stan</i>  MHH, Building J6 (Theoretische Institute II), 1 <sup>st</sup> floor, Room 2420	
28.01.10	1. Animal models of neurological diseases (parkinsonism, cerebral ischemia (stroke), epilepsy, acute and chronic pain).	<i>Löscher</i>  TiHo, Department of Pharmacology, Toxicology and Pharmacy, Kurssaal, Bünteweg 17	
11.02.10	MR-Spektroskopie bei psychischen Erkrankungen	<i>Bleich</i>  MHH, Leiterzone Psychiatrie, Building K6, Ebene H0, Seminarraum 90	

**Laboratory classes****“Cellular Biology”, obligatory for 1<sup>st</sup> year***Grothe, Krauss, Ngezahayo, Ponimaskin, Stangel*

Date	Signature
16.-20.11.09	

Date:

16.11. - 20.11.09

Time:9 am - 5 pm each day  
(25 hours credit for the course)Locations:16.11.09 lecture hall E, Hannover Medical School  
20.11.09 lecture hall D, Hannover Medical School  
17.-19.11.09 contributing labsRegistration: dagmar.esser@tiho-hannover.de**“The Senses, Emotions, Motor Functions “, obligatory for 2<sup>nd</sup> year***Altenmüller, Petri, Esser, Löscher*

Date	Signature
02.-06.11.09	

Date:02.11. - 06.11.09  
(25 hours credit for the course)Time:9 am-5 pm each day  
(25 hours credit for the course)Locations:

will be announced

Registration: dagmar.esser@tiho-hannover.de**Seminar in Statistics, obligatory for 1<sup>st</sup> year***Kreienbrock*

Date	Signature
12.03.2010	
19.03.2010	
26.03.2010	

Date and time:3 lectures on Friday in March (12.03., 19.03., 26.03.)  
(12 hours credit for the course)

Fridays, 9-13 h

Location:TiHo / Dept. of Biometry  
Epidemiology and Information Processing  
Room 207Registration: inga.ruddat@tiho-hannover.deDeadline: 05.03.10

**Meeting of the PhD- students**

*Baumgärtner, Esser*

Aim and content:

Regular meeting of ZSN students. Discussion of logistical and conceptual aspects and problems regarding the Ph.D. curriculum. Preparation and organization of common projects. (2 hours credit each)

Time and date:

approx. once a month, will be announced

Location:

Department of Pathology, TiHo, Seminar room

Date	Signature

**ZSN Kolloquium 2009**

*Baumgärtner, Esser*

Date:

Friday 11.09.09 to Sunday 13.09.09

Location:

Maritim Berghotel Braunlage, Braunlage  
<http://www.maritim.de/typo3/deutsch/hotels/hotels/berghotel-braunlage.html>

Date	Signature

## Winter 2009/2010

### Elective Classes

Elective classes cover one or more of the following categories. In the schedule they are marked by abbreviations (letters in brackets):

<b>Basics of Cellular and Molecular Neuroscience</b>	<b>(CMN)</b>
<b>Basics of Biometrics, Presentation, Animal Welfare, etc.</b>	<b>(BPA)</b>
<b>Sensory Systems</b>	<b>(SS)</b>
<b>Behavioural and Cognitive Systems</b>	<b>(CS)</b>
<b>Limbic Systems</b>	<b>(LS)</b>
<b>Motor Systems</b>	<b>(MS)</b>
<b>Systems Neuroscience: Clinical Applications</b>	<b>(CA)</b>

## Institute for music physiology and musicians' medicine, HMTH

### Neurosciences of Music

*Altenmüller*

Categories: SS, CS, LS, MS

Aim:

This seminar focuses on actual results of studies investigating the neurobiological foundations of music perception and music production in general. Literature will be critically reviewed and laboratory results will be discussed.

