# Deciphering Corticospinal Circuits in Controlling Touch and Tactile Neuropathic Pain Sensitivity

## October 5

### Tuesday, 12:30pm

Online Webinar

For Researchers


**Speaker:**

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**Host: Jian Zhong, Ph.D.**

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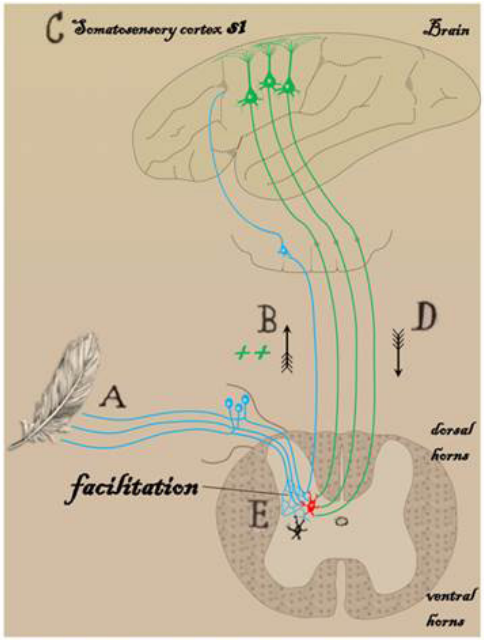
## Abstract


Descending supraspinal pathways integrate signals from multiple brain regions and are the neural basis by which our brain controls our body. As yet, the design principles for such top-down control remain elusive. The mission of our lab is: (1) To decipher supraspinal circuits in somatosensory perception. (2) To investigate the underlying mechanisms of top-down control in chronic pain states. To achieve these goals, we will use a multidisciplinary approach combining intersectional viral-mediated gene manipulation, in vivo imaging, and electrophysiological and single-cell sequencing techniques. Ultimately, our research will help explain how our mental states directly alter normal and pathological somatosensory perception in different contexts or mood states, and will uncover potential targets for treating pain.



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**2.** Liu Y, Latremoliere A, Li X, Zhang Z, Chen M, Wang X, Fang C, Zhu J, Alexandre C, Gao Z, Chen B, Ding X, Zhou J, Chen C, Wang K, Woolf CJ, He Z. **Touch and tactile neuropathic pain sensitivity are set by corticospinal projections.** Nature 561: 547–550 (2018).
**3.** Wang X, Liu Y, Li X, Zhang Z, Yang H, Zhang Y, Williams PR, Alwahab NSA, Kapur K, Yu B, Zhang Y, Chen M, Ding H, Gerfen CR, Wang KH, He Z. **Deconstruction of corticospinal circuits for goal-directed motor skills.** Cell 171: 440-455 (2017).



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