



Dr. Daniel Schmidtke

Dr. rer. nat. Daniel Schmidtke

Main interests:

- Neural control of motor behaviour in invertebrates.
Species: American Lobster (*Homarus americanus*)
- Learning and spatial cognition in vertebrates.
Species: Shark Catfish (*Ariopsis seemanni*), Lesser Spear-Nosed Bat (*Phyllostomus discolor*), Grey Mouse Lemur (*Microcebus murinus*), and Humans
- Healthy and pathological aging of the primate brain.
Species: Grey Mouse Lemur (*Microcebus murinus*)

Currently involved in:

- Development of a cognitive test battery for the diagnosis of AD-like, neurodegenerative pathologies in *Microcebus murinus*. (Develage EU-consortium)
- Cognitive, behavioural, and hormonal phenotyping in *M. murinus*. (Develage EU-consortium)
- Structural MRI studies on the effect of age on brain atrophies in *M. murinus* and potential neuro-anatomical markers of AD-like pathologies. (Develage EU-consortium)



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Professional and scientific career

2012 now

Research assistant (Wissenschaftlicher Mitarbeiter) at the Institute of Zoology, University of Veterinary Medicine Hannover

2008 2013

Ph.D. studies and thesis (Dr. rer. nat.) at the Center for Systems Neuroscience Hannover: **Auditory spatial cognition in different vertebrate taxa**. 1st supervisor: PD Dr. rer. nat. Karl-Heinz Esser, 2nd supervisor: Prof. Dr. med. Eckart Altenmüller, 3rd supervisor: Prof. Dr. rer. nat. Manuela Gernert, External referee: Prof. Dr. Jagmeet S. Kanwal

2006 2007

Diploma thesis at the Institute of Zoology, University of Veterinary Medicine Hannover: **Sex-specific differences in the orientation behaviour of the New World Leaf-Nosed Bat (*Phyllostomus discolor*) in a flight tunnel**. 1st supervisor: PD Dr. rer. nat. Karl-Heinz Esser, 2nd supervisor: Prof. Dr. rer. nat. Stephan Steinlechner

2005 2006

Academic year at the Northeastern University (Boston, USA):

Project #1: **Development of a semi-intact preparation for pharmacological studies on the swimmeret system of lobsters**. Supervisor: Prof. Dr. Joseph Ayers

Project #2: **The effect of proctolin on the swimmeret system of the American Lobster (*Homarus americanus*)**. Supervisor: Prof. Dr. Joseph Ayers

2002 2005

Studies of biology (Dipl.-Biol.) at the Leibniz University Hannover (Hannover, Germany)

Awards & grants

- Young researcher stipend of the German Neuroscience Society for participation in the 2015 symposium on "Advances in Research on Neurodegenerative Disease" (German National Academy of Sciences Leopoldina, Halle, 2015)
- Ph.D. Fellowship of the Studienstiftung des deutschen Volkes (PhD scholarship) (2008–2011)
- Fellowship of the Studienstiftung des deutschen Volkes (scholarship for studies abroad) (2010)
- Diploma-Degree (Dipl. Biol.) with distinction (1.0 mit Auszeichnung) (2007)
- Fellowship of the German Academic Exchange Service (DAAD, scholarship for Integrated Studies Abroad - ISA-Program) (2005–2006)
- NUTS: Northeastern University Tuition Scholarship (2005-2006)

- Book award for outstanding achievements in the context of the Vordiplom examinations (Leibniz University, Hannover)(2004)

Publications

I. Articles in peer reviewed journals

Submitted

Schmidtke D, Galinski S, Esser K-H (submitted) **Acoustic landmarks in human wayfinding: the role of gender and sightedness.**

2018

Schmidtke D, Ammersdorfer S, Joly M, Zimmermann E: **First comparative approach to touchscreen-based visual object-location paired-associates learning in humans (*Homo sapiens*) and a nonhuman primate (*Microcebus murinus*).** Journal of Comparative Psychology; doi: 10.1037/com0000116

2017

Hülskötter K, Schmidtke D, Dubicanac M, Siesenop U, Zimmermann E, Gerhäuser I, Baumgärtner W, Herder V: **Spontaneous listeriosis in Grey mouse lemurs (*Microcebus murinus*), but not in Goodman's mouse lemurs (*Microcebus lehilahytsara*) of the same colony.** Veterinary Microbiology; 208 (2017) 94-96; doi: 10.1016/j.vetmic.2017.07.023

2014

Joly M, Ammersdorfer S, Schmidtke D, Zimmermann E: **Touchscreen-Based Cognitive Tasks Reveal Age-Related Impairment in a Primate Aging Model, the Grey Mouse Lemur (*Microcebus murinus*).** PLoS One; doi: [10.1371/journal.pone.0109393](https://doi.org/10.1371/journal.pone.0109393)

