

MATHEMATICAL MODELLING OF AUTOIMMUNITY

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The talk presents a model of β -cell transitions for diabetes. The normal β cells may die through apoptosis (a naturally occurring programmed death) or necrosis (where the cells die in an uncontrolled way resulting in a build-up of dead tissue and cell debris) which can lead to premature death in patients.

The model is based on a system of delay-differential equations and the aim of the project is to study the interactions and to understand how one may control cell death resulting from necrosis through the values of parameters of the system.