

## RESEARCH STUDENT SEMINAR

**Friday 16 March 2012**  
**10:00 – 11:00**

**SEERC Conference Room**  
**3<sup>rd</sup> Floor Strategakis Bldg**

### “Towards Disciplined Exploitation of Emergent Properties”

By  
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#### ABSTRACT

Digital systems are becoming increasingly complex, requiring significantly more effort and resources in order to be designed, implemented, and maintained. In the last decade, industry and academia alike share the concern that in the near future engineers will have to face unprecedented levels of complexity. Similarly, the belief that traditional engineering approaches will be insufficient for coping with systems of such complexity is gaining increasingly more supporters. An alternative approach suggests the use of implicit engineering techniques which could lead to complex global-level behaviours by solely focusing on the local, or individual, level. The quality of rising macroscopic behaviours which are irreducible, or non-trivial to reduce, to any microscopic properties is more widely known as emergence, especially in the fields of complex and multi-agent systems. This talk will provide a basic understanding on emergence and present various approaches to engineer systems which harness emergent properties.

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