

# The Biodiversity Exploratories: a Long-term and Large-scale Project for Functional Biodiversity Research

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<http://www.biodiversity-exploratories.de>

Foto: Ilka May



ulm university universität  
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FUNDED BY

**DFG**



Globally, land use change and intensification are the greatest cause of biodiversity loss.

**Sala et al. (2000)**



In the cultural landscapes of Central Europe natural vegetation cover has been largely replaced and more than 81% of the land is used for agriculture or forestry.

**LUCAS — The EU's land use and land cover survey**  
EUROSTATS 2017

# The Biodiversity Exploratories



## Core Projects

## Contributing Projects

Local Management

Central Coordination

Theory & Modelling

Instrumentation &  
Remote Sensing

Data Management

Synthesis

Forest & Dead Wood

Forest structure

Botany

Arthropods

Above and Below Ground  
Invertebrates

Plants

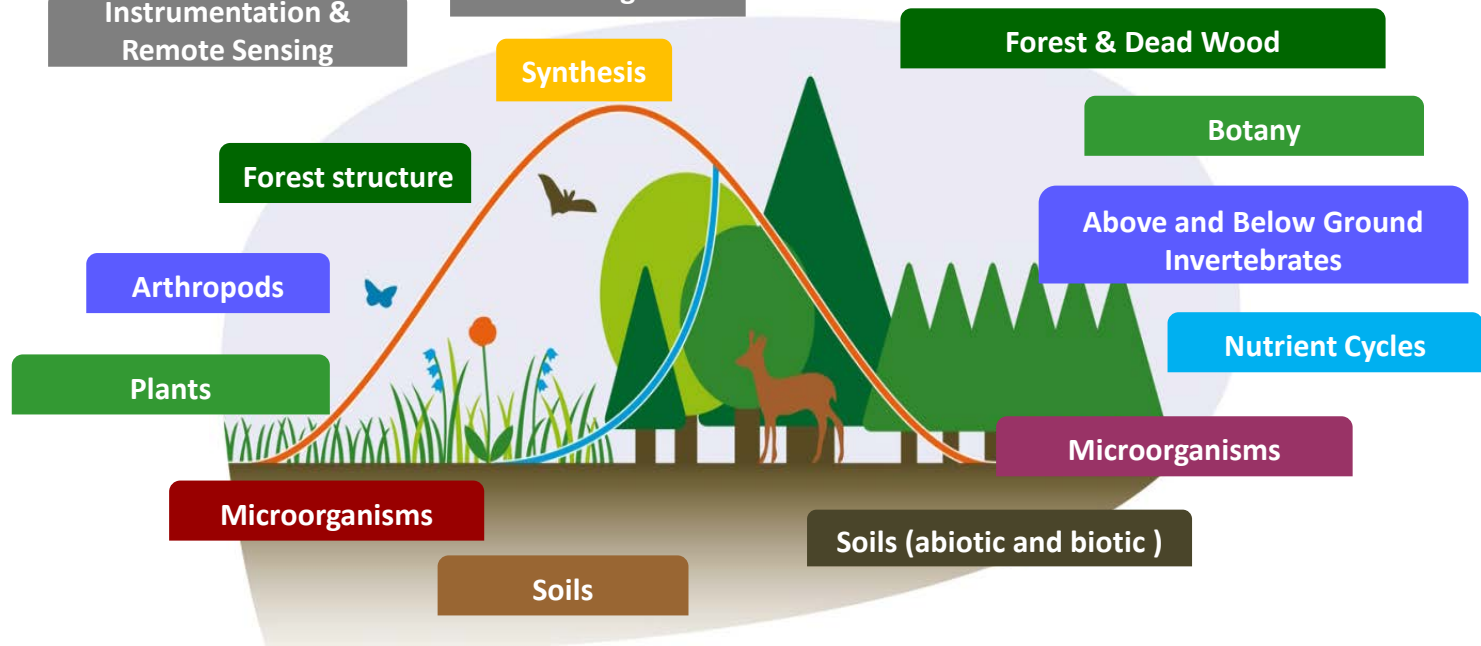
Nutrient Cycles

Microorganisms

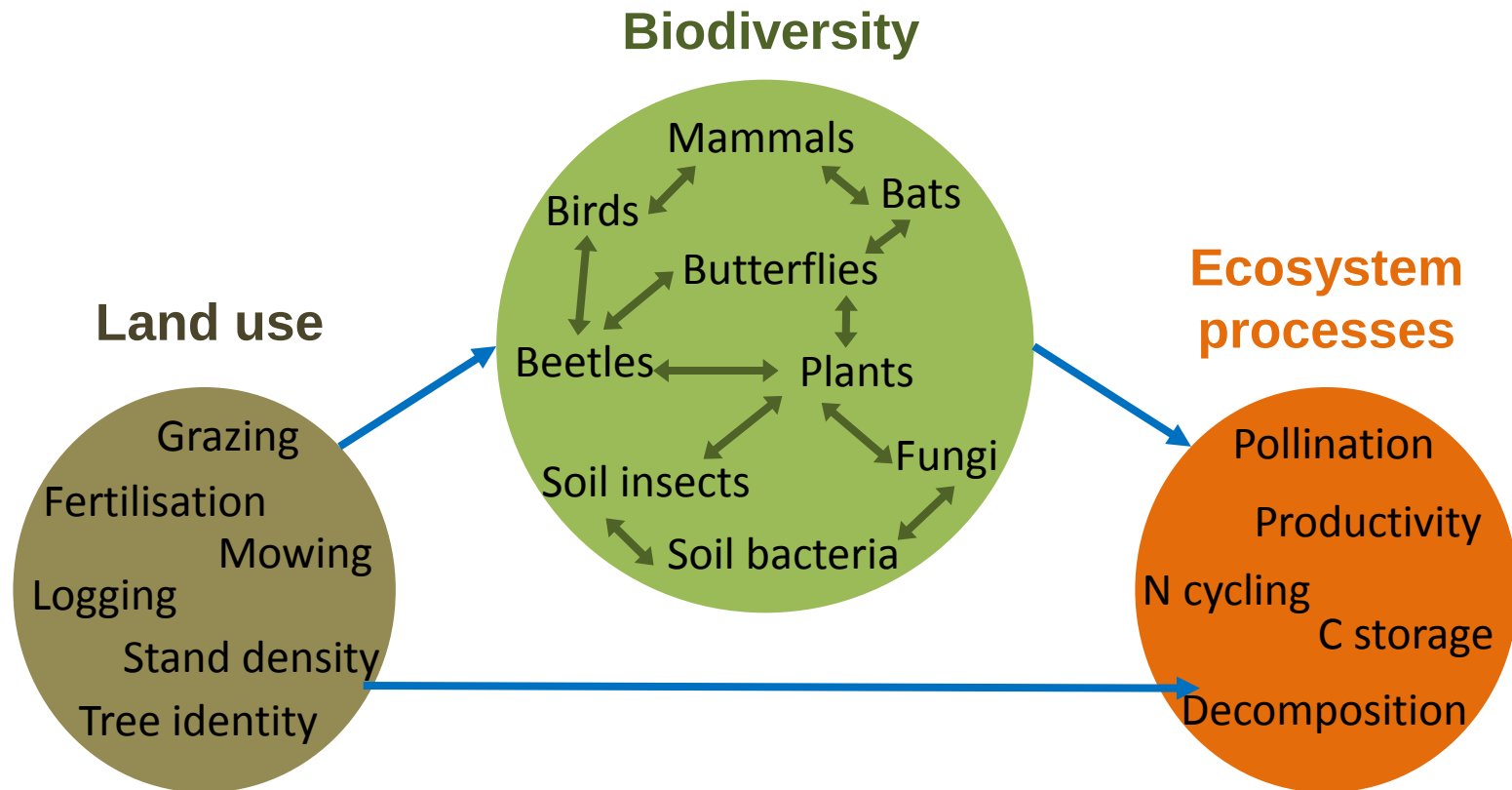
Microorganisms

Soils (abiotic and biotic )

