Topographic representation of the human body in the occipitotemporal cortex

By zroth
Created 7/4/2011
By zroth July 4, 2011

Orlov, T, Makin TR, Zohary E. 2010.

Abstract:

Large-scale topographic representations of the body have long been established in the somatosensory and motor cortices. Using functional imaging, we identified a topographically organized body part map within the occipitotemporal cortex (OTC), with distinct clusters of voxels showing clear preference for different visually presented body parts. This representation was consistent both across hemispheres and participants. Using converging methods, the preference for specific body parts was demonstrated to be robust and did not merely reflect shape differences between the categories. Finally, execution of (unseen) movements with different body parts resulted in a limited topographic representation of the limbs and trunk, which partially overlapped with the visual body part map. This motor-driven activation in the OTC could not be explained solely by visual or motor imagery of the body parts. This suggests that visual and motor-related information converge within the OTC in a body part specific manner.

Journal:
Neuron

Volume:
68

Pagination:
586?600

Notes:

{PMID:} 21040856

UPCOMING EVENTS

Learn more about our exciting upcoming events!

read more

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

read more

The Building

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.

read more

ELSC Media Channel

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

read more

Source URL: https://elsc.huji.ac.il/zohary/publications/topographic-representation-human-body-occipitotemporal-cortex