WORKSHOP
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Modeling the Clinical Data in Periodic Hematological Disease

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Abstract

This talk will focus on the attempts to explain the clinical data in periodic chronic myelogenous leukemia and cyclical neutropenia through mathematical models of the human hematopoietic system. These models, which are formulated as systems of coupled differential delay equations, contain a substantial number of parameters and are difficult to analyze analytically. Equally, they are difficult to fit to the existing data to try to elucidate the underlying causes of these diseases. The attempts that have been made in this direction are detailed in two papers:

C. Colijn and M.C. Mackey. A mathematical model of hematopoiesis: I. Periodic chronic myelogenous leukemia, J. Theor. Biol. (2005) **237**, 117–132 and A mathematical model of hematopoiesis: II. Cyclical neutropenia, ibid. 133–146.