

Institute for Mathematics and its Applications
2012 Seminar Series
University of Wollongong

Title: Modelling protective anti-tumour immunity using a hybrid agent-based and delay differential equation approach

Speaker: Peter Kim (University of Sydney)

Time and Date: 3:30pm, Friday 19 October 2012

Location: Room 15.206

Abstract: Although cancers seem to consistently evade current medical treatments, the bodys immune defences seem quite effective at controlling incipient tumours. Understanding how our immune systems provide such protection against early-stage tumours and how this protection could be lost will provide insight into designing next-generation immune therapies against cancer. To engage this problem, we formulate a mathematical model of the immune response against small, incipient tumours. The model considers the initial stimulation of the immune response in lymph nodes and the resulting immune attack on the tumour and is formulated as a hybrid agent-based and delay differential equation model.