

Birds play a significant role in both basic science and conservation. Birds are among the best studied animals and studies of birds provide key contributions to, for example, animal physiology, behavioural ecology and socio-biology, animal migration and navigation, and population biology. Furthermore, birds are important monitors for environmental impacts and changes. Therefore, the Institute for Biology and Environmental Sciences (IBU) at the University of Oldenburg offers a specialized study program focussing on birds as model organisms in a certified M.Sc. program "Biology". This study program with a focus on ornithology is the only of its kind in Germany. It is possible by a close cooperation of the research groups for Animal Physiology, Navigation & Behaviour and the Institute of Avian Research (Institut für Vogelforschung "Vogelwarte Helgoland").

In addition to special modules in the field of ornithology, courses are offered, e.g., in the fields of evolution, ecology, animal behaviour, neurobiology, and physiology. The methods introduced in the teaching program range from molecular genetics and the study of gene expression to ecological and ethological field studies in various parts of the world. Teaching in the field of ornithology is generally in English. Other master modules from the fields of neurobiology, biochemistry, cell biology, ecology or evolutionary biology as well as from applied research areas such as landscape ecology can be combined for obtaining the M.Sc. degree. Ph.D. programs "Environmental Sciences" and "Neurosensory Science and Systems" offer a path for further careers.

By enrolling in the M.Sc. program "Biology" at University of Oldenburg, students can participate in the front line of research in a wide range of ornithological subdisciplines and choose from an exciting range of master thesis themes. We are looking forward to YOUR application that is both possible in the summer and winter term!

### **Start, Duration and Degree**

**Start of program:** winter and summer term

**Duration:** 4 terms

**Degree:** Master of Science (M.Sc.)

more information on the study program:

[www.uol.de/ibu/studium/master-of-science-biologie/](http://www.uol.de/ibu/studium/master-of-science-biologie/)

### **Conditions of Entry and Times of Admittance**

#### **Conditions of entry**

- (1) B.Sc. in Biology or closely related field
- (2) Proof of English proficiency (level B2)
- (3) Proof of German proficiency

#### **Application deadline**

15.1. for start in summer term

15.7. for start in winter term of the corresponding year

#### **Application through**

German applicants: University of Oldenburg

[www.uol.de/studium/bewerben-master/](http://www.uol.de/studium/bewerben-master/)

EU- and international applicants: [www.uni-assist.de/](http://www.uni-assist.de/)

#### **Information and Student Support**

##### **Admission Office**

Campus Haarentor, A12 (Student Service Center)

Phone: +49(0)441-798-2728

Internet: [www.uol.de/en/registrars-office/](http://www.uol.de/en/registrars-office/)

##### **International Student Office**

Campus Haarentor, A12 (Student Service Center)

Phone: +49(0)441-798-2478

Internet: [www.uol.de/en/iso/](http://www.uol.de/en/iso/)

#### **Contact**

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## MASTER IN BIOLOGY

WITH A FOCUS ON

ORNITHOLOGY





**Prof. Dr. Franz Bairlein**

(Institute of Avian Research)

Our major interest is the understanding of the control of bird migration with a focus on the interplay between genetic, physiological and environmental factors. Current integrative

studies range from field work at migratory stopover sites to energetic and endocrine studies in cap-tive birds.

Employed methods include various field techniques such as capture-recapture and remote tracking, genetic, nutritional and physiological techniques in the laboratory as well as cross-breeding of migratory birds in captivity.

Contact:

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**Institute of Avian Research**  
**"Vogelwarte Helgoland"**

The Institute of Avian Research (IAR) was founded in 1910 and is one of the oldest and largest ornithological research institutions in the world. It is situated in Wilhelmshaven and in the portfolio of the Lower Saxony Ministry of Science and Cultural Affairs. Central research foci are bird migration and life history biology. In addition, the IAR houses the Ringing Centre for northwest Germany.

The IAR and University of Oldenburg collaborate in joint projects on the control of orientation in migratory songbirds and on the endogenous spatial control of migratory fattening. For more information please visit: [www.vogelwarte-helgoland.de](http://www.vogelwarte-helgoland.de)



**Prof. Dr. Georg M. Klump**

(DfN, University of Oldenburg)

Our main area of research lies in the fields of bioacoustics and in the field of sensory physiology of the auditory system of birds and other vertebrates. Studies mainly

employ methods of operant conditioning, behavioural physiology and neurophysiology. In addition, acoustic measurement and analysis methods are used. The goal of the research is to understand the mechanisms of auditory perception and their function in the acoustic communication of birds.

Applied aspects of the research relate to the evaluation of the impact of noise on bird life.

Contact:

georg.klump@uol.de



**Dr. Sandra Bouwhuis**

(Institute of Avian Research)

I am an evolutionary ecologist with a specific interest in the causes and consequences of within individual change in life history traits and between individual variation in life history strategies. I mostly conduct analyses on long term individual-based datasets collected in wild populations, and safeguard a long-term study population of common terns located in the Banter See at Wilhelmshaven.

In addition to general life history data, my group and I collect genetic and physiological data, mostly using blood samples.

Contact:

sandra.bouwhuis@ifv-vogelwarte.de



**Prof. Dr. Henrik Mouritsen**

(IBU, University of Oldenburg)

Our research interests focus on all aspects of animal navigation from migration strategies of populations to the behavioural, physiological and molecular mechanisms enabling animals to sense the cues needed to navigate over thousands of kilometres. Our group works very multidisciplinary, combining behavioural biology, molecular biology, neurobiology, physics, computer simulations, and analyses of field data. We primarily work on night-migratory songbirds. In recent years, our main focus has been on understanding the mechanisms enabling migratory songbirds to sense magnetic compass information.

Contact:

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**Prof. Dr. Christine Köppl**

(DfN, University of Oldenburg)

Our research focusses on the sensory world of birds, specifically their hearing. We are fascinated by the sensory elements of the inner ear, their development, and the first stages of brain processing of auditory stimuli. Most of our research uses the chicken. In addition, we work with the barn owl, a raptor that listens passively and homes in on any noises made by prey. The extreme dependence on sound localisation for successful hunting has led to many specialisations in its auditory system and makes the barn owl a very instructive species to study the brain mechanisms of sound localisation.

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