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Mathematical modelling of tissue growth in a spatially-varying permeability tissue engineering scaffold

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Tissue engineering is a rapidly growing field, attracting a huge concentration of research effort. An important subfield of tissue engineering focuses on the use of bioreactors, devices that attempt to simulate a physiological environment in order to promote the growth of functional cell or tissue *in vivo*. In this talk we present a mathematical model to simulate both nutrient transport and cell proliferation within a spatially-varying permeability scaffold inside a perfusion bioreactor, and compare results from this model with experimental results from the literature.

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