

## “Space and memory in the brain”

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The hippocampus of the mammalian cortex is involved in episodic memory (memory for events) and spatial navigation. This brain structure is linked to the rest of the cortex through the entorhinal cortex.

In this lecture, I will show how neurons (brain cells) in the entorhinal cortex respond electrically to the environment the animal is traversing. I will present data both from sensors implanted in the brain of freely behaving animals and from animals running around with tiny 2-photon microscopes attached to their head.

The entorhinal cortex contains neurons that map self-motion, self-location, and objects, and I will show that it is able to associate odours with space. These findings suggest that entorhinal cortex provides the hippocampus with information about location in a navigational setting ready to be associated with experiences in order to form episodic memories.