BİLKENT UNIVERSITY

MOLECULAR BIOLOGY AND GENETICS

DEPARTMENTAL SEMINAR

"Perceptually averaging fills-in the grand illusion of stable and complete visual perception"

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We "see" the world as stable and complete, which is remarkable because we often miss changes right in front of us and the retinal image changes continuously. So how does the visual system impose this "illusion" of order on chaos? Despite recent headway in answering this classic question, there is still limited understanding of how the visual system accomplishes this extraordinary feat. In pursuit of this over-arching question, my research focuses on how the visual system efficiently represents global statistical properties of sets of objects (e.g., average size) despite attentional limitations that prevent the detailed encoding of most objects (e.g., exact sizes of individual stimuli). I will outline some of my recent work demonstrating that perceptual averaging is a fundamental visual process, which plays a central role in maintaining stable perception as we interact with our surroundings. Furthermore, I will present evidence that this efficient form of statistical representation allows for a complementary mechanism to circumvent limited capacity resources. I will then describe several experiments currently being conducted in my lab to further investigate how perceptual averages affect the manner in which we see, remember, and pay attention to information in the surrounding environment. These new approaches to a classic problem in vision research promise insight for our understanding of how the limited-capacity visual system creates the illusion of rich, ordered perception.

Date-Time : Wednesday, October 7, 2015 – at 15:40
Place : SBZ-14
Host : Serkan Göktuna