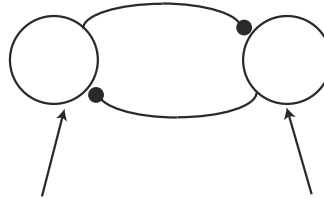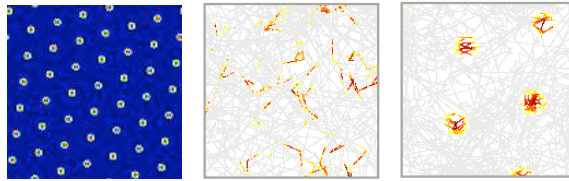# Course Announcement Spring 2009

NEU 385L/BIO 381K/BIO 337

Computational Neuroscience and Neural Networks

Instructor: Professor Fiete

Course description

This course is an introduction to neural networks for computational neuroscience. We will consider the reduction of biological neural networks to simplified mathematical models, study the dynamics of feedback networks and the training of feedforward and feedback networks, and cover methods of supervised and unsupervised learning in such networks. Toward the end, we will focus on specific neural systems and other topics from neuroscience, with students presenting final projects.

The course is intended as an introduction for students in other quantitative fields curious about neural networks and computational neuroscience, and for students already in or interested in neuroscience research, to equip them with a basic toolkit of concepts and techniques so that they may independently begin to tackle papers and research in the field.

Prerequisites include some differential equations and linear algebra, or permission of the instructor. Knowledge of Matlab would help, but can be acquired along the way.

Class times: Tu, Th 11:00-12:30 in BUR