Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

The Chair of **Behavioral Physiology & Sociobiology (Zoology II),** University of Würzburg is offering a

PhD Position (f/m/d) in Animal Behavior & Neurophysiology

"Studying spatial memory and place coding in the bumblebee brain"

The position is planned to be filled from **May 2026** (a later start date may be agreed upon if required) and will be fixed term for 3 years. The position is funded by an ERC-starting grant from the European Union. Payment will be based on the tariff contracts for the public service (TV-L; part-time role at 65% of a full-time position).

Background

Bumblebees are excellent navigators. While foraging, they often visit patches of flowers in a highly repetitive and efficient order, a behavior termed "traplining". Traplining behavior requires the storage of multiple feeding sites and at the same time the bumblebee must know the flower patch closest from her current location. How places are encoded in the insect brain is unclear. This lack of knowledge not only includes the insect's current location but also spatial goals. As traplining behavior can be studied in the laboratory, bumblebees are ideal to study the neural mechanisms of spatial memory and place coding.

Project

The project's goal is to study how places are represented in the insect brain. To this end, the candidate will conduct tetrode recordings from the brain of freely walking bumblebees. Before the recordings, the bumblebees are trained to forage in different laboratory mazes. That means the candidate will gain insight into extracellular neural recordings and behavioral experiments.

For more information about the lab, please visit www.spatial-navigation.com

Successful candidate will:

- Develop, together with the institute's workshop mazes
- Train bumblebees so that the bumblebees acquire a spatial memory
- Conduct tetrode recordings in behaving bumblebees

Candidate requirements:

- A university degree in Neuroscience or a closely related field
- Strong interest in Neuroscience and Behavior (Neuroethology)
- Experience in electrophysiology or programming, e.g. MATLAB are beneficial

The JMU aims to reduce the underrepresentation of women and therefore explicitly encourages qualified women to apply.[1] Severely handicapped applicants will be given preferential consideration in the case of broadly equal suitability, ability and professional achievements.

Please send your application including a motivation letter, CV, publication list, copies of relevant certificates and one recommendation letter as a single PDF **until April 6th, 2026** to Jerome.beetz@uni-wuerzburg.de or

Dr. rer. nat. M. Jerome Beetz
University of Wuerzburg
Biocenter, Zoology II
Am Hubland
97074, Würzburg, Germany

[1] Bei einer erheblichen Unterrepräsentation von Frauen ist eine besondere Aufforderung mit aufzunehmen.

Please do not send any original documents to us; only send photocopies. As we need to save costs, we will not be able to return your documents to you. They will be shredded shortly after a hiring decision has been made. If you enclose a postage-paid return envelope, we will return your application documents to you three months after a hiring decision has been made.