

Behavioral Physiologists at the Leibniz Institute for Zoo and Wildlife Research (IZW)

Leibniz Institute for Zoo and Wildlife Research (IZW)

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ACADEMIC EDUCATION

- Habilitation** (venia legendi Zoology) Humboldt-Universität Berlin 2008
Topic: „Physiology, behavior and olfactory communication in the Greater Sac-winged bat“
- Doctor rer. nat.** University of Erlangen-Nuremberg 1998
Topic: “The energetic costs of flight and reproduction in Nectar-feeding Bats”
- Diploma** University of Erlangen-Nuremberg 1993
Topic: “The energetic cost of hovering flight in the nectar-feeding Bat *Glossophaga soricina*”

ACADEMIC CAREER

Since 2010 “**Privatdozent**” at the Freie Universität Berlin

Since 2008 “**Privatdozent**” at the Humboldt University Berlin

Since 2006 Head of the Stable Isotope Facilities at the IZW

Since 2004 **Senior Research Scientist**: Research Group Evolutionary Ecology at the Leibniz Institute for Zoo and Wildlife Research, Berlin, Germany

Since 2002 **Lecturer** at the Humboldt University Berlin

Since 2001 **Research Scientist**: Research Group Evolutionary Ecology at the Leibniz Institute for Zoo and Wildlife Research, Berlin, Germany

September 2000 to June 2001

Postdoc University of Bielefeld; Prof. Dr. Fritz Trillmich. “Behavioral physiology”

March 2000 to August 2000

Postdoc Cornell University. Prof. Dr. Jerrold Meinwald and Prof. Dr. Jack Bradbury. “Sexual selection and olfactory communication in mammals”

March 1999 to February 2000

Postdoc Boston University. Prof. Dr. Thomas H. Kunz. “Social systems and energetics of mammals”

1993-1998

Doctoral research University of Erlangen-Nürnberg. Prof. Dr. Otto von Helversen: (published in Voigt & Winter 1999, Voigt 2000, 2003, Voigt et al. 2003, 2005)

1992-1993

Diploma thesis University of Erlangen-Nürnberg. Prof. Dr. Otto von Helversen, Dr. York Winter. (published in Winter et al. 1998)

1987-1991

Study of Biology University of Erlangen-Nürnberg (Zoology, Microbiology, Geology, Paleontology)

1987-1991 **Study of Biology** at the University of Erlangen-Nürnberg

1986-1987 **Military Service**

1986 **“Abitur”** at the Herder-Gymnasium Forchheim

AWARDS

2008 Co-author of a winning poster presentation (Award given to Dr. Gerold Jerz for his poster during the Countercurrent Chromatography Conference in Rio de Janeiro, Brazil)

2007 Co-author of a winning student paper presentation (**Luis Bacardi Award** given to Dr. Katja Rex for her talk during the International Bat Research Conference in Merida, Mexico)

2006 **Winner of the German Business Plan Competition by McKinsey**

1999 Nato Postdoc-Fellowship from the **German Academic Exchange Service** (DAAD)

1995 Dissertation improvement grant from the **German Academic Exchange Service** (DAAD)

1994 Dissertational grant from the „**Studienstiftung des Deutschen Volkes**“

FIVE MOST IMPORTANT PAPERS

Puechmaille, S.J., Frick, W.F., Kunz, T.H., Racey, P.A., Voigt, C.C., Wibbelt, G., Teeling, E.C. (2011) White Nose Syndrome: An emerging disease threat to temperate zone bats. **Trends in Ecology and Evolution** 26: 570-576.

Voigt, C.C., Schneeberger, K., Voigt-Heucke, S.L., Lewanzik, D. (2011) Rain increases the energy cost of bat flight. **Biology Letters** 7: 793-795

Awarded as an article in celebration of Darwin 200 by **Biology Letters**

Featured in **ScienceNews** <http://news.sciencemag.org/sciencenow/2011/05/scienceshot-why-bats-dont-like.html?etoc>

Voigt, C.C., Lewanzik, D. (2011) Trapped in the darkness of the night: Thermal and energetic constraints of daylight flight in bats. **Proceedings of the Royal Society of London: Biological Sciences** 278:2311-2317.