Soils

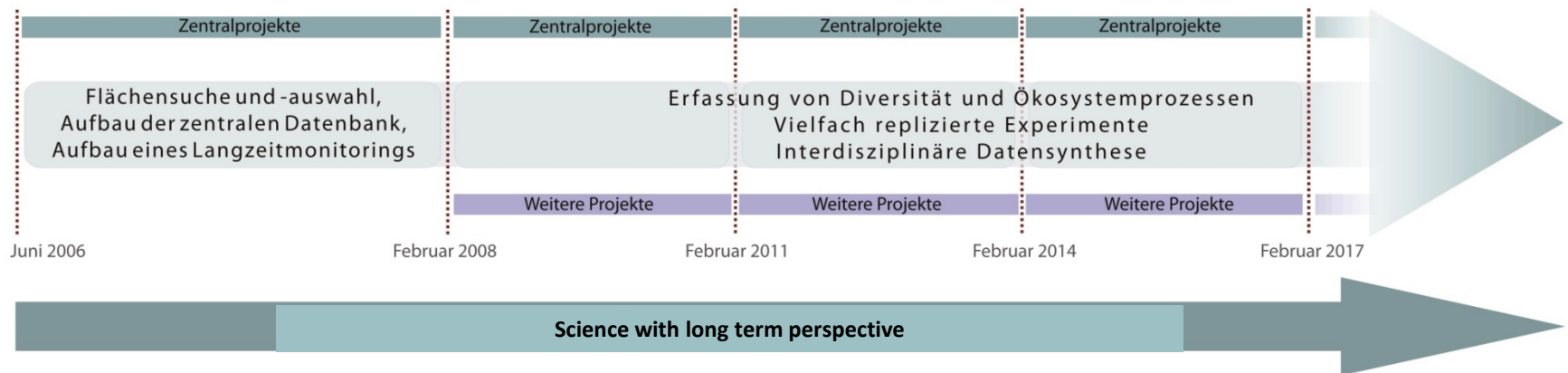


# Conceptual framework of the Biodiversity Exploratories



# The Biodiversity Exploratories

- 2006: granted by the German Science Foundation (DFG)
- 2007: Implementation of the research areas („Exploratories“)
- 2008: Implementation of 300 research sites and start of first projects

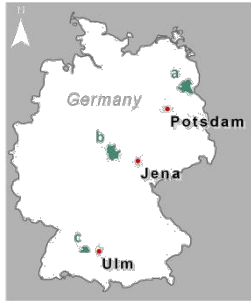


**New phase of the project will start in March 2020, with currently ~47 different projects**

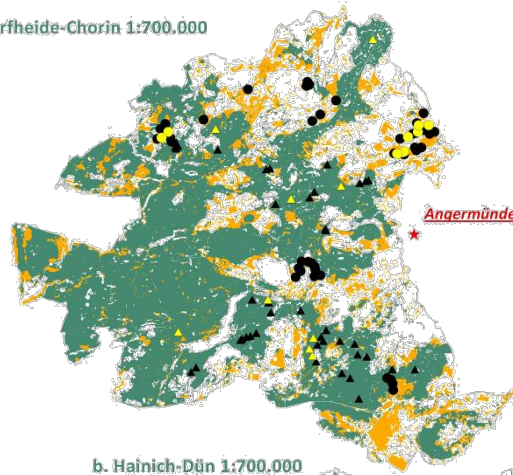
....be on the lookout for opening positions at PhD, Master and Student assistant level



# Three research areas for functional biodiversity research in Germany



a. Schorfheide-Chorin 1:700,000

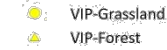


Legend

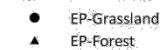


Plot types

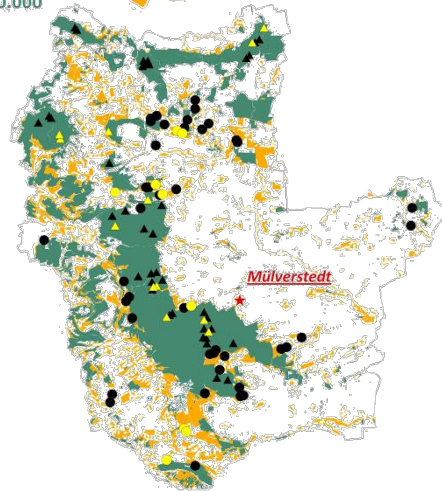
Very Intensive Plots (VIP)



