Weekly Colloquium
Tuesday, 02/02/2016, 12:30pm, Billings Building – Rosedale Conference Room

“How Does the Brain Generate Behavioral Sequences?”

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List of recent publications:


Scientific Abstract

Zebra finches learn to sing in much the same way that infants learn to speak, but circuit-based mechanisms that underlie the existing parallels between human speech and song production remain unknown. To address this directly, we use a common perturbation (local cooling) to manipulate the circuits underlying birdsong and human speech production, and we examine the effects on the fine structure of these vocalizations to establish a functional map for these behaviors. In the songbird, we then examine dynamics within a key forebrain premotor structure using 2-photon imaging in the singing bird, and we looked at the underlying circuitry using a combined electron-light microscopy approach. Using these observations, we have begun to test circuit-level models of sequence generation that are likely to be involved in a range of neural computations.

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