

Sharif Neuroscience Symposium 2023



From Single Neuron to Learning in Networks



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● IPM



Certificates
Will be Awarded



Price
420,000 Tomans



Online

Prerequisites:

Calculus and Linear
Algebra
Basics of MATLAB

**Jan 20, 27, Feb 3
Dey 30, Bahman 7, 14**

9:00 AM to 16:00 PM

Single neuron model

- Introduction to physiology of neurons, Biological neuron models
- Neuronal integrators, Stochastic models, Adaptive models
- Noise and neuronal variability, ISI distribution
- Competition among models: Which neuron model does fit my problem?

Network of neurons

- Feedforward network, Signal propagation
- Recurrent networks, Persistent activity, Wilson-Cowan model
- Balance of excitation and inhibition
- Synchronous/Asynchronous, Regular/irregular networks

Learning and plasticity

- Hebbian learning, BCM
- Spike timing dependent plasticity, Triplet model, Voltage dependent rules
- Plastic networks
- Reinforcement learning



All sessions have Hands-on exercises (MATLAB Programming + pen & paper)

Registration Deadline: Jan18th, 2023

Dey28th, 1401

For more info, visit our website: sns.ee.sharif.edu



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Topics