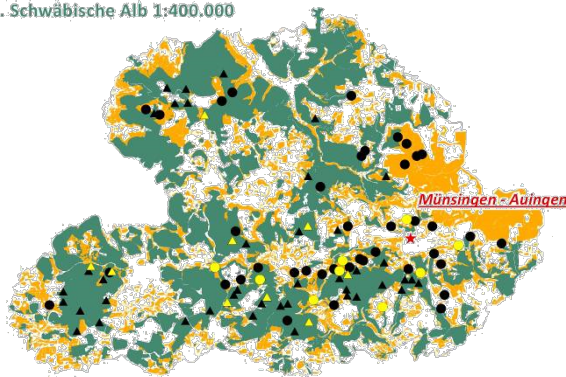
Experimental Plots (EP)



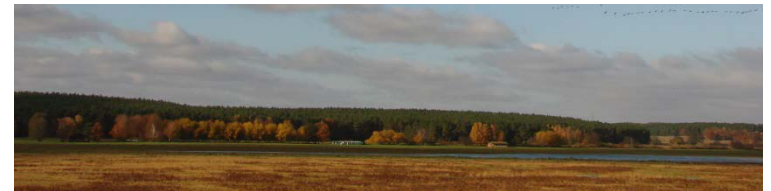
b. Hainich-Dün 1:700,000



c. Schwäbische Alb 1:400,000



Each Exploratory  
100 experimental sites  
50 forst sites  
50 grassland sites  
10 very important plots (VIP)  
30 additional sites for forest and  
grassland experiments



Schorfheide-Chorin



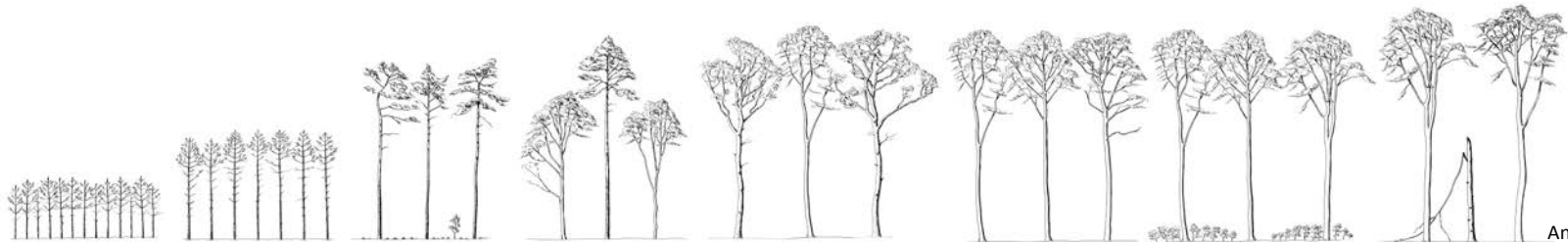
Hainich-Dün



Schwäbische Alb



# Research sites along a land use gradient



Andreas Hemp



## Land use intensity



# Local management teams as main coordinators and collectors of Environmental variables



Climate stations  
temperature, humidity

- wind speed and direction
- solar radiation
- precipitation

• land use (e.g., mowing,  
fertilization, grazing)

