



Life Sciences Seminar

Defining inhibitory microcircuits for limb and thoracic movement

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Motor output varies along the rostro-caudal axis of the spinal cord. At limb levels, pairs of muscles flex and extend about each joint to coordinate running and grasping. In contrast, at thoracic levels, torso muscles support posture, inspiration and expiration. In both the developing mouse and *Xenopus* frog, I have investigated how these differences in motor complexity along the body axis are reflected in the cell type diversity of inhibitory neurons. In the mouse, I applied a combination of transcription factor profiling, Bayesian analysis, and machine-learning to define limb- and thoracic-specific inhibitory cell types. In the frog, I determined whether the limb- and thoracic- inhibitory cell types I identified are conserved across species and scale with motor behavior as tadpoles transition from swimming to walking. My studies support that molecularly-distinct inhibitory subpopulations exist to subserve limb and thoracic movement across species.

Wednesday, February 27, 2019 10:00am - 11:00am

Mondi Seminar Room 2, Central Building



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