Project Title	Real-World Motor Learning in Embodied Virtual Reality
Supervisor(s)	Dr Shlomi Haar (Department of Brain Sciences) Dr Aldo Faisal
Themes	Microscopy
Project Type	Lab based
Project Description	A key challenge in neuroscience, neurology and neurorehabilitation is to measure and train motor control and learning in free behaving real-life tasks. We recently demonstrated the feasibility of studying real-world neuroscience using wearable technologies and data-driven approaches to uncover neural mechanisms of learning. We also developed an embodied virtual-reality (EVR) setup, which allows us to study motor control and learning in a controlled-real-world learning environment. In this project, you will use our EVR setup to induce perturbations aimed to manipulate motor learning mechanisms. You will record subjects' movement (with body sensor networks) and brain activity (with mobile EEG) while performing a motor learning task with visual perturbations in the VR. This will force subjects to use different learning mechanisms and in your analysis, you will work to map the behavioural changes induced by the perturbations and changes in the brain activity.