Cortical surface-based meta-analysis of human visuotopic regions from published stereotaxic coordinates

Anthony Cate¹, Timothy Herron², Xiaofan Kang³, David Woods²,³,⁴

¹Psychology Department, Virginia Polytechnic Institute and State University
²Human Cognitive Neurophysiology Lab, VA Affairs Research Service, NICHCS
³Department of Neurology and Center for Neuroscience, University of California at Davis
⁴Center for Mind and Brain, University of California at Davis

INTRODUCTION: Maps of human visual cortex have become crowded with functionally defined regions of interest (ROIs). Lists of these neuroanatomical ROIs overlap, in part because research groups studying different aspects of vision assign different names to similar regions. We explore a novel atlas-based approach that allows a quantitative determination of functional loci of interest. This permits us to quantify the richness and complementariness among visual ROIs from diverse lines of research (functional, category specificity, and control of action). MNI Talairach stereotaxic coordinates are used in this atlas-based approach. We evaluate the extent of overlap of the two groups’ foci. This allows us to see if stereotaxic coordinates provide a common framework for determining the extent of overlap of the two groups. In this analysis, we have used a stereotaxic systematically collected coordinates from journals to assess the overlap of functional areas. We also compare the coordinates of functional areas with anatomical ROIs to verify how accurately a wide gamut of anatomically-defined functional areas present on the cortex contribute to functional localization.

VAMCA Email Service

VAMCA hosts a meta-analysis service. Text files with stereotaxic coordinates as attachments or in the email body are processed and returned with output text files and graphics.

Mapping Ventral Extrastrisal Visual Stimulus Selective Regions

Meta-analyzing the location of two groups of points on the cortex

Comparison of different sets of parietal regions

Abstract

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References