2013

Schmidtke D, Schulz J, Hartung J, Esser K-H (2013) **Structure and possible functions of constant-frequency calls in *Ariopsis seemanni* (Osteichthyes, Ariidae).** PLoS One. doi: 10.1371/journal.pone.0064264

2011

Schmidtke D, Esser K-H (2011) **Sex matters in echoacoustic orientation: gender differences in the use of acoustic landmarks in *Phyllostomus discolor* (lesser spear-nosed bat).** J Comp Physiol A. doi: 10.1007/s00359-010-0573-x

II. Abstracts of national and international conferences

2018

Schmidtke, D.; Zimmermann, E.; Verdier, J-M.; Mestre-Frances, N.: **Photoperiodically-induced accelerated ageing does not affect standardized measures of cognition in a non-human primate model of brain ageing, the grey mouse lemur.** 11th FENS Forum of Neuroscience, Berlin, Germany, July 7-11, 2018; F050

2017

Schmidtke, D.; Ammersdorfer, S.; Joly, M.; Zimmermann, E.: **Touchscreen-based visual object-location paired-associates learning: A first comparative approach in humans and a non-human primate.** 110th Annual Meeting of the German Zoological Society (DZG); Bielefeld, Germany; September 12-15, 2017; S. 36, BEH-O-18

Ohmes, M. J.; Zimmermann, E.; Schmidtke, D.: **Motion cues increase stimulus-directed behaviour and focused attention towards purely visual prey stimuli in a nocturnal primate.** 110th Annual Meeting of the German Zoological Society (DZG); Bielefeld, Germany; September 12-15, 2017; S. 58, BEH-P-21

Schmidtke, D.; Wittkowski, J.; Ammersdorfer, S.; Heistermann, M.; Zimmermann, E.: **Cognition is related to faecal glucocorticoid metabolite levels in a non-human primate (*Microcebus murinus*).** 35th International Ethological Conference; Estoril; July 30-August 4, 2017; S. P200

Schmidtke, D.; Wittkowski, J.; Ammersdorfer, S.; Heistermann, M.; Zimmermann, E.: **Cognition, but not personality, is related to faecal stress hormone metabolites in the smallest non-human primate aging model (*Microcebus murinus*).** 12th Göttingen Meeting of the German Neuroscience Society, Göttingen, Germany, March 22 - 25, 2017; S.200, T24-6A

2016

Schmidtke, D.; Ammersdorfer, S.; Wittkowski, J.; Zimmermann, E.: **CANTAB-based cognitive profiling in a non-human primate model of brain ageing (*Microcebus murinus*)** In: Federation of European Neuroscience Societies (Hrsg.): 10th FENS Forum of Neuroscience; Copenhagen, Denmark; July 2-6, 2016; S. F028

Schmidtke, D.; Joly, M.; Ammersdorfer, S.; Wittkowski, J.; Zimmermann, E.: **Standardized Cognitive Testing (CANTAB) in a Strepsirrhine primate (*Microcebus murinus*): Implications for aging and evolutionary research.** 26th Congress of the International Primatological Society; Chicago, USA; August 21-27, 2016; S. Abstr.6767

Schmidtke, D.; Joly, M.; Ammersdorfer, S.; Zimmermann, E.: **Object-location paired-associates learning in a basal primate (*Microcebus murinus*).** 109th Annual Meeting of the German Zoological Society (DZG); Kiel, Germany; September 14-17, 2016;

Zimmermann, E.; Wittkowski, J.; Ammersdörfer, S.; Heistermann, M.; Schmidtke, D.: **Cognition, but not personality, is related to faecal stress hormone metabolites in the smallest non-human primate aging model (*Microcebus murinus*)**. In: Federation of European Neuroscience Societies (Hrsg.): 10th FENS Forum of Neuroscience; Copenhagen, Denmark; July 2-6, 2016; S. F028

2015

Schmidtke, D.; Ammersdörfer, S.; Joly, M.; Zimmermann, E.: **Standardized cognitive testing (CANTAB) in the smallest non-human primate ageing model *Microcebus murinus*** [Poster] In: [Advances in Research on Neurodegenerative Disease with a Focus on Dementias](#), National Academy of Sciences Leopoldina, May 4-5; Halle, Germany

Ammersdörfer, S.; Schmidtke, D.; Joly, M.; Zimmermann, E.: **Touchscreen?based visual pairwise discrimination and reversal learning in the primate brain aging model *Microcebus murinus*** 11th Göttingen meeting of the German Neuroscience Society, Göttingen, Germany, March 18 - 21, 2015

Schmidtke, D.; Ammersdörfer, S.; Zimmermann, E.: **Visuo?spatial paired associate learning (PAL) in a strepsirrhine primate (*Microcebus murinus*): New insights into early primate cognition from a computer?based Learning task** 11th Göttingen meeting of the German Neuroscience Society, Göttingen, Germany, March 18 - 21, 2015

