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## Memory and time delays in physiological regulation

*Tuesday, 10 July 2018 10:30 am (30 minutes)*

Memory translates into time delays naturally in a number of regulatory processes at all levels of organisation in the life sciences: transcription and translation times in molecular biology, finite axonal conduction velocities between neurons, maturation times of precursor cells in hematopoiesis and infection and temporary immune periods in infectious disease propagation are but a few examples of naturally occurring such delays. In many instances, mathematical constructions are elaborated to avoid incorporating time delayed arguments in the modelling equations of the system of interest. We present, by way of examples on two specific physiological and epidemiological systems, the limitations of this approach and the extent to which these approximations may or may not be useful or necessary for a proper understanding of the modelled system.

This talk will serve as an introduction to the other presentations of the Minisymposium.

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