



UNIVERSITÀ
DEGLI STUDI
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HOW WE FIND OUR WAY

a multitude
of specialized
cell types

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“The brain’s medial entorhinal cortex is part of a neural system for mapping of self-location. One of the first components to be detected in this internal map was the grid cell. Grid cells fire electric impulses when animals are at particular locations that together tile the environment in a periodic hexagonal pattern, like in a Chinese checkerboard. The circuit was soon found to include also other functional cell types, such as head direction cells, speed cells, and border cells, which are intermingled among the grid cells. As will be shown in the lecture, the collection of specialized cell types within the neural map is still growing. I will show how this multitude of cell types forms a rich representation of local space that may help us navigate from one place to another, in simple and more complex environments, and I will discuss how the navigational circuit evolves during the formation of the nervous system during the first weeks and months of life.”