



## Professor Paul McMennamin

Head, Ocular Immunology Group



Monash Biomedicine Discovery Institute  
Infection and Immunity Program

### OTHER PROGRAM AFFILIATIONS



Development and  
Stem Cells



Neuroscience

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Our group is investigating a number of issues that relate to eye diseases which may have an immune or inflammatory basis to their pathogenesis. In addition, the group also studies eye development and aging. The World Health Organization estimates that over 45 M people are blind and 314 M people are visually impaired. The Ocular Immunology group has a number of active projects that are aimed at understanding common blinding diseases such as corneal infection, retinopathy of prematurity, and age-related macular degeneration. The research group sees itself as part of a larger global effort to understand these conditions - if we can help place one small piece in the larger jigsaw puzzle of medical research that will help future treatment of these conditions then we will have succeeded.

### Research Projects

1. Are there antigen presenting cells in the normal brain parenchyma and retina?
2. Novel treatment protocols for human retinopathy of prematurity using a clinically relevant mouse model
3. Investigating perivascular macrophages in the ocular microenvironment



Prof. Paul McMennamin with 3D Anatomy Prints.

### Selected significant publications:

1. Dando SJ, Naranjo-Golborne C, Chinnery HR, Ruitenberg, MJ, **McMennamin PG**. 2016. A case of mistaken identity: CD11c-eYFP+ cells in the normal mouse brain parenchyma and neural retina display the phenotype of microglia, not dendritic cells. *Glia* doi: 10.1002/glia.23005 [Epub ahead of print].
2. Lioufas PL, Quayle MR, Leong JC, **McMennamin PG**. 2016. 3D printed models of cleft palate pathology for surgical education. *J Plastic Reconstructive Surgery* (in Press).
3. Chinnery HR, Leong J, Forrester JV, **McMennamin PG**. 2015. TLR9 and TLR7/8 activation induces formation of keratic precipitates and giant macrophages in the mouse cornea. *J Leuk Biol* 97(1):103-10.
4. **McMennamin PG**, Quayle MR, McHenry CR, Adams JW. 2014. The production of anatomical teaching resources using three-dimensional (3D) printing technology. *Anat Sci Educ*. 2014 7: 479-86
5. Chinnery HR, Pearlman E, **McMennamin PG**. 2008. Membrane nanotubes *in vivo*: A unique morphological feature of MHC class II+ macrophages and putative DCs in the mouse corneal stroma. 'Cutting Edge' *J Immunol*. 180:5779-5783.