

# Ultrastructure of Glia-Synapse Interactions in the Retina

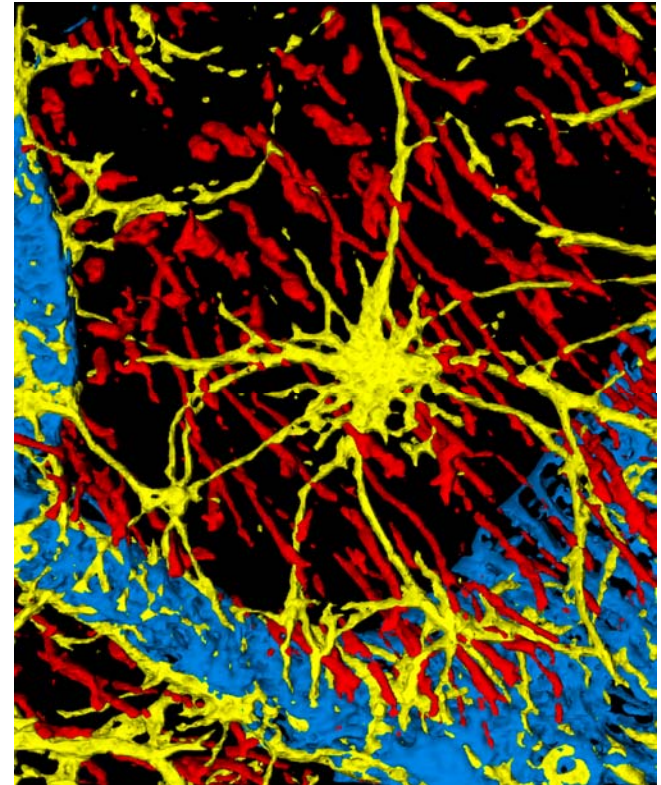
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- Previous research
  - ◆ Retinal stimulation activates glial cells, evoking glial  $\text{Ca}^{2+}$  increases
  - ◆ Activated glial cells release ATP, a neuromodulator
  - ◆ Glial release of ATP at synapses inhibits retinal neurons
- Planned research
  - ◆ TEM studies of morphological interactions between glial and neuronal elements at retinal synapses
  - ◆ TEM and immuno-EM studies of the distribution of structures and molecules involved in glial release of transmitters

- Publications

- ◆ Newman, E.A. and Zahs, K.R. (1997) *Science*, 275:844-847
- ◆ Newman, E.A. (2005). *J. Neurosci.* 25:5502-5510
- ◆ Metea, M.R. and Newman, E.A. (2006) *J. Neurosci.*, 26:2862-2870



Astrocytes (yellow) and Müller cells (red), two types of retinal glial cells, are shown in this immuno-confocal image of the rat retina. Processes of both types of glial cells contact retinal blood vessels (blue).