Computational and Mathematical Methods in Medicine

Special Issue on
Applications of Delay Differential Equations in Pharmacodynamics

Call for Papers

Delayed phenomena are common in biology and medicine. Mathematical models employing delay differential equations have been successfully applied in bioengineering and theoretical biology. Pharmacodynamics is a science that relates the time courses of drug concentrations and of pharmacologic effects in humans and animals. A delay between exposure and effect is a hallmark of an indirect pharmacological response. Despite a plethora of indirect pharmacodynamic responses, there have been a moderate number of pharmacodynamic models utilizing delay differential equations.

The main focus of this special issue will be on models of biological systems altered by drugs with states that can be considered as pharmacodynamics responses. Cell populations sensitive to pharmacological agents are very important examples of such systems. The special issue will put particular emphasis on papers presenting models incorporating delay differential equations to link the drug exposure to a pharmacological effect. Manuscripts addressing intersubject variability are welcome. Potential topics include, but are not limited to:

- Hematology
- Oncology
- Infectious diseases
- Parasitic infections
- Inflammation
- Autoimmune diseases
- Endocrinology
- Chronobiology

Before submission authors should carefully read over the journal's Author Guidelines, which are located at http://www.hindawi.com/journals/cmmm/guidelines/. Prospective authors should submit an electronic copy of their complete manuscript through the journal Manuscript Tracking System at http://mts.hindawi.com/ according to the following timetable:

Manuscript Due	Friday, 25 May 2012
First Round of Reviews	Friday, 17 August 2012
Publication Date	Friday, 12 October 2012

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