

# **EINLADUNG**

zum Vortrag von

**Herrn Prof. M. Ernst**

Universität Ulm

zum Thema

**Putting together the Puzzle of Multisensory Perception.**

## Abstract:

We use all our senses to construct a reliable and robust percept representing the world with which we interact, while multisensory processing (vision, touch, audition) and motor actions (grasping, locomotion, navigation) are inseparably linked. Human perception and action are tailored to the statistics of the natural environment and when the environment changes our perceptions follow these changes through the process of adaptation, minimizing potential costs during interaction. Human perception can be viewed as a problem of inference, for which the sensory data are often not sufficient to uniquely determine the percept. Thus, prior knowledge has to be used to constrain the process of inference from ambiguous sensory signals. A principled way to describe the combination of prior knowledge with sensory data in a probabilistic way is provided by the Bayesian Framework. This framework can be used to construct "ideal observer" models-models that use the available information in the most optimal way, provided some task and cost function. These models can then be used as a benchmark against which human performance can be tested. In this talk I will provide an overview on how this framework can be used to understand human multisensory perception for action. Furthermore, I will illustrate the application of this framework to one of our recent research topics, describing brain plasticity in visually deprived children who regained sight later in life.

**Freitag, 08.02.2019, 14:00 – 15:30 Uhr**

**BTU Cottbus – Senftenberg, LG 3A, R. 324**

Alle Interessenten sind herzlich eingeladen!