Date: Fridays, 11.15 - 12.45 h, Start: 16<sup>th</sup> October 2009  
(2 hours credit)

Location: IMMM, Hohenzollernstraße 47, Room 100

Registration: not necessary

Date	Signature

## Department of Anaesthesiology

### Molecular mechanisms of analgesic and local Anaesthetic action

*Dr. J. Ahrens, Dr. N. Foadi, J.de la Roche*

Categories: CMN, CA

Aim and content:

- Basic principles of the Patch-Clamp-Technique including hands-on training
- Electrophysiology and pharmacology of voltage- and ligand-gated ion channels
- Clinical applications for ion channel modulators with a special focus on drugs that target inhibitory synaptic mechanisms in the spinal cord and cation channel blockers in the treatment of chronic pain

(30 hours)

Date: 02.11.09 - 06.11.09

Time: 10.00 - 16.00 h daily

Location: Hannover Medical School, Carl-Neuberg-Str. 1,  
K5, elevator D, 3<sup>rd</sup> floor, Nr. 2390 and 3090

Preliminary Work: Bertil Hille: "Ionic channels of excitable membranes", 3rd edition

Registration: [ahrens.j@mh-hannover.de](mailto:ahrens.j@mh-hannover.de)

Deadline for registration: non - at most 4 participants

Date	Signature
02.11.09	
03.11.09	
04.11.09	
05.11.09	
06.11.09	

**The treatment of chronic neuropathic pain- established principles and novel therapeutic approaches**

*Dr. Jörg Ahrens*

Date	Signature

Categories: CMN, CA

Aim and content:

*Type of your course:* **Lecture and discussion**

- Pathophysiology of chronic post-inflammatory and neuropathic pain
  - Involvement of altered function and expression pattern of ion channels along the pain processing pathway
  - Clinical applications for ion channel modulators with a special focus on drugs that target inhibitory synaptic mechanisms in the spinal cord and cation channel blockers in the treatment of chronic pain
- (2 hours credit)

Date: 06.11.2009

Time: 16.15 - 18.00

Location: Hannover Medical School K5, elevator D; 3<sup>rd</sup> floor, room Nr. 2390

Registration: [ahrens.j@mh-hannover.de](mailto:ahrens.j@mh-hannover.de)

Deadline for registration: none

**Departments: Nuclear Medicine, Neurology, Neurosurgery, Psychiatry, Otolaryngology – University School of Medicine, Hannover**

**Diagnostic approaches to disorders of the central nervous system in patients using radiotracer imaging**

*Berding*

Category: CA

Aim and content:

Lectures by clinical experts will cover the pathophysiology and clinical appearance of disorders in which nuclear medicine methods can contribute to the diagnostic work up.

In particular the following conditions will be addressed:

- CNS tumours (PD Nakamura)
- Dementia, Parkinson syndromes (Prof. Petri)
- Metabolic brain diseases (Prof. Weissenborn)
- Schizophrenia (Dr. Szyck)
- Tourette syndrome, Obsessive compulsive disorder (Prof. K. Müller-Vahl, NN)
- Central hearing disorders (Prof. Lesinski-Schiedat)

Methodological aspects will be presented together with natural scientists and encompass:

- Imaging devices (SPECT, PET) and software tools for data analysis (PD Geworski)
- Production of radiopharmaceuticals (Prof. Meyer)

Clinical cases and corresponding imaging results will be demonstrated. Finally the participants will have the opportunity to visit the PET centre and cyclotron unit of Hannover Medical School and to obtain preliminary hands on experience using specific software tools for the analysis of neuroimaging data.

Date: First meeting: Tuesday 20th October 2009, 10 am c.t.

10 Course-dates: 27.10.2009, 03.11.2009, 10.11.2009, 17.11.09, 24.11.2009, 01.12.2009, 08.12.2009, 15.12.2009, 12.01.2010, 19.01.2010, 26.01.2010

Time: Tuesday 10:15-11:45

Hours: 1,5 hours per week

Workload:

Depends on participant. It's possible just listening to the lectures to get an overview.

Course slides will be provided at the latest one week ahead – allowing for 1.5-3 hours preparation / reading.

