



Talks by rising stars of neuroscience

**Astrocytes contribute to remote memory formation by
modulating hippocampal-cortical communication
during learning**

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How is it that some memories fade in a day while others last forever? The formation of long-lasting (remote) memories depends on the coordinated activity between the hippocampus and frontal cortices, but the timeline of these interactions is debated. Astrocytes, star-shaped glial cells, sense and modify neuronal activity, but their role in remote memory is scarcely explored. We manipulated the activity of hippocampal astrocytes during memory acquisition and discovered it impaired remote, but not recent, memory retrieval. We also revealed a massive recruitment of cortical-projecting hippocampal neurons during memory acquisition, a process that is specifically inhibited by astrocytic manipulation. Finally, we directly inhibited this projection during memory acquisition to prove its necessity for the formation of remote memory. Our findings reveal that the foundation of remote memory can be established during acquisition with projection-specific effect of astrocytes.

Event link:

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