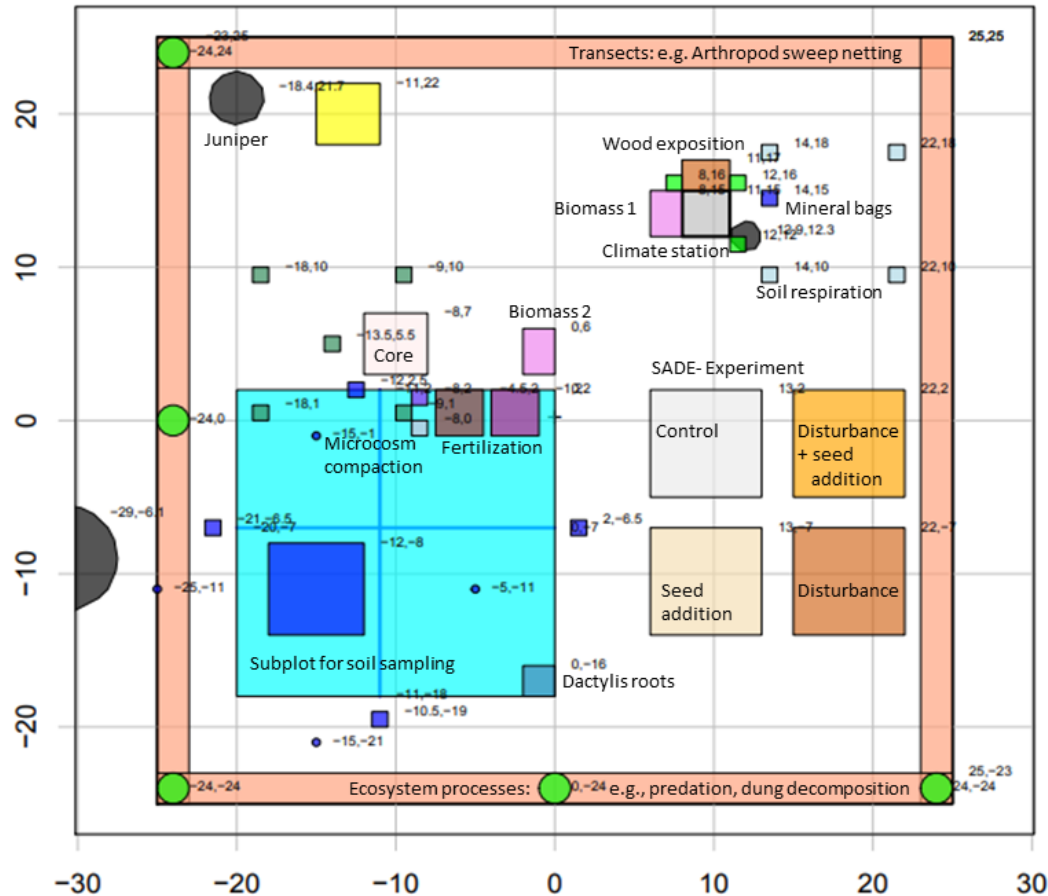
- tree harvesting (forests)
- dead wood





# Arrangement of investigations and experiments on site

## AEG 9, Beutenley



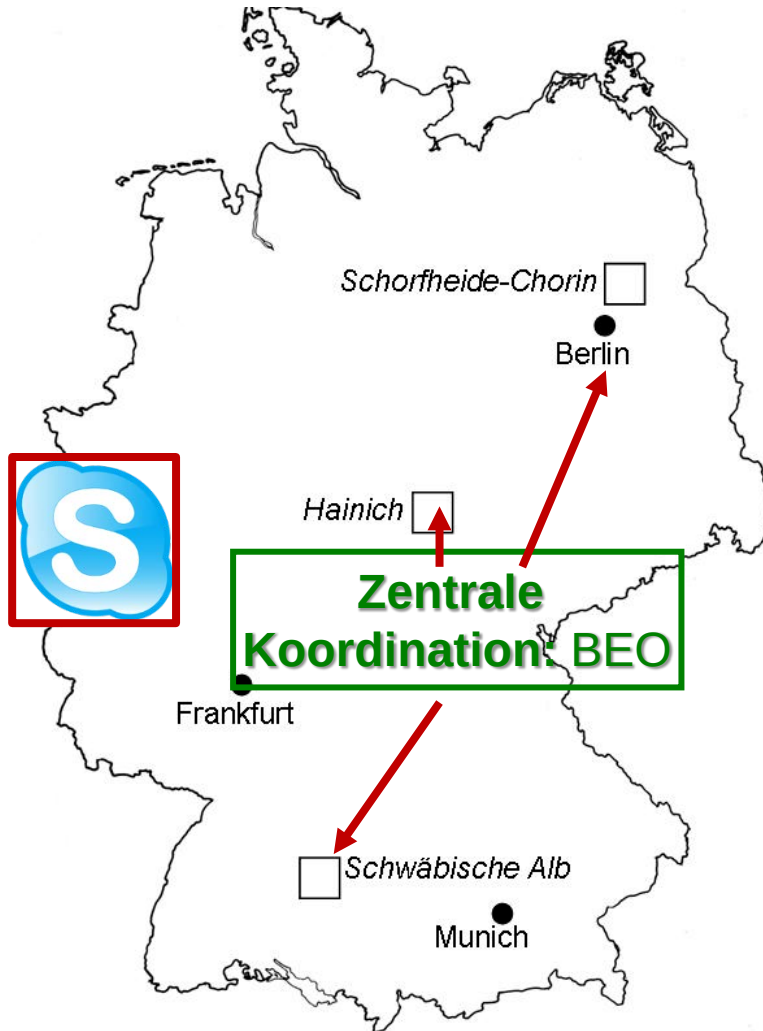
## Juniper heath

Extensively managed  
Sheep grazing 3 times per year

Land-use intensity index: LUI =  
1.16 (range: 0.68- 3.51)

# Coordination of scientific work

## Local Management Teams and Central Coordination Office





# Infrastructure and local contact point for scientist and landowners



Field station in Münsingen,  
Schwäbische Alb



# New project phase - new chances (starting 1<sup>st</sup> of March 2020)

<http://www.biodiversity-exploratories.de/1/open-positions/>



Search Word + Enter

## Exploratorien zur funktionellen Biodiversitätsforschung

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→ Tweets by Exploratories

## Open Positions

### Scientist

- Postdoctoral position or PhD position at the department of Forest Botany and Tree Physiology, University Göttingen → <https://www.uni-goettingen.de>
