

Karen Meusemann

Curriculum Vitae

Personal Data

Work address University of Freiburg, Institute for Biology I (Zoology)
Department for Evolutionary Biology & Ecology
Hauptstr. 1, 79104 Freiburg (Brsg.), Germany
Phone +49 761 203-2547
Email karen.meusemann@biologie.uni-freiburg.de

Research Interests

I am interested in the evolution of insects, currently in particular in the remoulding of the trade-off of fecundity / longevity in social insects, working in a Research Unit FOR2281 (German Science Foundation) on several insects groups including poly- and holometabolan insects. Beyond this I am interested in phylogenetics and -genomics of Hexapods in general. My focus is research on molecular data, genome and transcriptome evolution, differential gene expression, functional genomics, interested especially in pitfalls, challenges and improvement of methodological approaches dealing with transcriptome and genome sequence data and quality assessment. For current projects I am in addition deeply involved in project coordination. Additionally, I am interested in the biology of bats.

Current Projects So-Long - Sociality and the reversal of the fecundity / longevity trade off (FOR2281)
see <http://gepris.dfg.de/gepris/projekt/261675780?language=en/>.

Ongoing Projects: 1KITE - 1,000 Insect Transcriptome Evolution. For information on subprojects, see <http://www.1kite.org/>.

Academic Education and Scientific Career

since 05/2016 Postdoctoral Researcher at the University of Freiburg, Department of Evolutionary Biology and Ecology, Freiburg (Brsg.), Germany
07/2013–04/2016 Postdoctoral Fellow (Schlinger) at the Australian National Insect Collection, CSIRO National Research Collections Australia, Canberra, ACT, Australia
03/2012–06/2013 Postdoctoral Fellow (DFG) at the Zentrum für Molekulare Biodiversitätsforschung, Zoologisches Forschungsmuseum A. Koenig (ZFMK), Rheinische Friedrich-Wilhelms Universität, Bonn, Germany
03/2012 Dr. rer. nat. (*summa cum laude*), Zentrum für Molekulare Biodiversitätsforschung (ZFMK), Rheinische Friedrich-Wilhelms Universität, Bonn

- 2005–2012 Ph.D. at the Zentrum für Molekulare Biodiversitätsforschung (ZFMK): Ph.D. thesis: Molecular phylogeny and evolution of 'basal hexapods': The "Atelocerata" - A vanishing hypothesis? (DFG priority program SPP1174 "Deep Metazoan Phylogeny"). Supervisor: Prof. Dr. B. Misof. Published online: <http://hss.ulb.uni-bonn.de/2012/2947/2947.htm>.
- 2002–2003 Diploma thesis (M.Sc. equivalent) at the ZFMK. Caryology of the subgenus *Agrodiaetus*, *Polyommatus* Latreille, 1804 (Lycaenidae, Lepidoptera, Insecta): Caryology as potential criterion for species differentiation? [originally in German]. Supervisors: Prof. Dr. C. Naumann, PD Dr. B. Misof
- 1998–2003 Graduate student at the Rheinische Friedrich-Wilhelms Universität, Bonn in Zoology, Cell Biology, and Soil Science
- 1996–1998 Undergraduate student at the Rheinische Friedrich-Wilhelms Universität, Bonn in Biology: Zoology, Cell biology, Genetics and Botany

International Activities

- Reviewer** *BMC Evolutionary Biology, Systematic Biology, Soil Organisms, Plos ONE, Molecular Phylogenetics and Evolution, International Journal of Biological Science, Journal of Zoological Systematics and Evolutionary Research*
- Coordination** Coordination of the subproject "Basal Hexapods" within the 1KITE project (www.1kite.org) and co-coordination of several 1KITE projects, data-management and development of analyses methods and workflows.

Awards

- 2013 Ph.D Award 2012: "Dissertationspreis" der Alexander-Koenig-Gesellschaft e.V.
- 2009 Systematics 2009: 1st meeting of Biosyst EU, Leiden, Netherlands. Award winner category "talks"
- 2007 9th Annual Meeting of the Gesellschaft für Biologische Systematik, Vienna, Austria. Award winner category "talks"

