



PhD Position at the Max Planck Institute for Biological Cybernetics in Tübingen, Germany

The Department of High-field Magnetic Resonance at the Max Planck Institute for Biological Cybernetics in Tübingen is offering one PhD position under the supervision of Dr. Xin Yu (Group Leader at MPI for Biological Cybernetics). This position is open now until filled, starting in Jan, 2018.

Research Description: Understand and learn to control the brain circuits underlying critical brain states, such as coma or arousal. Potential assignment:

- a) Build up a real-time bio-feedback controlling system for brain functional studies: i) Neural network system-based signal processing, ii) MR-guided robotic system development, iii) Machine learning-based multi-modal brain signal dynamic prediction.
- b) Implement the MRI/EEG/calcium recording methods for global brain state monitoring.
- c) Target specific nuclei with deep brain optogenetic stimulation methods to study circuit-specific brain state neuromodulation: hippocampus, lateral hypothalamus, and VTA.

Students with strong computational skills are highly encouraged to apply for this position. Experience with viral transfection, or *in vivo*. / *in vitro*. electrophysiology in animal models (rodents) with brain injury is highly desirable. The candidates should bear a certain experience or strong interested on brain functional imaging, e.g. task-based BOLD fMRI.

The Max Planck Institute for Biological Cybernetics is located in Tübingen, Germany. The High-field Magnetic Resonance Department is equipped with the 3T, 9.4T human MR scanner and 14.1T animal Bruker MR Scanner. The Max Planck Society is an affirmative action/equal opportunity employer, and encourages applications from qualified women and minority candidates. Please send your CV (in English) to Dr. Yu (E-mail: xin.yu@tuebingen.mpg.de).

Dr. Yu has published seminal papers on high field MRI functional brain mapping in *Nature Neuroscience*, *Nature Methods*, *Neuron*, *PNAS*, *NeuroImage* etc.

