


PhD student position in Neuroscience

Object representation and resolution in a computed sensory map

The Chair of Zoology of the Technische Universität München (TUM, Germany) invites applications for a PhD student position (3 years) in experimental neuroscience.

In the auditory cortex of echolocating bats, the distance to an object is represented in a neuronal map. In contrast to so-called structural maps, which simply reflect the topographic organization of the epithelial surface of a peripheral sensor, this so-called map of target-distance is a computational map. Therefore, spatial resolution of this map cannot be derived from neuroanatomical or morphological features of the sensory epithelium.

The project aims to understand the representation and limits of spatial resolution of multiple objects in the map of target distance in the auditory cortex of the bat *Phyllostomus discolor*. The experiments will employ extracellular recordings from single cortical neurons as well as neuronal activity of larger areas of the auditory cortex measured by multi-electrode arrays.

<p>Responsibilities:</p> <ul style="list-style-type: none"> • Designing and conducting electrophysiological experiments in anesthetized bats • Analyzing data • Preparing results for publication 		<p>The experimental animal: <i>P. discolor</i></p>
<p>Desirable qualifications:</p> <ul style="list-style-type: none"> • Neuroscience background • Experience with Matlab 		

Work environment

The project is located at the Chair of Zoology, TUM, in Freising/Munich. The TUM is among the leading universities in Germany. The TUM was one of the first “Universities of Excellence” of the nationwide Excellence Initiative in 2006. Research at the Chair of Zoology focuses on sensory processing in the central nervous system, using different animal model system and a wide range of methodological approaches including in-vivo and in-vitro electrophysiology, imaging and neuroanatomy.

To inquire please contact:

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