

OPEN SEMINAR SERIES

Friday 17 February 2012
10:00 – 11:00

SEERC Conference Room
3rd Floor Strategakis Bldg

“Complex Systems Simulation as a Scientific Instrument”

By

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ABSTRACT

Computer-based simulation is a key tool in many fields of scientific research. In silico experiments can be used to explore and understand complex processes, to guide and complement in vitro and in vivo experiments, to suggest new hypotheses to investigate, and to predict results where experiments are infeasible. Simulation is an attractive, accessible tool - producing new simulations of simple systems is relatively easy - but it is also a dangerous one - simulations are often complex, buggy, and difficult to relate to the real-world system.

In this talk Prof. Stepney, will describe the CoSMoS approach to engineering trustworthy simulations: simulations that are both scientifically useful to the researcher, and scientifically credible to third parties. The approach emphasises two key aspects: the use of models to capture the scientific domain and the simulation platform; and the close co-working of scientific domain experts and simulation software engineers. The approach is generic: it does not mandate a particular modelling technique, or particular implementation language. What it does mandate is the careful and structured use of models and arguments, to ensure that the simulation both is well-engineered, and seen to be well-engineered.

The seminar series is open to all members of *staff and students* of CITY and to any *externals* that wish to attend.



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