



Lehrstuhl für Eingebettete Systeme  
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**MAX PLANCK INSTITUTE**  
OF ANIMAL BEHAVIOR

Specialization Module / MA Project / BA / MA

## Real-time behavior classification of wild animals based on acceleration data



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### **Description:**

The Max Planck Institute of Animal Behavior [www.ab.mpg.de](http://www.ab.mpg.de) studies animal decision-making and movement in the natural world and therefore develops embedded systems that can provide data to answer bio-behavioral questions. So-called tags are animal-mounted instruments with very stringent and multidisciplinary requirements on weight, housing, power and durability.

The following tasks should be done within the scope of this work:

- Development of a low power embedded algorithm to continuously monitor and classify the behavior of bats and birds, e.g., counting their wing beats during flight
- Validate classification approaches based on training data
- Algorithm integration onto the sensor controller of the animal-mounted wildlife tag
- Optimization for battery operated low power systems
- Collaborate with the field biologists and engineers of the Max Planck Institute of Animal Behavior in Radolfzell to meet the requirements and validate the algorithms

### *Requirements:*

- Experience in embedded C programming and sensor signal processing
- Interest in interdisciplinary research

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