

What the eye sees, where it looks, and what the brain makes of it - neural mechanisms of visual perception

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Visual perception involves active selection and interpretation of information contained in the sensory input. These processes are guided by current and previous cognitive sets and experiences and in themselves guide orienting behavior such as eye movements. The research unit seeks to identify neural activity that is associated with these constructive brain processes over and above the activity that is associated with the sensorimotor aspects of vision. We combine functional neuroimaging to record brain activity with perceptual paradigms that dissociate visual cognition from sensory representation. Our focus has been on bistable percepts but we have also addressed classical problems in visual neuroscience such as correspondence or invariance. We have recently expanded our scope to supra-modal cognitive categories (e.g. quantity) as well as to the structure of 'spontaneous' brain activity by combining functional neuroimaging with simultaneous electroencephalography. Our long-term goal is to study brain activity in free viewing of natural scenes.

Projektbeteiligte

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