Swarthmore College

Math/Stat Colloquium

Mathematical modeling of neuronal networks and their functional roles

The connectivity among neurons, cells that communicate through electrical impulses called action potentials, underlies all sensory processing and behavior. Understanding the formation of these connectivity structures (during development, for example), as well as their functional roles, is essential for predicting mechanisms underlying both healthy and diseased states. Mathematical modeling is an important tool in this quest, as experimental studies often can't directly measure connectivity strength among all cells, especially during development. In this talk, I will discuss two projects that use different modeling techniques to investigate the role of connectivity in network activity and computation.

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SC 199

Refreshments 4:15pm, Talk 4:30