Voigt, C.C., Sörgel, K., Dechmann, D.K.N. (2010) Refuelling while flying: Foraging bats combust food rapidly and directly to fuel flight. **Ecology** 91:2908-2917.

Voigt, C.C., Speakman, J.R. (2007) Nectar-feeding bats fuel their high metabolism directly with exogenous carbohydrates. **Functional Ecology** 21: 913-921.

EDITORIAL TASKS

Associate Editor for Behavioral Ecology and Sociobiology (2011-)

Associate Editor for *Journal of Mammalogy* (2007-2011)

Editor of a supplemental volume of *Ethology*

REVIEWER FOR JOURNALS

Acta Chiropterologica, Animal Behaviour, Behavioral Ecology, Behavioral Ecology and Sociobiology, Biology Letters, Biological Review, Biotropica, BMC Biology, Canadian Journal of Zoology, Comparative Biochemistry and Physiology A, Ecography, Ecoscience, Ethology, European Journal of Wildlife Research, Functional Ecology, Journal of Animal Ecology, Journal of Comparative Physiology B, Journal of Ethology, Journal of Experimental Biology, Journal of Mammalogy, Journal of Ornithology, Journal of Wildlife Management, Journal of tropical Ecology, Mammal Review, Mammalian Biology, Naturwissenschaften, Oecologia, Physiological Biochemistry and Zoology, Physiological Entomology, Proceedings of the National Academy of Sciences, Rapid Communication in Mass Spectrometry, Zoology

REVIEWER FOR FUNDING AGENCIES

Deutsche Forschungsgemeinschaft

National Geographic Society

National Science Foundation (U.S.A.)

Deutsche Bundestiftung Umwelt, among others

PROFESSIONAL MEMBERSHIPS

American Association of Mammalogists

British Ecological Society

German Association for Stable Isotope Research (Arbeitsgemeinschaft Stabile Isotope e.V.)

German Society for Tropical Ecology (Gesellschaft für Tropenökologie)

German Zoological Society (Deutsche Zoologische Gesellschaft)

Ethological Society (Ethologische Gesellschaft)

Society for the Study of Animal Behavior

International Society for Behavioral Ecology

ORGANIZATION OF CONFERENCES OR SYMPOSIA

2011 Co-organizer of the symposium "Nutrition, energetics and stable isotopes" held at the 7th

International Conference on Physiology, Behaviour and Genetics of Wildlife Animals, Berlin

2010 Head organizer of "the 2nd Berlin Bat Meeting: Bat Biology and Infectious Diseases"

- 2009 Co-organizer of the symposium “Nutrition, energetics and stable isotopes” held at the 7th International Conference on Physiology, Behaviour and Genetics of Wildlife Animals, Berlin
- 2009 Head organizer of “the 1st Berlin Bat Meeting: Symposium on Bat Migration (16.1.-18.1.2009)
- 2007 Co-organizer of the 6th International Zoo and Wildlife Research Conference on Behavior, Physiology and Genetics Symposium on Conservation and Physiology of Wildlife, Berlin
- 2007 Co-organizer of the symposium “Diets and energetics” held at the 6th International Conference on Behavior, Physiology and Genetics of Wildlife Animals, Berlin
- 2004 Head organizer of the “5th International Symposium on Physiology, Behaviour and Conservation of Wildlife, Berlin”
- 2004 Co-organizer of the symposium “Communication in animals” held at the 5th International Symposium on Physiology, Behaviour and Conservation of Wildlife, Berlin
- 2004 Co-organizer of the symposium on “Dietary diversification in bats” held at the 13th International Bat Research Conference in Mikolajki, Poland
- 2002 Co-organizer of the 4th International Symposium on Physiology, Behaviour and Conservation of Wildlife, Berlin
- 2002 Co-organizer of the symposium “Olfactory communication in mammals” held at the 4th International Symposium on Physiology, Behaviour and Conservation of Wildlife, Berlin

