**Presentation: Systems Engineering Tools for the Surveillance and Protection of Complex Networks and their Infrastructures**

2nd European Conference on Security Research, Berlin*,* Germany

27th March 2007

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**Abstract**

Imperial College has an inter-disciplinary research programme in Systems Engineering - a core, generic enabling engineering technology for the development of models, methodologies and tools, for the analysis, design and control of complex network systems. Applications involve energy, process and transport systems with special emphasis on security of infrastructures and networks.

Main themes of research include: Modelling, optimization and control of large integrated systems and networks; Integration of sensors, measurements and data into mathematical models; Transport systems management and control; Risk management and risk minimization, including quantification of risks in complex systems e.g. rail systems, ports and air traffic control.