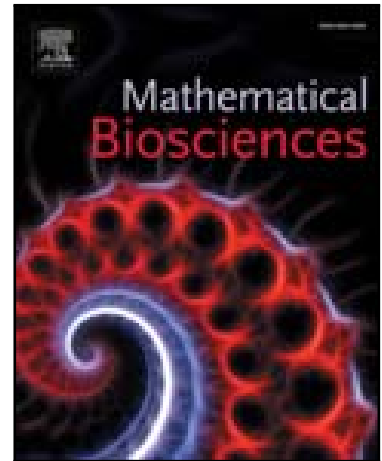


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Predicting retinal tissue oxygenation using an image-based theoretical model

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Highlights

- Retinal blood and tissue oxygenation is modeled in a heterogeneous vascular network.
- The model uses a numerical method based on Green's functions.
- Simulations also predict blood flow rates and pressures in each microvessel.
- As O_2 demand increases, mean PO_2 decreases and standard deviation of PO_2 increases.
- At high O_2 demand, mean PO_2 is a poor oxygenation indicator in heterogeneous networks.

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