On the topic of: Holistic processing can help us understand face perception and the origins of its specialization

ELSC-ICNC cordially invite you to the seminar given by:

Isabel Gauthier
Professor of Psychology Vanderbilt University, Nashville

On the topic of:
Holistic processing can help us understand face perception and the origins of its specialization

Thursday, June 02, 2011 at 17:00
at the ELSC-ICNC lecture hall
(Silverman Bldg., Wing 3, 6th floor - Edmond J. Safra Campus)

Abstract:

The concept of holistic processing (HP) is a cornerstone of face recognition research, and an important construct in efforts to link neural and performance measures in the cognitive neuroscience of perceptual expertise. Yet central questions having to do with HP remain unanswered and debates fail to reach a resolution despite accumulating empirical evidence. Is HP specific to faces? Is HP caused by expertise? Is HP of faces even related to performance in face recognition? Are inverted faces processed holistically? I will argue that a considerable source of confusion in this literature stems from a methodological problem. One of the most popular measures of HP comes from the composite task (Young et al., 1987). Critically, there are two versions of the composite task to measure HP for unfamiliar faces currently in use in the literature and they often provide incompatible results, such that one, or both, method(s) must be rejected. One approach (which I call partial design) confounds manipulations of interest with complex response biases that are influenced both by stimulus properties and by top-down strategies. The alternative approach to measuring HP (which I call complete design) is robust to these influences and captures important differences in the processing of objects and faces, both behaviorally and in neural measures. I will make the strong claim, based on several experiments, that the partial design measure of HP should be abandoned. Using the complete design, we found that HP of faces is related to face recognition performance, which converges with recent work where HP of objects is related to expertise for objects. Just as abandoning phrenology did not lead us to reject the value of cortical specialization of functions, this appears to be a case where abandoning a flawed measure can save a useful construct and promote empirical convergence and theoretical resolution.
It is now widely accepted that deciphering the enigma of the brain is the most challenging intellectual endeavor of the 21st century, "The Century of the Brain" - Join our quest and become a friend of ELSC.

Our Int'l Ph.D. program provides outstanding students with top-notch courses in computational neuroscience.

The Jerusalem Brain Sciences Building will provide a state-of-the-art research and teaching facility for the Edmond and Lily Safra Center for Brain Sciences.

Get into our media channel and investigate ELSC's latest videos: seminars, public lectures, courses and video articles.

Source URL: http://elsc.huji.ac.il/content/elsc-icnc-seminar-isabel-gauthier