

Hippocampal-prefrontal miscommunication in 22q11.2 deletion-associated cognitive deficits.

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In his talk, Dr. Kupferschmidt will discuss findings from the last decade of research by Dr. Joshua A. Gordon and colleagues into the molecular and neural circuit basis of cognitive deficits in mouse models of the 22q11.2 microdeletion. He will describe evidence that abnormal connectivity and miscommunication between two brain structures, the prefrontal cortex and hippocampus, underlies working memory impairments in mice deficient for genes within the 22q11.2 locus. He will also highlight findings that pharmacological interventions during development can rescue neural connectivity and behavioral abnormalities seen in these mice. Lastly, he will address how modern efforts to parse the neural circuits supporting normal working memory stand to inform future interrogation of 22q11.2 deletion-related cognitive dysfunction.