



# XULU SUN, Ph.D.

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When planning or troubleshooting, we often contemplate possible actions and imagine their outcomes based on prior knowledge. The hippocampus has been implicated in our ability to imagine possible futures, yet it is unclear how future representations are regulated and what functions they subserve. Dr. Xulu Sun will explore the anatomical underpinnings, mechanistic control, and functional significance of hippocampal future representations in [Dr. Loren Frank's lab](#) at the University of California, San Francisco. Dr. Sun will use behavioral tasks and multiregional electrophysiology to explore how the hippocampus interacts with other brain regions to enable future representations and how these representations may support flexible planning. This process is impaired in many neuropsychiatric disorders such as schizophrenia. Thus, Dr. Sun's research of the underlying neuroscience may reveal new strategies for treating such disorders.

As a PhD student in [Dr. Krishna Shenoy's lab](#) at Stanford University, Sun investigated dexterous movement control. There she used [behavioral tasks and large-scale neural recordings](#) to show how the [cortical motor system implements a behavior-organizing map in rhesus monkeys](#). Dr. Sun will now use her strong foundation in neural computations to explore the neural basis of future representations.

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