
Martinez-Con


Table of Contents

I. Visual Circuits and Perception since Ramon Y Cajal.
Retinogeniculate connections: a balancing act between connection specificity and receptive field diversity.
Double bouquet cells in the monkey and human cerebral cortex with special reference to areas 17 and 18.
Covert attention increases contrast sensitivity: psychophysical, neurophysiological and neuroimaging studies.

II. Recent Discoveries on Receptive Field Structure.
The generation of receptive field structure in cat primary visual cortex.
The contribution of feedforward, lateral and feedback connections to the classical receptive field center and extra-classical receptive field surround of primate V1 neurons.
Cortical cartography revisited: a frequency perspective on the functional architecture of visual cortex.
The sensitivity of primate STS neurons to walking sequences and the degree of articulation in static images.

III. Eye Movements and Perception during Visual Fixation.
Fixational eye movements in normal and pathological vision.
Microsaccades: a microcosm for research on oculomotor control, attention, and visual perception.
Fixational eye movements and motion perception.
A cholinergic mechanism underlies persistent neural activity necessary for eye fixation.

IV. Perceptual Completion.
Perceptual filling-in: more than the eye can see.
The visual phantom illusion: a perceptual product of surface completion depending on brightness and contrast.

V. Form Object and Shape Perception.
Bayesian inference of form and shape.
Contour discontinuities subserve two types of form analysis that underlie motion processing.
Neural basis of shape representation in the primate brain.
The role of familiarity in the recognition of static and dynamic objects.