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*Marmosets in visual neuroscience: why?*

Abstract:

Marmosets (*Callithrix jacchus*) are small South American monkeys which are being increasingly becoming adopted as animal models in neuroscience. Knowledge about the marmoset visual system has developed rapidly over the last decade. But what are the comparative advantages, and disadvantages involved in adopting this emerging model, as opposed to the more traditionally used macaque monkey?

In this talk I will discuss case studies where the simpler brain morphology and short developmental cycle of the marmoset have been key factors in facilitating discoveries about the anatomy and physiology of the visual system. In particular, I will discuss how the ability to obtain high-resolution electrophysiological maps of the dorsal extrastriate cortex has called into question the assumption that one can unambiguously subdivide the cortex into areas based on “field sign”.

In summary, although no single species provides the “ideal” animal model for invasive studies of the neural bases of visual processing, I argue that the development of robust methodologies for the study of the marmoset brain provides exciting opportunities to address long-standing problems in neuroscience.