- Local Manager of the Local Management Team Hainich-Dün, TU München [fileadmin/projects/beo/assets/Stellenausschreibungen/2020-2023/Local\\_Manager\\_TUM\\_2020.pdf](fileadmin/projects/beo/assets/Stellenausschreibungen/2020-2023/Local_Manager_TUM_2020.pdf)
- Two postdoctoral positions in Insect Community Ecology at the TUM and at Uni Darmstadt [fileadmin/projects/beo/assets/Stellenausschreibungen/Postdoc\\_Arthropods\\_TU\\_Munich\\_2019.pdf](fileadmin/projects/beo/assets/Stellenausschreibungen/Postdoc_Arthropods_TU_Munich_2019.pdf)

### Technical staff

- Technische/r Mitarbeiter/in zur Unterstützung ökologischer Arbeiten, TU München [fileadmin/projects/beo/assets/Stellenausschreibungen/2020-2023/TA\\_Position\\_Feld\\_TUM\\_2020.pdf](fileadmin/projects/beo/assets/Stellenausschreibungen/2020-2023/TA_Position_Feld_TUM_2020.pdf)
- Forester for the Local Management Team Hainich-Dün, TU München [fileadmin/projects/beo/assets/Stellenausschreibungen/2020-2023/Foerster\\_Hainich\\_TUM\\_2020.pdf](fileadmin/projects/beo/assets/Stellenausschreibungen/2020-2023/Foerster_Hainich_TUM_2020.pdf)

### PhD-student positions

Page 1 of 2.