GROUP MEMBERS

Technical Assistants

Doris Fichte: Logistic support, administration

Karin Sörgel: Laboratory manager of the stable isotope facility

Anja Luckner: Technical assistant in the stable isotope facility

PhD students

Simone Ghanem (DFG funded) “The role of mineral licks for reproduction in fruit-eating bats of the Amazon”

Daniel Lewanik (BmBF funded) “The effect of artificial light on strictly nocturnal mammals”

Karin Schneeberger (Leibniz: Pakt für die Forschung) “Co-evolution of MHC and olfactory receptor genes in the greater sac-winged bat“

David Lehmann (IZW funded) “Behavioral and physiological responses of desert-dwelling ungulates towards heat and drought”

Master students:

Lena Schlag (Freie Universität Berlin)

Bachelor students

Sophia Schönborn

Former group members

Former Postdocs

Dr. Ana Popa-Lisseanu (Alexander von Humboldt-Stiftung): “Migration of European Bats”

Dr. Dina Dechmann (DFG funded) “Social system and olfactory communication in the lesser bulldog bat (*Noctilio albiventris*)” Now: Max-Planck-Institute for Ornithology (Radolfzell)

Dr. Detlev Kelm (DFG funded) “Physiology of frugivory and nectarivory in *Glossophaga commissaris*”

Former PhD students

Dr. Sabine Greiner (DFG funded) “Endocrinological basis of mating tactics in the greater sac-winged bat, *Saccopteryx bilineata*”

Dr. Katja Rex (DFG funded): “Stable isotope ecology of Neotropical bats”

Dr. Barbara Caspers (DFG funded) “Olfactory communication in the greater sac-winged bat (*Saccopteryx bilineata*)” Now: University of Bielefeld

Former Diploma students

Florian Hoffmann (Humboldt University, Berlin) 2006: “Foraging behaviour of the greater sac-winged bat, *Saccopteryx bilineata*” see Hoffmann et al. (2007) Canadian Journal of Zoology 85: 863-872.

Bettina Jarosch (Free University, Berlin) 2007: “Scent producing bacteria from the wing sacs of the greater sac-winged bat *Saccopteryx bilineata*”

Virginia Boye (Humboldt University, Berlin) 2007: “Dietary preferences and foraging behaviour of the nectar-feeding bat *Glossophaga commissaris*”

Sara Correia Carreira (Humboldt University, Berlin) 2007: “Stress induction by conventional bleeding techniques and by minimally-invasive bleeding with triatomine bugs in laboratory mice”

Julia Nowack (Free University, Berlin) 2007: “Olfactory communication in the greater sac-winged bat *Saccopteryx bilineata*”

Patricia Grasse (Free University, Berlin) 2007: “Dietary preferences of the common vampire bat *Desmodus rotundus*”: see: Voigt et al. (2008) J Com Phys B178:9-16.

Daniel Lewanzik (Humboldt University, Berlin): “Stress response in Neotropical bats” (tentative title)

Anna Juhnke (Humboldt University, Berlin) 2009: “Stable hydrogen isotope baseline map of Germany and adjacent regions based on mammalian fur”

Antje Kretzschmar (Humboldt University, Berlin) 2010: “Feeding ecology of *Carollia* bats”

Pia Klöckner (University of Bonn) 2010: “Validation of a minimally invasive blood-sampling technique for blood parameters”

Visiting guest scientist:

Dr. L. Gerardo Herrera (Universidad Autonoma de Mexico): Jan - August 2009; Feb – August 2011

INVITED LECTURES (SINCE 2001)