Teaching, Workshops

- 03/2015 Lecture "Invertebrate Zoology: Protura, Collembola, Diplura", 23 March 2015, Australian National University, Canberra, Australia
- 09/2014 Co-organizer of the Symposium "Phylogenomics - a peek over the horizon at big data" (with D. K. Yeates), 30 September 2014, Annual Conference of the Australian Entomological Society 2014, Canberra, Australia
- 09/2014 Co-organizer of the Workshop "DNA target enrichment in phylogenomics" (with O. Niehuis and M. Sann), 2 October 2014, Australian National University, Canberra, Australia
- 02/2014 Phylogenetics with "big data" workshop, 24 February 2014, Rutgers University, New Brunswick NJ, USA
- 09/2013 1st 1KITE workshop, 23-26 September 2013, Jena, Germany

- 09/2013 UTAS "Big Data" Workshop: Basic LINUX commands, 3-4 September 2013, Hobart, Tasmania Australia
- since 2013 Support of various analyses within 1KITE subprojects
- 2011 Supervision of graduate students in a course for Master students: Theory and practice of phylogenetic systematics; February and March 2011
- 2006–2007 Supervision of a Diploma thesis of a graduate student (Johannes Dambach)

Attended Workshops

- 11/2014 Queensland Facility for Advanced Bioinformatics (QFAB): Extended RNA Analysis, Brisbane St. Lucia University, Brisbane, Australia
- 08/2013 UCSC Genome Browser Advanced Workshop, 21 August 2013, CSIRO and Australian National University, Canberra, Australia
- 08/2013 Workshop-3D-reconstruction of morphological data 29-31 July 2013, CSIRO and Australian National University, Canberra, Australia
- 07/2013 Phylogenomics using BEAST, 18 July 2013, Australian National University, Canberra, Australia

Selected International Talks

- 09/2015 8th International Dresden Meeting on Insect Phylogeny, 27-29 September 2015, Dresden, Germany (*invited*). K. Meusemann et al.: Phylogeny and Evolution of apterygote Hexapods / Phylogeny and Evolution of apterygote Hexapods
- 02/2015 The Interface of Mathematics and Biology: 19th New Zealand Phylogenomics Conference 2015, 1-6 February, Portobello, Otago Peninsula, New Zealand. K. Meusemann, D. K. Yeates: Fly-Phylogenomics based on more than 2,000 orthologous genes: preliminary results and challenges.
- 08/2014 Xth European Congress of Entomology, 3-8 August 2014, York, United Kingdom (*invited*). K. Meusemann, D. Bartel, on behalf of the 1KITE consortium: Phylogenomics and the evolution of insects.
- 07/2014 50th Annual Meeting of the Arthropodan Embryological Society of Japan, 4-5 July 2014, Tokyo, Japan (*invited*). K. Meusemann, on behalf of the 1KITE Basal Hexapod Subgroup: Introducing the 1KITE project and first results on phylogenomics of apterygote hexapods based on more than 1,000 orthologous genes.
- 09/2013 UTAS Big Data Workshop, 3-4 September 2013, University of Tasmania, Hobart, Tasmania, Australia (*invited*). K. Meusemann, on behalf of the 1KITE consortium: The 1000 Transcriptome Evolution project (1KITE): An example of handling "Big Data" with regard to Evolutionary Biology
- 08/2012 XXIV International Congress International Congress of Entomology, ICE 2012, 19-25 August 2012, Daegu, South Korea (*invited*). K. Meusemann, B. Misof: Phylogenomics of Apterygote Hexapods - Can we ever hope for a robust backbone tree of insects? A team talk.

Selected Research Visits

- 06/2015 California Academy of Sciences, Dr. Michelle Trautwein, CA, USA
- 04/2015 University of Adelaide, Dr. Andy Austin, Adelaide, SA, Australia
- 01/2015 National University of Singapore, Prof. Dr. Rudolf Meier, Singapore
- 02/2014 Rutgers University, Prof. Dr. Karl Kjer, New Brunswick, NJ, USA
- 08/2010 Synchrotron Paul-Scherrer-Institut (PSI), Villigen, Switzerland: study of insects

Selected Field Trips

- 05/2015 Daintree and Iron Range (Queensland, Australia), sampling of various hexapods (1KITE follow-up project)
- 12/2014 Northern Brisbane, Rainforest (Queensland, Australia), sampling Diplura (1KITE project)
- 11/2012 Sicily (Italy), sampling of various hexapods and myriapods (1KITE project)

Computer Skills

UNIX and MS operating systems, HPC clusters, application of various phylogenetic software and software dealing with RNASeq data, basic skills in command line based software, \LaTeX , in Perl and R

Publications

A full list of publications can be found on Google Scholar and ResearcherID <http://scholar.google.com.au/citations?user=uK45QqgAAAAJ&hl=en>, www.researcherid.com/rid/J-4027-2013

June 14, 2016

Karen Meusemann