- PhD position for Plant Ecology, The Helmholtz Centre for Environmental Research (UFZ), Leipzig [fileadmin/projects/beo/assets/Stellenausschreibungen/2020-2023/PhD\\_position\\_UFZ\\_Leipzig\\_2020.pdf](fileadmin/projects/beo/assets/Stellenausschreibungen/2020-2023/PhD_position_UFZ_Leipzig_2020.pdf)
- PhD position at the Faculty of Life Sciences, Special Botany and Functional Biodiversity Research, Leipzig University [fileadmin/projects/beo/assets/Stellenausschreibungen/2020-2023/PhD\\_position\\_Uni-Leipzig\\_2020.pdf](fileadmin/projects/beo/assets/Stellenausschreibungen/2020-2023/PhD_position_Uni-Leipzig_2020.pdf)
- PhD position at the Institute of Zoology and Anthropology, University of Göttingen [fileadmin/projects/beo/assets/Stellenausschreibungen/2020-2023/PhD\\_position\\_Uni-Goettingen\\_2020.pdf](fileadmin/projects/beo/assets/Stellenausschreibungen/2020-2023/PhD_position_Uni-Goettingen_2020.pdf)

1 2 Next



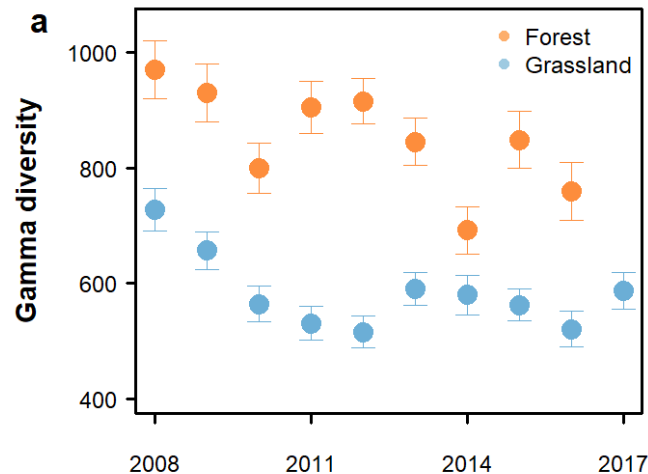
# New project phase - new chances (starting 1<sup>st</sup> of March 2020)

## Arthropod-Sampling

**Student assistants urgently needed**

Continuation of the insect decline study of TUM (Seibold et. al. Nature, 2019)

**Timeline:**  
**monthly** sampling from **April** to **October**



### Requirements:

- **Outdoor work at all weather conditions**
- **Drivers license**

→ Significant declines in insect diversity and biomass in both grasslands and forests

More information, contact:  
**Marco Lutz, University Darmstadt**  
[marco.lutz@tu-darmstadt.de](mailto:marco.lutz@tu-darmstadt.de)



# Pollinator-Sampling

**Student assistants urgently needed**



“Effects of land use intensity on pollinator health and pollination services

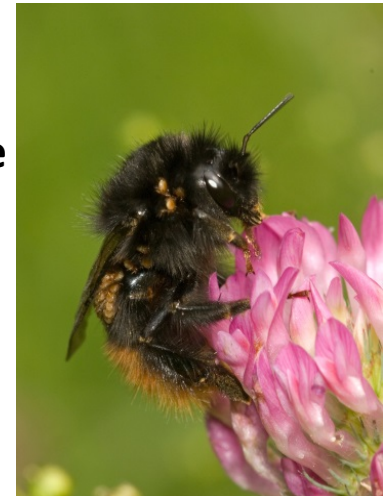
**Timeline: May and June 2020** to collect insect for disease analysis

## Requirements:

- Full availability for at least one month as sampling is weather-dependent
- Ideally, valid drivers license for Germany and an own car that can be used for field work
- Ability to perform field work in sometimes difficult terrain
- Careful work style and good communication skills

More information, contact:

**Jonas Kuppler, University Ulm**  
[jonas.kuppler@uni-ulm.de](mailto:jonas.kuppler@uni-ulm.de)

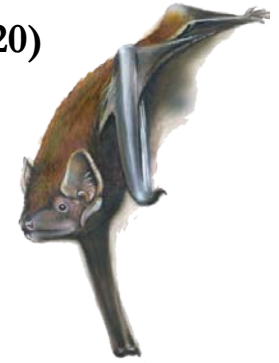




# New project phase - new chances (starting 1<sup>st</sup> of March 2020)

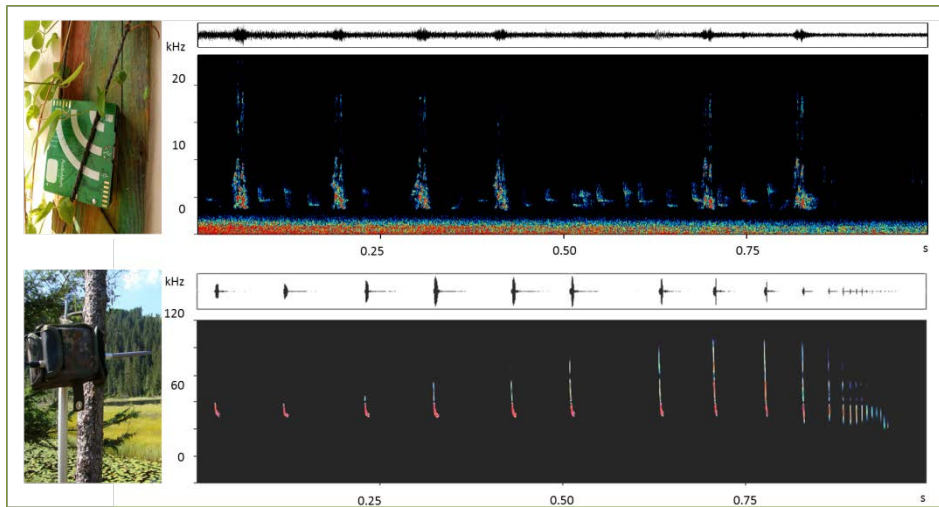
## Acoustic bat monitoring (and data analysis)

**Student assistants urgently needed**



New project: Land use effects on traits and patterns of bird and bat assemblages

**Timeline for field work:**  
**monthly** sampling from **June** to **September**



### Field Requirements:

- Drivers license
- Good self organization and communication skills
- Confidence and care with electronic devices

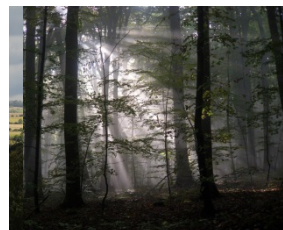
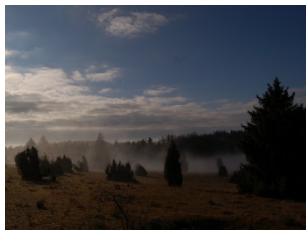
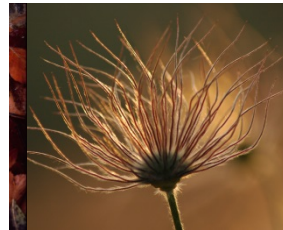
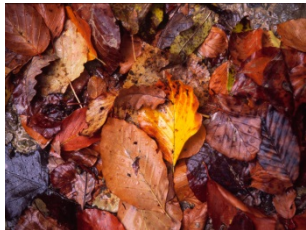
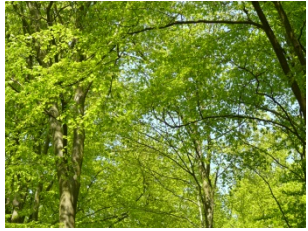
More information, contact:  
**Kirsten Jung, University Ulm**  
[kirsten.jung@uni-ulm.de](mailto:kirsten.jung@uni-ulm.de)

**Additional possibilities starting in fall 2020 for acoustic data analysis:**

Birds -> requirements: expert knowledge of European bird songs

Bats -> requirements: pre-knowledge with acoustic sound analysis





Thank you!

**Additional job opportunities may be found here:**

[www.biodiversity-exploratories.de](http://www.biodiversity-exploratories.de)

<https://www.biodiversity-exploratories.de/stellenangebote/>

<https://www.biodiversity-exploratories.de/1/open-positions/>

**and check web sites of associated institutes**