Wittkowski, J.; Ammersdörfer, S.; Heistermann, M.; Schmidtke, D.; Zimmermann, E.: **Stress hormones, personality, and cognition in the grey mouse lemur (*Microcebus murinus*)** 14th Conference of the Gesellschaft für Primatologie, Leipzig, Germany, 11.02.-13.02.; 2015

Schmidtke, D.; Ammersdörfer, S.; Joly, M.; Zimmermann, E.: **Standardized cognitive testing (CANTAB) in a strepsirrhine primate**. 14th Conference of the Gesellschaft für Primatologie, Leipzig, Germany, 11.02.-13.02.; 2015

2014

Schmidtke, D.; Ammersdörfer, S.; Joly, M.; Zimmermann, E.: **Touchscreen-based cognitive tasks reveal age-related impairments in a primate aging model, the grey mouse lemur (*Microcebus murinus*)** 9th Federation of European Neuroscience Societies, Milan, Italy, 2014 July 5-9; 2014

Schmidtke, D.; Ammersdörfer, S.; Joly, M.; Zimmermann, E.: **Computerized learning tasks give first comparable insight into the cognition of an early primate model, the gray mouse lemur**. 25th Congress of the International Primatological Society: Meeting the Challenges of Conserving Primate Diversity, Hanoi, Vietnam, Aug 11-16; 2014

2013

Joly, M.; Ammersdörfer, S.; Craul, M.; Schmidtke, D.; Zimmermann, E.: **A touch-screen cognitive testing method for an emerging primate brain aging model, the mouse lemur (*Microcebus murinus*)**. 10th Göttingen Meeting of the German Neuroscience Society; 34th Göttingen Neurobiology Conference: proceedings Göttingen, 13. 3.-16.3.2013; 2013, S. T10-3D

Schmidtke D, Galinski S, Esser K-H: **Acoustically guided wayfinding in humans: the role of gender and sightedness**. 10th Göttingen Meeting of the German Neuroscience Society (Göttingen, Germany):

2011

Schmidtke D, Galinski S, Esser K-H: **The utilization of acoustic landmarks for orientation in humans without vision**. 9th Göttingen Meeting of the German Neuroscience Society (Göttingen, Germany):

Schmidtke D: **Towards telemetric electrophysiological recordings in freely behaving bats**. 2011 Meeting of the German Bat Research Community (Loccum, Germany)

2010

Schmidtke D, Esser K-H: **Studies on allocentric spatial cognition in mammals**. (10/2010) Poster: 2010 Meeting of the Center for Systems Neuroscience (Hannover, Germany)

Schmidtke D, Simons M, Esser K-H: **Manufacturing short Elgiloy (stainless steel) microelectrodes for telemetric neuronal recordings in freely behaving small mammals**. (07/2010) Poster: 7th FENS Forum of European Neuroscience (Amsterdam, Netherlands):

2009

Schmidtke D: **Neuroethological studies on three-dimensional allocentric spatial cognition in mammals**. (09/2009) Talk: 2nd Braunlage Meeting of the Center for Systems Neuroscience (Braunlage, Germany)

Schmidtke D, Esser K-H: **Are gender-specific orientation strategies universal among mammals? - New clues from a bat model**. (03/2009) Poster: 8th Göttingen Meeting of the German Neuroscience Society (Göttingen, Germany):

Schmidtke D: **Gender-specific orientation strategies in the lesser spear-nosed bat *Phyllostomus discolor***. (01/2009) Talk:

2008

Schmidtke D: **Neuroethological studies on three-dimensional spatial cognition in mammals.** (12/2008) Talk: Doctoral Student Forum of the Studienstiftung des deutschen Volkes (Cologne, Germany)

Schmidtke D, Esser K-H: **Does sex matter in echolocation? Evidence for gender-specific orientation strategies in microbats.** (09/2008) Poster: 4th Brainstroming Congress of the Center for Systems Neuroscience (Hannover, Germany)
[Organizer/Co-organizer of the following workshops, symposia or conferences](#)

- Co-organization of the Meeting of the German Bat Research Community 2011 (Loccum, Germany) together with PD Dr. Sabine Schmidt, PD Dr. Karl-Heinz Esser, Sandra Ammersdörfer, Anna Bastian, Arne Liebeau, and Sönke von den Berg. (2011)
- Co-organization of the Neuroscience Meets School Workshop 2010 (Hannover, Germany) together with the fellow students from the 2008 year of Ph.D. students at the Center for Systems Neuroscience. (2010)

[Further scientific activities](#)

- Gesellschaft fu?r Primatologie e.V. (since 2012)
- International Primatological Society (since 2012)
- Deutsche zoologische Gesellschaft (since 2008)
- Neurowissenschaftliche Gesellschaft e.V. (since 2007)
- Federation of European Neuroscience Societies (since 2007)

[Sie sind hier: Kliniken & Institute > Institute > Institut für Zoologie > Forschung > AG Zimmermann > Dr. Daniel Schmidtke](#)

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