

School of Neuroscience Innovators Seminar Series

Assembling functional visual circuits



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**Wednesday, April 14, 2021
11:00 AM – 12:00pm**

Link to join Webinar

<https://viriniatech.zoom.us/j/84622988399>

A principle task of the nervous system is to establish a robust perception of our surroundings through our senses. Efficient sensory processing relies on the development of precise connectivity and deficits in sensory processing are common in many neurodevelopmental disorders (NDDs). In the Triplett Lab, we use genetic, molecular, anatomic, and physiologic techniques to understand how sensory circuits develop normally and how these processes go awry in NDDs. In this talk, I will discuss our recent investigations into the mechanisms underlying visual circuit development in the superior colliculus (SC), a midbrain nucleus that mediates head and eye movements. In the SC, inputs from the retina and cortex are organized topographically and in register to efficiently process spatial information. In addition, subtypes of visual neurons that monitor distinct aspects of the visual scene establish circuit-specific connections that inform behavioral responses. Our recent work has uncovered new insights into the mechanisms by which these connections are established and maintained, as well as how they are altered in fragile X syndrome.

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