Additionally short visits to the nuclear medicine department are possible, for seeing /participating in patient anamnesis, informed consent, preparation before imaging, data acquisition and analysis, reporting to referring physician (2-4 hours, poss. on two separate days)

Location: Meeting room, Department of Nuclear Medicine, MHH, Building K7, Level SO, Room no. 1320

Preliminary Work/ Literature:

- Herholz K, Herscovitch P, Heiss WD  
NeuroPET. PET in Neuroscience and Clinical Neurology. Springer 2004
- Otte A, Audenaert K, Peremans K, van Heeringen K, Dierckx R  
Nuclear Medicine in Psychiatry. Springer 2004
- Duncan, R (ed.) SPECT Imaging of the Brain. Kluwer Academic Publishers 1997.

Registration:

Phone: 0511 / 532 – 5598

e-mail: berding.georg@mh-hannover.de

Deadline: 13th October 2009

Date	Lecturer	Topic	Room	Signature
20.10.2009	Berding + all	Survey of the course	Nuclear medicine Building K7, Level S0, Room 1320	
27.10.2009	Berding	Introduction to radiotracer imaging of the CNS (Part 1)	Nuclear medicine Building K7, Level S0, Room 1320	
03.11.2009	Berding	Introduction to radiotracer imaging of the CNS (Part 2)	Nuclear medicine Building K7, Level S0, Room 1320	
10.11.2008	Meyer	Production of radionuclides, synthesis of radiopharmaceuticals	Nuclear medicine Building K7, Level S0, Room 1320	
17.11.2009	Geworski	Imaging devices, radiation protection	Nuclear medicine Building K7, Level S0, Room 1320	
24.11.2009	Nakamura	Tumors of the central nervous system (CNS)	Main Building K6, Knoten B, Level 5, Seminar-Room 65	
01.12.2009	Petri	Dementia, Parkinson syndroms	Main Building K6, Knoten B, Level 3, Seminar-Room 63	
08.12.2009	Weißborn	Metabolic brain diseases	Neurology, Building K5, Level 3, Knoten E, Room 3130	
15.12.2009	Szycik	Schizophrenia	Building K6, Level H0, Seminar-Room 90	
12.01.2010	Müller-Vahl	Tourette syndrome, Obsessive compulsive disorder	Building K6, Level H0, Seminar-Room 90	
19.01.2010	Lesinski-Schiedat	Cochlear implantation in adults and children	Etcetera Building, 1. floor, Hörzentrum	
27.01.2010	Berding	Wrap-up	Nuclear medicine Building K7, Level S0, Room 1320	

All courses will take place at Hannover Medical School (MHH) on Tuesdays between 10.15 and 11.45 h.

List of lectures:

Prof. Dr. med Georg Berding, Department of Nuclear Medicine, MHH

PD Dr. rer. biol. hum. Lilli Geworski, Department of Nuclear Medicine, MHH

Prof. Dr. med. Anke Lesinski-Schiedat, Department of Otolaryngology, MHH

Prof. Dr. rer. nat. Geerd Meyer, Department of Nuclear Medicine, MHH

Prof. Dr. med. Kirsten Müller-Vahl, Department of Psychiatry, MHH

PD. Dr. med. Makoto Nakamura, Department of Neurosurgery, MHH

Prof Dr. med. Susanne Petri, Department of Neurology, MHH

Dr. rer. nat. Dipl. Psych. Gregor Szycik, Department of Psychiatry, MHH

Prof. Dr. med. Karin Weissenborn, Department of Neurology, MHH

Contact:

G. Berding, Carl-Neuberg-Str. 1, 30625 Hannover, Tel.: 0511/532-5598,

Fax: 0511/532-8588, e-mail: berding.georg@mh-hannover.de



**Surgical pathology of the nervous system - brain necropsy (hands on)**

Stan

Category: CA

Date	Signature

Aim:

Focus will be put on the differential diagnosis of the most common neuropathologic entities encountered during day-to-day neuropathologic diagnosis. (3 hours credit)

Dates:

01.10.09 / 08.10.09 / 15.10.09 / 22.10.09 / 29.10.09  
(as alternatives – please mention **one of** your preferred date in your registration)

Time:

09.30 - 12.30 h

Location:

MHH, building J6 (Theoretische Institute II), basement, Dept. of Pathology

Registration:

alex.stan@gmx.net

Deadline: 15<sup>th</sup> September 2009**Surgical pathology of the nervous system - miscellaneous histology (hands-on)**

Stan

Category: CA

Date	Signature

Aim:

