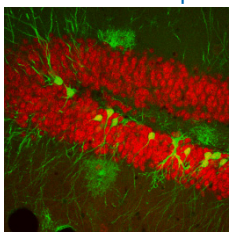
DFG Research Unit (FOR) 1103

The **Research Unit 1103**, established in 2009 and funded by the German Research Foundation (DFG), studies the pathogenesis of re- and degenerative processes in the canine central nervous system (CNS) and possible therapeutical consequences.

The **aim** of this Research Unit is to obtain new scientific knowledge in a defined field of biomedical science for the canine species.

Among all relevant species in veterinary medicine dogs are most often presented with neurological problems.

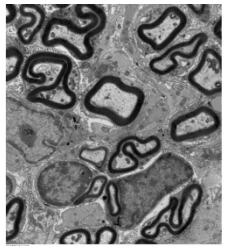


Hence, there is a great need for research in this field for a better understanding of canine CNS disease and to develop new therapeutic approaches and strategies. In addition, the canine species represents a highly suitable translational model for human CNS diseases.

Within the Research Unit 1103 the scheduled pathogenetic studies of regenerative and degenerative processes in the CNS will be conducted on three selected, commonly occurring canine diseases: **canine distemper**, **traumatic lesions of the spinal cord**, and **epilepsy**.

Canine distemper is a viral infection resulting in neuropathological changes resembling lesions in human multiple sclerosis.

As in humans, **traumatic lesions of the spinal cord** in dogs represent a frequently observed consequence of intervertebral disc prolapse.



In dogs as well as in humans, **epilepsy** ranks among the most common chronic neurological disorders. It often develops after brain insults such as injuries, inflammation, febrile convulsions or tumors.

Upcoming questions and formulated hypotheses will be answered and tested by means of studies in dogs and rodent models as well as tissue cultures.

Due to the fact that dogs represent an important translational species to transfer results from laboratory studies to humans, these comparative studies are of particular importance for both species.

The interdisciplinary Research Unit 1103, composed of experts from the fields of veterinary medicine, biology and human medicine, allows a unique comparative study of (a) degenerative processes and (b) the regenerative potential in the canine CNS, as well as (c) development and realization of novel therapeutical approaches.

Second International Workshop of Veterinary Neuroscience

March 20th – March 22nd 2014 Hannover

Medizinische Hochschule Hannover

General Information

Congress Venue:

Department of Pathology
University of Veterinary Medicine Hannover
Bünteweg 17
30559 Hannover
Germany

Registration:

Please register as soon as possible, at the latest by **January 15, 2014** to Angelika Pietsch, Department of Pathology, University of Veterinary Medicine, Bünteweg 17, 30559 Hannover, Germany
E-mail: **angelika.pietsch@tiho-hannover.de**
phone: +49 (511) 953 8601.
Or use the registration form on our website:
www.tiho-hannover.de/forschung/dfg-forschergruppe-1103/
Further information will be given upon registration.

Registration fees:

Participation in the workshop
(incl. dinner) 20,00 €

The registration fee should be paid upon registration to the following account of the DFG-FOR 1103:
Account holder:
Stiftung Tierärztliche Hochschule Hannover
Bank: Norddeutsche Landesbank Hannover
Bank code: 250 500 00
Account Number: 106 031 495
IBAN: DE85 2505 0000 0106 0314 95
SWIFT-BIC: NOLA DE 2H
Reference: Nr. 62020000, *last name, first name.*

Congress language: English

Call for abstracts:
Abstracts on all aspects of veterinary neuroscience are welcome. The Scientific Committee reserves the right to allocate abstracts to poster or oral presentation as suitable. Please contact the scientific coordinator of the FOR 1103 for further information.

Scientific coordinator of the FOR 1103:
Kathrin Becker, Department of Pathology, University of Veterinary Medicine Hannover, Bünteweg 17, 30559 Hannover, Germany
E-mail: **kathrin.becker@tiho-hannover.de**
Tel.: +49 (0)511 953 8679

Miscellaneous:

ATF credit: 10 hours

Open for undergraduate students (max. 50)

Schedule

Thursday, March 20th 2014

17.00 – 18.00 Registration

17.00 Welcome Reception

Friday, March 21st 2014

8.00 – 8.15 **Welcome** *G. Greif (President, University of Veterinary Medicine Hannover [TiHo Hannover]*)

8.15 – 8.30 **Presentation of DFG Research Unit 1103** *W. Baumgärtner (TiHo Hannover)*

8.30 – 9.30 State-of-the-art Lecture 1:
Repairing the CNS – from laboratory to clinic *A.H. Crawford and R. Franklin (University of Cambridge)*

9.30 – 10.10 Oral presentations Research Unit 1103:
Cell transplantation strategies for repair and regeneration in acute spinal cord injury *C. Radtke (Hannover Medical School [MHH])*

Targeting the basal ganglia for epilepsy therapy *M. Gernert (TiHo Hannover)*

10.10 – 10.30 Coffee Break and Poster Session

10.30 – 11.30 State-of-the-art Lecture 2:
Extracellular heat shock proteins in neuroinflammatory and neuroimmune responses *M. Oglesbee (Ohio State University)*

11.30 – 12.10 Oral presentations Research Unit 1103:
Effects of immunomodulation upon neuroinflammation in Theiler's murine encephalomyelitis *A. Beineke (TiHo Hannover)*

Cellular and neurochemical approaches for enhancing axon regeneration *G. Bicker (TiHo Hannover)*

12.10 – 13.00 Oral presentations:

Nectin4-iindependent cell-to-cell transmission of a demyelinating CDV strain in primary astrocytes *P.Plattet et al. (Vetsuisse faculty Bern)*

