

"Contribution of visual and locomotion cues to hippocampal spatial and directional selectivity"

Briefly, here we show using virtual reality experiments and novel analysis techniques that visual and locomotion cues are sufficient to generate directional selectivity in hippocampus but not spatial selectivity. Both findings are exactly the opposite of commonly held beliefs over the past four decades.

Additionally, if there is interest and time, I can give another talk, the title would be

"Dynamics of neocortical dendritic membrane potential and spikes during natural behavior"

Here we demonstrate a novel technique that has enabled us to measure the distal dendritic membrane potential in freely behaving rodents. That too, for up to four days. Such measurements have never been done before, and our data reveal many surprising results about the dynamics of distal dendrites and their dendritic spikes.