Abstract:

Starting with the raw optical image projected on the photoreceptors, the retina performs a great deal of visual processing to compute about a dozen parallel neural images, which are transmitted to various areas of the brain. In this talk, I will discuss three of these neural computations identified only recently, all related to the processing of image motion. In each case, I hope to demonstrate the overall network function, explain how it is performed in terms of circuits with neurons and synapses, and discuss what purpose it serves in the overall context of vision.