- 2010 University of Siegen:
- 2010 Plenary talk for the 15th International Bat Research Conference, Prague, Tchechia
- 2010 Invited talk during the Conference of the American Physiological Society, Westminster Colorado, USA
- 2009 Workshop on Nocturnal Pollinators (Bangalore, India): “Sensory Biology of pollinating bats: Seeing with your ears in the darkness of the night”
- 2009 Workshop on Nocturnal Pollinators (Bangalore, India): “Do plants make life of pollinating plants spin faster?”
- 2009 Plenary talk (Spring symposium “One Health - Zoonosen von Virchow bis heute” of the Academy of Animal Health (AfT): “Kryptische Diversität und kryptische Ökologie: Fledermäuse als Spezialfall innerhalb der Säugetiere”
- 2008 Forschungsinstitut für Wildtierkunde und Ökologie (University of Vienna): “Stable isotopes in wildlife research: Bridging the gap between physiology and conservation”
- 2008 Jacob Blaustein Institute of Desert Research; Ben Gurion University of the Negev, Israel: “Stable isotopes in ecological studies of bats”
- 2008 Jacob Blaustein Institute of Desert Research; Ben Gurion University of the Negev, Israel “Bat mating systems”
- 2008 Smithsonian Tropical Research Institution, BCNM, Panama: “Stable isotope ecology of Neotropical phytophagous bats”
- 2008 Cornell University, Department of Ecology and Evolutionary Biology, Ithaca, USA: “Mammalian pollinators: Life at the Energetic Knife-Edge”
- 2008 Cornell University, Boyce Thompson Institute, Ithaca, USA: “The role of olfactory signals in social systems of mammals: two case studies”
- 2008 Cornell University, Department of Neurobiology and Behaviour, Ithaca, USA: “Reproductive tactics in the mating system of the greater sac-winged bat: Two sides of the same coin”
- 2008 University of Wyoming, Laramie, USA: “Mammalian pollinators: Life at the Energetic Knife-Edge”
- 2008 Veterinary University of Hanover, Institute of Zoology: “The energetics of bat pollination: When animals and plants meet for selfish reasons”
- 2007 Tiputini Biodiversity Station (Ecuador) “Following the path of stable isotopes in Neotropical rainforest ecosystems”
- 2007 Boston University (USA) “Stable carbon isotope ratios in exhaled breath of bats”
- 2007 La Selva Biological Station, Costa Rica: “Ecology, Physiology and Social Behaviour of Neotropical bats”
- 2007 Göttinger Experimentallabor, Göttingen: “Auf der Jagd nach dem Atem des Geparden”
- 2006 Konrad Adenauer Stiftung, Berlin: “From an idea towards a business plan”
- 2006 Free University, Berlin: “Minimally invasive blood collection with triatomine bugs”

- 2006 IZW, Berlin: "Stable isotopes in wildlife ecology"
- 2006 Max-Planck Institute for Ornithology, Seewiesen: "Following the path of stable isotopes in Neotropical rainforest ecosystems"
- 2005 Federal Institute for Animal Care and Housing, Celle: "Minimal-invasive blood collection with triatomine bugs"
- 2005 Boston University, Boston, USA: "The mating system of the greater sac-winged bat: hormones, perfumes and reproductive tactics"
- 2005 Humboldt University, Berlin: "Following the bloody path in host-parasite food chains"
- 2005 University of Erlangen-Nürnberg: "The mating systems of the greater sac-winged bat: Hormones, pheromones and choosing the right tactic"
- 2005 Animal Care Authority of Berlin: "Minimally invasive blood collection with triatomine bugs"
- 2004 Konrad-Lorenz Research Institute, Grünau, Austria "Blood sucking bugs for minimally invasive blood collection in endotherm animals"
- 2003 Max-Planck Institute for Ornithology, Seewiesen: "Mating tactics in colonies of the greater sac-winged bat"
- 2003 University of Bielefeld: "Stable isotopes as dietary tracers in food webs"
- 2002 IZW, Berlin: "Reproductive tactics in the mating system of the greater sac-winged bat"