



The Institution of *Engineering and Technology* Seminar on

## **Systems Modelling in Railways Virtual Worlds; Real Possibilities**

Thursday March 18, IET London: Savoy Place

[www.theiet.org/railway-modelling](http://www.theiet.org/railway-modelling)

### **Programme**

**08:30 Pre seminar registration and refreshments**

**08:55 Pre seminar tutorial session**

#### **Introduction to System Modelling**

- What is Systems Modelling? Why Systems Modelling?
- Creating a model – where to begin? Does the model reflect reality?
- Where are the limitations of System Modelling?

**Garry Greenland**, Systems Manager, **Parsons**

**09:40 Open question and answer forum**

**09:50 Full seminar registration and refreshment break**

**10:10 Chairman's introduction**

**Peter Sheppard**, Principal Consultant, **Lloyds Register Rail Ltd**

**10:15 Keynote speech – Understanding the future and benefits of Systems**

#### **Modelling - consolidating modelling tools**

**Eddie Goddard**, Chief Engineer, **London Underground**

**10:40 Data Control – Modelling a complex system and managing complex data**

- Using multiple simulators in an effective fashion
- Overcoming modelling challenges
  - Data Sourcing
  - Tracking data
  - Is the data 'appropriate'?

**Martyn Chymera**, Optimisation Consultant, **Cogitare**

**11:15 Questions and answer session**

**11:25 Refreshments**

**11:50 Modelling Railway signalling power systems: Using simple tools to create an effective model and produce *pertinent* results**

**Graeme Brindle**, Technical Director, **Amey**

**Lee Johnson**, Lead Design Engineer, **Amey**

**12:20 Case Study: Modelling in real-time – creating a 'signalman's decision making support tool'**

**Brian Hunt**, Managing Director, **Zircon Software**

**Roy Slide**, Principal Software Engineer, **Zircon Software**

**12:55 Question and answer session**

**13:05 Lunch**

**14:05 Case Study: Using system modelling to improve energy efficiency**

- Step by Step: Creating an accurate simulation using the tools available
- Understanding the data generated
- Transforming findings into action

**Roderick Smith**, Chair, **Future Railway Research Centre, Imperial College, London**

**14:35 Case Study: Cooling the tube**

- Objective of the cooling the tube programme (CTP)
- Factors that affect the Underground heat
- The need for modelling
- Types of models
  - interactions and outputs
  - traction power
  - human thermal models
  - tunnel ventilation models
  - hydrogeology models
  - Some lessons learnt

**Mark Gilbey**, Principal Engineer, **Parsons Brinckerhoff**

**Stephen Kemp**, Assistant Development Engineer, **London Underground**

**15:05 Question and Answer session**

**15:15 Refreshments**

**15:40 Jam tomorrow: Modelling the future to reduce risk**

- Simulating capability within a complex environment
- Introduction to the SSL upgrade and the ways in which simulation can assist
- Simulation tools
- Introduction to the Railway Engineering Simulator (RES)
- Conclusions: Approaching contracts, improving confidence and reducing risk

**Catherine Norris**, Systems Modelling Delivery Manager and

**David Dobson**, Systems Modelling Strategy Manager,

**London Underground**

**16:10 Questions and chair's closing remarks**