Transcriptional changes in canine distemper virus-induced demyelinating leukoencephalitis *R. Ulrich et al. (TiHo Hannover)*

Friday, March 21st 2014

12.10 – 13.00 Oral presentations:
Morbillivirus control of the interferon response: relevance of STAT2 and mda5 but not STAT1 for canine distemper virus virulence in ferrets *I. Gerhauser et al. (TiHo Hannover)*

13.00 – 14.30 Lunch and Poster Session

13.00 – 13.30 Meeting of the Consortium of Veterinary Neuroscience in Europe (CVNE)

14.30 – 15.30 State-of-the-art Lecture 3:
Mesenchymal stem cell transplantation for spinal cord injury: repair shop or pharmacy *J. Kocsis (Yale University)*

15.30 – 16.30 Oral presentations Research Unit 1103:
MSC – a potential treatment for demyelinating disease in the CNS? *T. Skripuletz (MHH)*

Pathogenesis of canine spinal cord injury and development of a cell-based therapy *W. Baumgärtner (TiHo Hannover)*

Concept of a transplantation study using Schwann cells in paraplegic dogs *A. Tipold, V. Stein and N. Steffensen (TiHo Hannover)*

16.30 – 17.00 Coffee Break and Poster Session

17.00 – 19.00 Oral presentations:
Canine adipose tissue derived mesenchymal stem cells – a useful therapeutic option for degenerative diseases of the central nervous system? *N. Jungwirth et al. (TiHo Hannover)*

Internalin J in cellular infection by *Listeria monocytogenes* *S. Rupp et al. (Vetsuisse Faculty, University of Bern)*

***Listeria monocytogenes* spreads within the brain by intra-axonal migration** *A. Oevermann et al. (Vetsuisse Faculty, University of Bern)*

Schmallenberg virus: pathology of a new arthropod-borne virus in Germany *V. Herder et al. (TiHo Hannover)*

Schedule

Friday, March 21st 2014

17.00 – 19.00 Oral presentations:

Pharmacological modulation of the endocannabinoid system: impact of 2-arachidonoylglycerol on epileptic seizures in a mouse model of temporal lobe epilepsy *E.-L. von Rüden et al. (Ludwig Maximilians University Munich [LMU Munich])*

Hippocampal sclerosis in feline epilepsy: prevalence, clinical and etiopathologic correlates *E. Wagner et al. (LMU Munich)*

Characterization and modification of the focal kainate model in mice as a suitable model for studies on antiepileptogenesis *F. Twele et al. (TiHo Hannover)*

Long-lasting anticonvulsant effects by chronic focal delivery of the antiepileptic drug vigabatrin into the subthalamic nucleus in an acute seizure model in rats *L. Gey et al. (TiHo Hannover)*

Bioavailability of the antiepileptic drug phenobarbital following oral administration of two pharmaceutical formulations (Phenoleptil®, Luminal® vet) in dogs *M. Bankstahl et al. (TiHo Hannover)*

Neuronal TNF overexpression and infection with the neurotropic Borna disease virus as trigger for epileptic seizures *C. Herden et al. (Justus-Liebig-University Gießen)*

Endocannabinoids may influence the cell population in canine cerebrospinal fluid *J. Freundt Revilla et al. (TiHo Hannover)*

How nanomedicine and nanopharmarcology can contribute to solve problems in veterinary neuroscience *R. Zhang et al. (Christian-Albrechts-University Kiel)*

19.00 Mediterranean dinner and party

Saturday, March 22nd 2014

9.00 – 10.00 State-of-the-art Lecture 4:

Modelling the natural history of Pelizaeus Merzbacher Disease (PMD) *I. Duncan (University of Wisconsin at Madison)*

10.00 – 11.00 Oral presentations:

Tectonin Beta-Propeller Repeat-Containing Protein 2 (TECPR2) missense mutation associated with neuroaxonal dystrophy in Perro de Agua Español *K. Hahn et al. (TiHo Hannover)*

Peripheral nerve regeneration after experimental section in ovine radial and tibial nerves using synthetic nerve grafts including bone marrow mesenchymal cells: morphological results´ *M. Pumarola et al. (Autonomous University of Barcelona)*

Characterisation of bovine neurofibroma of the celiac ganglion *I. Dammann et al. (University Medical Center Göttingen)*

Effects of nerve root entrapment on the expression of voltage-gated calcium channel (VGCC) alpha-2 delta subunits in canine dorsal root ganglia *M. Rosati et al. (LMU Munich)*

Characterisation of a novel bovine congenital syndrome: vertebral and spinal dysplasia (VSD) *C. Kühn et al. (Leibniz-Institute for Farm Animal Biology, Dummerstorf)*

Vermis aplasia and cerebellar hemispheric hypoplasia in Eurasian dogs *Fischer et al. (LMU Munich)*

11.00 – 11.30 Coffee Break and Poster Session

11.30 – 12.30 State-of-the-art Lecture 5

Phenotypic and pathophysiologic features of the Theiler's murine encephalomyelitis virus (TMEV) model of epilepsy *S. White (University of Utah)*

Saturday, March 22nd 2014

12.30 – 13.10 Oral presentations Research Unit 1103:

Mechanisms of epileptogenesis: identification and evaluation of targets and biomarkers *H. Potschka (Ludwig Maximilians University Munich)*

New strategies for prevention or modification of epilepsy after brain insults *W. Löscher and C. Brandt (TiHo Hannover)*

13.10 – 13.30 Poster prize award and closing remarks

13.30 Lunch and farewell

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