BME Special Seminar

Michael Economo
Post-Doctoral Researcher
Janelia Research Campus

Host: Dr. Kathleen Cullen

Tuesday, March 13
11:00 a.m.
Traylor 709

New approaches for investigating long-range neural circuits in motor control and beyond

Abstract: Nearly everything the brain does requires the coordination of diverse brain regions. Yet, the neural circuits connecting brain areas remain poorly understood due to their exceptionally intricate structure. How brain areas are coordinated through these circuits to produce behavior remains a topic of intense interest. I will first describe the development of new methods for determining the structure of long-range neural circuits. I will then describe how this technology was combined with other emerging transcriptomic and anatomical techniques to reveal that the pyramidal tract – the only pathway linking the motor cortex with subcortical structures that produce movement – represents two distinct circuits with specialized roles in planning and executing voluntary movements.

Biography: Dr. Michael Economo hails from North Carolina and received his undergraduate degree in Biomedical Engineering and Mathematics from Duke University. He received his Ph.D. in Biomedical Engineering in 2012 from Boston University. Dr. Economo is currently a postdoctoral researcher at HHMI’s Janelia Research Campus in the lab of Dr. Karel Svoboda. At Janelia, Dr. Economo’s research has focused on understanding the role of long-range neural circuits in motor control.