

New Research published in Journal of Physiology

Congratulations to [Maria Concetta](#) , whose work has been published on Frontiers in System Neuroscience!

Bourne, J. A. & Morrone, M. C. (2017). Plasticity of Visual Pathways and Function in the Developing Brain: Is the Pulvinar a Crucial Player?, Front Syst Neurosci, (11), 3. [PDF](#)

The pulvinar is the largest of the thalamic nuclei in the primates, including humans. In the primates, two of the three major subdivisions, the lateral and inferior pulvinar, are heavily interconnected with a significant proportion of the visual association cortex. However, while we now have a better understanding of the bidirectional connectivity of these pulvinar subdivisions, its functions remain somewhat of an enigma. Over the past few years, researchers have started to tackle this problem by addressing it from the angle of development and visual cortical lesions. In this review, we will draw together literature from the realms of studies in nonhuman primates and humans that have informed much of the current understanding. This literature has been responsible for changing many long-held opinions on the development of the visual cortex and how the pulvinar interacts dynamically with cortices during early life to ensure rapid development and functional capacity. Furthermore, there is evidence to suggest involvement of the pulvinar following lesions of the primary visual cortex (V1) and geniculostriate pathway in early life which have far better functional outcomes than identical lesions obtained in adulthood. Shedding new light on the pulvinar and its role following lesions of the visual brain has implications for our understanding of visual brain disorders and the potential for recovery.

Plasticity of Visual Pathways and Function in the Developing Brain

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