

# MICROGLIA IN THE RETINA: ROLES IN RETINA FUNCTION, AGING AND DISEASE

TUESDAY  
6 JUNE 2017

3:00PM – 4:00PM

SEMINAR ROOM, L2,  
MD10, DEPARTMENT  
OF ANATOMY, NUS

**DR WAI T WONG**

**MD, PhD, Investigator  
Unit on Neuron-Glia Interactions in Retinal  
Disease  
National Eye Institute  
National Institute of Health, USA**

Our research group, the Unit on Neuron-Glia Interactions in Retinal Diseases (UNGIRD), of the Laboratory of Retinal Cell & Molecular Biology investigates the role of microglia, the resident immune cell of the retina, in normal physiological function and in the pathogenesis of retinal diseases. Of particular interest are retinal diseases in which age-related neuroinflammation features prominently, such as diabetic retinopathy and age-related macular degeneration (AMD), which are responsible for the majority of vision loss in the developed world. Our key areas of focus are: 1) the role of microglia in the basic physiological function of the retina, and cell-cell interactions between microglia and other retinal cell types, 2) the aging phenotype of the retinal microglial cell, 3) the role of microglia in the pathogenesis of retinal disorders, and 4) translational research on microglial-based therapies in preclinical and proof-of-concept phase I/II clinical trials. Our laboratory has used a combination of live-imaging techniques, *in vitro* studies, and animal models of disease to investigate the involvement of microglia in intercellular interactions with other retinal cell types in healthy, aging and pathological conditions. One key motivation is to understand how these cellular interactions undergo progressive change during senescence, resulting in age-related neuroinflammation that drive retinal disease pathogenesis. We are interested in discovering the molecular bases for these cellular interactions which allow the discovery of therapeutic targets directed at retinal microglia. The group is currently involved in a number of phase I/II trials using microglial inhibition as a treatment for diabetic retinopathy and retinal vein occlusions.

Address enquiries Dr Hu Qidong at 66013730 or Ms Carolyne Ang at 65163200. All are welcome.