Abstract

Our research is aimed at understanding how neuronal signals in visual cerebral cortex generate perceptions and guide behavior. Our approach is to record from individual neurons in trained, behaving monkeys while they perform visual tasks.

Much of our work is directed at understanding how paying attention to specific visual targets affects the way that they are represented in the brain, and how changes in the sensory representation caused by attention relate to changes in perception and behavior. We have shown that attention increases the strength of neuronal responses without changing their selectivity, effectively representing the attended stimulus as if it were more intense than it really is. Paired measurements of neuronal responses and behavioral performance have shown that much of the behavioral advantage conferred by attention may be explained by this change it causes in the sensory representation, rather than decision processes.

References

