

Emanuel Heitlinger

Juniorprofessor

Humboldt University (HU) Department
for Molecular Parasitology

Leibniz Institute for Zoo and Wildlife
Research (IZW) Berlin

Phone (HU): (+49) (0)30 2093 6450

Phone (IZW): (+49) (0)30 5168 253

Mobile: (+49) (0)178 2545475

Email: emanuelheitlinger@gmail.com

Education

Jun 2008–Feb 2012 Doctoral studies, Karlsruhe Institute of Technology.

Dissertation: Divergence of an introduced population of the swimbladder-nematode *Anguillicola crassus* - a transcriptomic perspective.

Supervisors: Prof. Dr. Horst Taraschewski and Prof. Mark Blaxter.

Jun 2007–Feb 2008 Diploma thesis, University of Karlsruhe, Zoological Institute, Department for Parasitology and Ecology.

Thesis title: Vergleichende licht- und elektronenmikroskopische Untersuchungen am Intestinaltrakt des invasiven Schwimmbblasennematoden *Anguillicola crassus* aus verschiedenen Aalarten.

2001–2007 Undergraduate studies in Biology, University of Karlsruhe.

Main subject: Zoology with focus on parasitology

Subsidiary subjects: Genetics, Botany

Employment

May 2014–Present **Juniorprofessor**, Humboldt University of Berlin, Institute for Biology, Department for Molecular Parasitology and Leibniz Institute for Zoo and Wildlife research.

March 2012–May 2014 **Postdoctoral researcher**, Humboldt University of Berlin, Institute for Biology, Department for Molecular Parasitology.

Jun 2008–Jul 2011 **Research assistant**, Karlsruhe Institute of Technology, Zoological Institute, Department for Parasitology and Ecology.

Fields of Research Interest

Ecology and evolution of host-parasite interactions, transcriptomics and genomics, molecular evolution.

Research

Peer Reviewed Publications

Emanuel Heitlinger, Horst Taraschewski, Urszula Weclawski, Karim Gharbi and Mark Blaxter. (2014) Transcriptome analyses of *Anguillicola crassus* from native and novel hosts. PeerJ 2:e684.

Emanuel Heitlinger, Simone Spork, Richard Lucius, and Christoph Dieterich. (2014) The Genome of *Eimeria falciformis* - Reduction and Specialization in a Single Host Apicomplexan Parasite. BMC Genomics 15 (1): 696.

Urszula Weclawski, **Emanuel Heitlinger**, Tobias Baust, Bernhard Klar, Trevor Petney, Yu-San Han, and Horst Taraschewski (2014) Rapid Evolution of *Anguillicola crassus* in Europe: Species Diagnostic Traits Are Plastic and Evolutionarily Labile. *Frontiers in Zoology* 11 (1): 74.

Manuela Schmid, **Emanuel Heitlinger**, Simone Spork, Hans-Joachim Mollenkopf, Richard Lucius, and Nishith Gupta (2013) *Eimeria falciformis* infection of the mouse caecum identifies opposing roles of IFN γ -regulated host pathways for the parasite development. *Mucosal immunology*, 25 December.

Urszula Weclawski, **Emanuel Heitlinger**, Tobias Baust, Bernhard Klar, Trevor Petney, Yu San Han and Horst Taraschewski (2013) Evolutionary divergence of the swim bladder nematode *Anguillicola crassus* after colonization of a novel host, *Anguilla anguilla*. *BMC Evolutionary Biology*, 13:78.

Emanuel Heitlinger, Stephen Bridgett, Anna Montazam, Horst Taraschewski and Mark L Blaxter (2013) The transcriptome of the invasive eel swimbladder nematode parasite *Anguillicola crassus*. *BMC Genomics*, 14:87.

