Heller Lecture - Prof. Isabel Gauthier

June 1, 2011

On the topic of: "What the perceptual expert cannot tell you"
Heller Lecture Series in Computational Neuroscience

Prof. Isabel Gauthier
Professor of Psychology Vanderbilt University, Nashville

On the topic of "What the perceptual expert cannot tell you"

Location: ELSC-ICNC Center Silverman Bldg., 3rd wing, 6th floor
Date&Time: 1st June, 2011, at 17:00

Abstract:

When we look at objects in the world to locate, categorize and recognize them, we depend on a cascade of processes reflecting the action of a complex network of brain areas, none of which we have conscious access to. In some domains, our perception has been fine-tuned by experience and we forget that the perceptual decisions we now make effortlessly were once slow and difficult. The perceptual expert cannot explain how she does what she does. My colleagues and I have been studying the behavioral and neural changes that take place when we acquire perceptual expertise with objects. I will summarize studies on experts in different domains, trained outside and inside the laboratory that provide us with a model of the influences that shape the organization of our perceptual system. Brain imaging methods allow us to see the neural specialization that supports perception at its best. Experts literally see faster and more than novices. But these advantages come at a price: fine-tuned perceptual routines are applied automatically to objects of expertise such that experts loose the flexibility to see some of what they could see as novices. Moreover, expertise in different domains can compete for a limited pool of perceptual resources. This work reveals how experience shapes brain functions and how this reorganization in turn determines what we perceive.
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