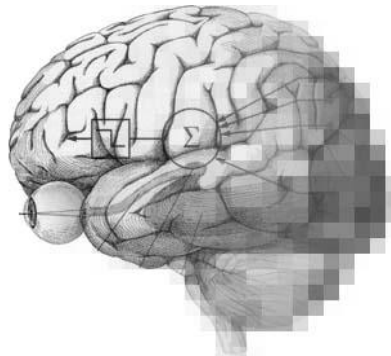


COURSE ANNOUNCEMENT
HARVARD GSAS: Neuro/MCB/Physics 231
(cross-listed in SEAS)

Computational Neuroscience

Prof. Haim Sompolinsky

canvas.harvard.edu/courses/49249



Spring 2024, Mondays and Wednesdays, 3-4:15 PM

Questions? Email:

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Description: This course explores Contemporary Brain Theory spanning local neuronal circuits as well as deep neural networks; examines the relationship between network structure, dynamics, and computation; introduces analytical and numerical tools from information theory, dynamical systems, statistics, statistical physics, AI, and machine learning for the study of neural computation. Key topics include computational principles in early sensory systems; methods in unsupervised and supervised learning; attractors, memory, and spatial functions in cortical circuits; understanding noise, chaos, and neural coding; and exploring learning, representations, and cognitive functions in deep neural networks in brains and machines.

Prerequisites: Basic knowledge of multivariate calculus, differential equations, linear algebra, multivariate probability theory, and scientific programming. This course is aimed at graduate students and advanced undergraduates.