Dominik R Laetsch, **Emanuel Heitlinger**, Horst Taraschewski, Steven A Nadler and Mark L Blaxter (2012) The phylogenetics of Anguillicolidae (Nematoda: Anguillicolidea), swimbladder parasites of eels. *BMC Evolutionary Biology*, 12:60.

Emanuel Heitlinger, Dominik R Laetsch, Urszula Weclawski, Yu-San Han and Horst Taraschewski (2009) Massive encapsulation of larval *Anguillicoloides crassus* in the intestinal wall of Japanese eels. *Parasites & Vectors*, 2:48.

Invited presentations

NGS workshop and conference MouseGene 2014. November 2014, Nove Hradý, Czech Republic. Lecture: "Bioinformatic design of DNA capture baits for population geomics". Practical training course: "Bait design - extracting and screening regions from BLAST searches."

Conference Presentations

2nd ApiCOWplexa- International Meeting on Apicomplexan Parasites in Farm Animals, November 2013, Kusadasi, Turkey. Oral Presentation: "The genome of *Eimeria falciformis* allows identification of conserved invasion strategies but diverged host interaction in the Coccidia (Apicomplexa)".

1st ApiCOWplexa- International Meeting on Apicomplexan Parasites in Farm Animals, November 2012, Lisbon, Portugal. Poster presentation: "Genome sequencing of the mouse parasite *Eimeria falciformis*".

25th Biannual conference of the German society of parasitology (DGP), March 14-17 2012, Heidelberg, Germany. Oral presentation: "Divergence of an introduced population of *Anguillicola crassus* a transcriptomic perspective".

3rd Status Symposium, Volkswagen Foundation Funding Initiative Evolutionary Biology, November 7-11 2011, Sylt, Germany. Oral presentation: "Divergence of an introduced parasite: a transcriptomic perspective on *Anguillicola crassus*".

2nd Status Symposium, Volkswagen Foundation Funding Initiative Evolutionary Biology, May 9-12 2010, Frauenchiemsee, Germany. Oral presentation: "The transcriptome of *Anguillicoloides crassus* sampled by pyrosequencing".

24th Biannual conference of the German society of parasitology (DGP), March 16-19 2010, Münster, Germany. Two oral presentations: "The transcriptome of *Anguillicoloides crassus* sampled by pyrosequencing" and "Massive encapsulation of larval *Anguillicoloides crassus* in the intestinal wall of the Japanese eel".

Mind the gap: joining empirical and theoretical population genetics, October 2-3 2009, Freiburg, Germany. Oral presentation: "Divergence between European and Asian populations of the swimbladder nematode *Anguillicoloides crassus*".

1st Status Symposium, Volkswagen Foundation Funding Initiative Evolutionary Biology, February 25-27 2009, Münster, Germany. Poster: “Divergence between East Asian and European populations of the swimbladder-nematode *Anguillicola crassus*”.

Xth European Multicolloquium of Parasitology - EMOP 10, August 24-28, 2008, Paris, France. Oral Presentation: “Divergence between East Asian and European populations of the swimbladder-nematode *Anguillicola crassus*”.

Professional Activities

Reviewer activity (journals): *Parasites & Vectors*, *The Journal of Parasitology*, *Parasitology research*

Thesis committee membership:

2014 one review for a doctoral thesis

Advising

Doctoral students (formal advisor):

2014–Present Enas Khalifeh

Master students (formal advisor)

2014–Present Ilan Michael

2014 Luis Santos

Bachelor students (formal advisor):

2014–Present Julia Kraft

Diploma students (informal advisor)

2011 Corinna Kieffer

2010 Dominik Laetsch

Teaching

2013 and 2014 Interdisciplinary module on nematodes (master students)

2012 and 2013 Oberseminar Parasitologie

2012 Support for ZIBI International Summer School on Pathogen-Host Interplay

Honors, Awards, & Fellowships

2008 Volkswagen Stiftung PhD Fellowship, Funding Initiative Evolutionary Biology, full funding of research position and research material (€131k)