Julie Koenig's research is focused on spatial memory, the ability to encode, store and recall information relative to the spatial layout of an environment. The activity of many pyramidal cells in the hippocampus—a key region for spatial memory—is strongly correlated with the animals' location in the environment. These so-called ‘place cells’ use different types of information coming from the internal and external world to generate place specific firing.

Julie Koenig is using cutting edge in-vivo recording techniques in awake behaving rodents to examine how different streams of information determine firing of hippocampal neurons. She will present unpublished data that shed light on how hippocampal networks might acquire a spatial engram of a reward location.