Multiple research assistant positions are available in the Laboratory of Integrated Brain Imaging (LIBI), led by Professor Zhongming Liu. The positions are in the following areas.

1. **Deep Learning and Computational Neuroscience**

The goal is to learn how our brains represent vision or speech, and use the brain’s principles to design artificial intelligence systems for computer vision or speech recognition. The central focus is on brain-inspired deep learning, especially deep neural networks that learn from naturalistic environments to perform complex tasks. Suitable candidates are students who have interest and skills in machine learning, statistical signal processing, and neuroengineering.

2. **Design MR-Integrated Devices for Neural Recording and Stimulation**

The goal is to develop systems or devices that perform neural recording or modulation in live animals during concurrent magnetic resonance imaging. Of particular interest is the design and fabrication of application-specific integrated circuit for low-power analog or mixed signal processing. Suitable candidates are students who have strong skills and previous experiences in device design, fabrication, packaging, and testing.

3. **Animal MRI and Electrophysiology**

The goal is to develop and use animal MRI and electrophysiology methods to map circuits in the brain. The Lab is equipped with, or has access to, a large set of research tools, including small-animal 7-Tesla MRI, 64-channel MR-compatible EEG systems, broadband amplifiers for high-density single-unit recordings, commercial or customized systems for neuromodulations. Suitable candidates are students who have strong interests in biomedical research, and skills in electrical or biomedical engineering.

Please contact Professor Liu for any question regarding the above opportunities.

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