



Talks by rising stars of neuroscience

## **Understanding sensorimotor control at global and local scales**

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The brain is remarkably flexible, and appears to instantly reconfigure its processing depending on what's needed to solve a task at hand: fMRI studies indicate that distal brain areas appear to fluidly couple and decouple with one another depending on behavioral context. But the structural architecture of the brain is comprised of long-range axonal projections that are relatively fixed by adulthood. How does the global dynamism evident in fMRI recordings manifest at a cellular level? To bridge the gap between the activity of single neurons and cortex-wide networks, we correlated electrophysiological recordings of individual neurons in primary visual (V1) and retrosplenial (RSP) associational cortex with activity across dorsal cortex, recorded simultaneously using widefield calcium imaging. We found that individual neurons in both cortical areas independently engaged in different distributed cortical networks depending on the animal's behavioral state, suggesting that locomotion puts cortex into a more sensory driven mode relevant for navigation.

Event link:

<https://www.crowdcast.io/e/wwneurise/3>