

Speaker: Michelle Effros, George Van Osdol Professor of Electrical Engineering, Vice Provost

Title: On a Mathematical Model of Neuronal Memory

Abstract: Motivated by the goal of demonstrating how the macroscopic phenomena of memory (e.g., retrieval, formation, and storage) arise from the microscopic mechanisms of the brain (e.g., neuronal behavior, plasticity, and connectivity), we pose a new mathematical model of memory. The proposed model combines insights from neuroscience and information theory to build a mathematical framework with which competing theories from neuroscience and memory research can be tested and through which the theory can evolve and grow.