Focus will be put on the differential diagnosis of the most common neuropathologic entities encountered during day-to-day neuropathologic diagnosis. (2 hours credit)

Dates: 01.10.09 / 08.10.09 / 15.10.09 / 22.10.09 / 29.10.09

(as alternatives – please mention **one of** your preferred date in your registration)

Time:

13.00 - 16.00 h

Location:

MHH, building J6 (Theoretische Institute II), basement, Dept. of Pathology

Registration: alex.stan@gmx.netDeadline: 15<sup>th</sup> September 2009



## Department of Neurosurgery, MHH

### **Modulation of basal ganglia activity in movement disorders by functional neurosurgery**

*Krauss*

Categories: CA

Aim and content:

The basal ganglia play a central role in the pathophysiology of movement disorders, such as Parkinson disease, Dystonia and Tremor. In this lecture we give an overview about experimental and therapeutic approaches in the field of functional neurosurgery, which are used to explore the physiology and pathophysiology of basal ganglia activity in these disorders (1.5 hours).

Date: Wednesday, December 2, 2009

Time: 16.30 - 18.00

Location:

Seminar room (65) of the Department of Neurosurgery, MHH (Building K6, Level 05, Room 2320)

Registration:

krauss.joachim@mh-hannover.de  
until November 25, 2009

### **Animal models for psychiatric disorders**

*Schwabe/Krauss*

Categories: CS

Aim and content:

Despite considerable progress in clinical and basic neuroscience, the etiology and molecular mechanisms of mental disorders are still poorly understood. In this lecture we present different approaches to study certain psychiatric disorders at the level of animal neurobiology (1.5 hours).

Date: Wednesday, November 18, 2009

Time: 16.30 - 18.00

Location:

Seminar room (65) of the Department of Neurosurgery, MHH (Building K6, Level 05, Room 2320)

Registration: schwabe.kerstin@mh-hannover.de

Deadline for registration: **Until** November 12, 2009

**Small Animal Clinic, TiHo**

**Clinics in Neurology**

*Tipold, Stein, Schenk, Brauer, Maiolini, Flieshardt, Leithäuser*

Category: CA

Aim and content:

Special examinations of neurological cases  
(5 hours credit per week)

Date: Monday, Tuesday, 14.30 – 17.00 pm

Location:

Small Animal Clinic, TiHo, Bischofsholer Damm 15

Registration:

Email [andrea.tipold@tiho-hannover.de](mailto:andrea.tipold@tiho-hannover.de)  
until 15.10.2009

Date	Signature

**Department of Pathology / Clinic for Small Animals, TiHo**

**Clinical – Neuropathological conferences of submitted cases  
(Pathology and Clinic)**

**-1 conference/month: 3times; dates will be announced to the participants-  
Slide Seminar (Winter Term)**

*Baumgärtner, Tipold, Beineke*

Project-related optional course: **Pathology**

Consecutive Seminar, 6 hours      Language: **English**

Category: CA

Aim and content:

Case presentation and discussion of clinical and neuropathological diagnoses as well as correlation between MRI, histopathology and clinic  
(2 hours credit each meeting)

Evaluation of achievement:

Discussion throughout and at the end of the seminar

Date: to be announced **online**

Location:

Pathology, TiHo, Seminar room, Bünteweg 17

Registration:

Email [andrea.tipold@tiho-hannover.de](mailto:andrea.tipold@tiho-hannover.de)  
Until 15.10.09

Date	Signature





**Institute of Zoology TiHo-Hannover**

**Research topics in animal communication and cognition**

*Zimmermann*

Categories: CS, SS, CA, CMN

Aim and content:

Presentation and discussion of ongoing theses  
(2 hours credit each)

Date: Fridays, 9.15 – 10.45 h

Location:

Library of the Institute of Zoology, TiHo, Bünteweg 17

Registration:

[heike.held@tiho-hannover.de](mailto:heike.held@tiho-hannover.de)

Deadline: **ongoing**

Date	Signature

**Current aspects in animal communication and cognition**

*Zimmermann, Scheumann, Joly*

Categories: CS, SS, CA, CMN

Aim and content:

Presentation and discussion of publications of recent developments in  
animal communication and cognition

Date: **weekend, will be announced**

Location: Library of the Institute of Zoology, TiHo,  
Bünteweg 17

Registration: [heike.held@tiho-hannover.de](mailto:heike.held@tiho-hannover.de),  
deadline: ongoing

Date	Signature

**Advanced lab course (Communication and cognition in animals)**

*Zimmermann, Scheumann, Joly*

Categories:

CS, SS, CMN

Aim and content:

Introduction to specific methods & research tools  
(72 hours)

Date: according to prior agreement

Location:

Institute of Zoology, TiHo, Bünteweg 17

Registration:

[elke.zimmermann@tiho-hannover.de](mailto:elke.zimmermann@tiho-hannover.de),

Deadline: ongoing

Date	Signature

**Advanced lab course (Eco-Physiology)**

*Steinlechner*

Categories: CS, SS, CMN

Aim and content:

Introduction to specific methods & research tools  
(72 hours)

Date:

according to prior agreement

Location:

Institute of Zoology, TiHo, Bünteweg 17

Registration:

[stephan.steinlechner@tiho-hannover.de](mailto:stephan.steinlechner@tiho-hannover.de),

Deadline: ongoing

Date	Signature

**Advanced lab course (System Neurobiology)**

*Esser*

Categories: CS, BPA, SS

Aim and content:

Introduction to specific methods & research tools  
(3 weeks, 72 hours)

Date:

according to prior agreement

Location:

Institute of Zoology, TiHo, Bünteweg 17

Registration:

[kalle.esser@tiho-hannover.de](mailto:kalle.esser@tiho-hannover.de)

phone: 953-8420

Deadline: ongoing

Date	Signature









## Department of Neurology, MHH

### Group meetings and Journal Club of R. Dengler's group

*Christine Schröder, Matthias Wittfoth, Janine Möbes, Reinhard Dengler*

Categories: SS, CS,LS

Aim and content:

Weekly lab-meeting of our study group: Emotional communication. We discuss our lab- work and new publications related to emotional processing

Date: every Tuesday, 13.00-14.00 p.m.

Location:

MHH, Department of Neurology MHH Building K5, seminar room 2340 3<sup>rd</sup> floor, take the elevator (ground floor) via "B- Knoten

Registration:

Registration possible only for Ph.D. students of Prof. Denglers group

### Weekly Lab Meeting and Journal Club of M. Stangel's group

*Stangel*

Categories: CMN, MS, CA

Aim and content:

The scientists, clinicians, and Ph.D.-students of the Stangel lab discuss their projects and publications in the field of demyelinating disorders of the CNS and neuroimmunology, including clinical applications

Date: Each Tuesday

Time: 17:00-19:00

Hours: 2/week

Location: PhD room, Dept. of Neurology, MHH

Preliminary Work: N/A

Registration: Registration possible only for PhD-students of the Stangel lab

Deadline for registration: N/A, ongoing



**Department for Cellular Chemistry, MHH**

**State of the art and literature seminar**

*Members of the Institute for Cellular Chemistry, MHH*

Categories: CMN

Aim and content:

The state of the art and literature seminar of the Institute for Cellular Chemistry, addresses current practical and theoretical aspects in cellular and molecular neuroscience, with a focus set on enzymes that generate neuron-specific glycotopes involved in cell-cell communication in the nervous system. (2 hours credit)

Date:

weekly all year, Thursday between 8.30 – 10.30

Location: Seminar room, building I3, level 1, MHH

Preliminary Work: studies of current literature;

Registration:

This teaching unit is restricted to members of the Institute for Cellular Chemistry, MHH

Deadline for registration: none

Date	Signature

**Department of Otolaryngology, MHH**

**Lab-Meeting Otolaryngology**

Lenarz, Stöver, Reuter

Aim and content:

Presentation and discussion of recent projects by scientists and PhD-students (one hour per week throughout the year – 28 hours per semester)

Date:

Each Wednesday from 8:30-9:30 h

Location:

Seminarroom Audiology, Area F3

Registration:

Registration possible only for PhD-students of Th. Lenarz and T. Stöver's group

Date	Signature



