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S4-L4 ‘Mapping the neuro-glio-vascular interactions with multi-modal fMRI’

We have developed high resolution single-vessel fMRI to map the hemodynamic signal from individual penetrating arterioles and venules with concurrent calcium recording based on the fiber optic GCaMP-mediated fluorescent signal detection. Here, I will deliver our work in three aspects:

1. Describe the advanced single-vessel fMRI brain mapping from animals to humans.
2. Demonstrate the simultaneous fMRI with fiber optic calcium recordings, as well as glutamate recording.
3. Specify a unique neuro-glia-vascular interaction event underlying brain state fluctuation.

A multi-modal high field fMRI platform will be introduced for functional brain mapping
