

Biomathematics Seminar Series

Department of Mathematics and Statistics

Spreading Mechanics and Differentiation of Astrocytes During Retinal Development



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<https://zoom.us/j/96537803206>

In embryonic development, formation of the retinal vasculature is critically dependent on prior establishment of a mesh of astrocytes. Astrocytes emerge from the optic nerve head and then migrate over the retinal surface in a radially symmetric manner and mature through differentiation. We develop a PDE model describing the migration and differentiation of astrocytes, and numerical simulations are compared to experimental data to assist in elucidating the mechanisms responsible for the distribution of astrocytes via parameter analysis. This is joint work with Timothy Secomb.



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