



Università degli Studi di Verona

Scuola di Dottorato di Scienze Ingegneria Medicina

Strada le Grazie 15
37134 Verona - Italia
Tel. +39 045 802 7026
Fax +39 045 802 7068

WHY DO THINGS LOOK AS THEY DO? THE CONTRIBUTION OF PRIMARY VISUAL CORTEX TO SIZE PERCEPTION

SEMINAR

Dr. Irene Sperandio
School of Psychology
University of East Anglia
Norwich (U.K)

Summary: An afterimage looks larger when one fixates on a distant as opposed to a near surface. In conjunction with functional magnetic resonance imaging (fMRI), afterimages can be used to study the neural substrates of size-distance scaling. Using fMRI, we showed that the retinotopic activity in the primary visual cortex (V1) associated with viewing an afterimage is modulated by perceived size, even though the size of the retinal image remains constant. This suggests that size constancy plays out in V1. But is V1 always critical for size constancy? We carried out a size constancy study on patient M.C., who has large bilateral occipital lesions that include V1. We first measured M.C.'s ability to estimate the perceived size and distance of objects of different physical sizes positioned at varying distances. M.C.'s size and distance estimates were poorly scaled to the physical size and distance of the objects and were correlated instead with their retinal image size. In short, she showed no evidence of perceptual size constancy. In contrast, when we asked M.C. to reach out and pick up objects positioned at different distances, her grip aperture scaled to the real width of the object at all viewing distances. Taken together, our results strongly suggest that the neural mechanisms that underlie size constancy for perception and action are distinct, and lend further support to the hypothesis that V1 plays an important role in conscious visual perception.

The lecture will take place **Thursday, March 28, 2013 at 4.30 p.m.** in the **Room "E" Istituti Biologici**

Local organization and contact: Prof. Carlo Alberto Marzi
carloalberto.marzi@univr.it

For attending this seminar will be recognized 2 of 150 CFR provided for the specific activities of PhD Program in Psychological and Psychiatric Sciences.
