

Welcome to **ePreview**, the INCOSE UK e-mail bulletin. **ePreview** covers topical news and events that are of interest to the UK Systems Engineering community, complementing our Quarterly Newsletter **Preview**.  
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## INCOSE UK NEWS

### News from “Simple Systems Techniques That Work” Workshop

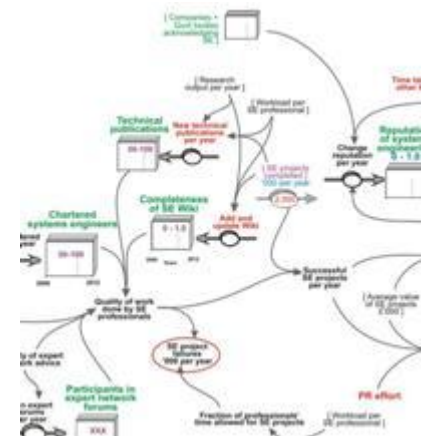
The 2010 INCOSE UK One Day Events kicked off with the Bristol Local Group running an excellent event at BAWA in Bristol on 3rd March. This event challenged delegates to save the world from the devastating effects of the impact of an asteroid using four different simple systems techniques. It was obvious that delegates relished the chance to apply themselves to such a worthy objective. For further details and a write up of the event see next month's Preview.



Pictures taken during the event can be found on the [website site](#).

### INCOSE UK One Day Event - "Simple Introduction to System Dynamics Modelling"

The second one day event will take place on 14 April 2010 in Swindon. Many of the 'systems' people need to manage are just too complicated with many inter-dependencies, long delays between actions and results, different parts of the situation run by different people and so on. Problematic outcomes are common – boom-and-bust, when initially promising initiatives collapse; worse-before-better, when we seem to have wasted money and effort with no sign of a return; and the widespread frustration when organisations persistently fail to achieve the progress that they could or should make.



Cracking such challenges needs a rigorous, reliable method to tame the complexity, and system dynamics is a powerful tool that does just that. It has been widely applied to issues that will be familiar to systems engineers, notably the management of large and complex projects, but it is valuable in many more circumstances too. Although capable of producing sophisticated simulation models of large-scale problems, the method is extremely flexible. You can often get great understanding from simple, small pictures – just an accurate diagram of what causes what, with a few key numbers explaining how things are changing. You can go much further if you need to – bigger diagrams with more numbers on a white-board for bigger issues, working simulation models to test alternatives, living 'control panels' that give you and your team way more mastery over performance than other methods ever can. And it all works because the underlying principles capture rigorously key features of how the real world works.

This one-day workshop will explain those principles and demonstrate how you can use them to map real-world problems. It will then show how that initial diagnosis can be turned into a working simulation, first to check and validate the manual analysis and then to explore options to fix the problem and test sensitivities to important assumptions. Lastly, you will see how such a model can be used as the basis for a simple management control panel, to ensure the problem stays fixed as the future unfolds. As a take-away, participants will receive a 5-month licence for one of the simplest system-dynamics modelling packages, together with some working simulations of common issues.

**Registration is open now** – to register visit [www.incoseonline.org.uk](http://www.incoseonline.org.uk)

## Scottish Local Group – The Crawford Collection

Ten individuals will have the opportunity to view this collection on the evening of 4<sup>th</sup> May, a gift from James Ludovic Lindsay, 26<sup>th</sup> Earl of Crawford (formerly Lord Lindsay) to the Royal Observatory Edinburgh. Lindsay was a distinguished amateur astronomer who, using the library catalogue of the Imperial Observatory at St Petersburg and the advice of Otto Struve, its Director, set up a private observatory on the family's country estate at Dun Echt, Aberdeenshire in 1872. Within ten years, Lord Lindsay had amassed a library of 11,000 books, forming one of the great scientific collections of the world.



In 1888, learning that Scotland's modest Royal Observatory, Calton Hill, in the centre of Edinburgh was under threat of closure Lindsay saved the day by magnanimously donating the entire contents of his observatory including its by now priceless library to the nation. The whole was housed in a new Royal Observatory building, completed in 1896, which remains the home of Edinburgh astronomy with Edinburgh University's Institute for Astronomy (IfA) and the United Kingdom Astronomy Technology Centre (UKATC).

The task of cataloguing the Crawford library was undertaken by Ralph Copeland, Director of Dun Echt Observatory at the time of its transfer to Edinburgh. Copeland had a deep scholarly knowledge of the Collection and became Astronomer Royal for Scotland and Professor at the University of Edinburgh and thus accompanied the instruments and its library to the new Royal Observatory. Copeland's Catalogue was published in 1890.

## “VISTA – F/1 maps the Southern Sky”

A talk by Andy Born on the practical application and tangible benefits of utilising Systems Engineering in the development and execution of the VISTA telescope, from its highly innovative conception to its use today by European Astronomers to map the southern sky at infra-red wavelengths will take place on 4<sup>th</sup> May 2010 in Edinburgh.

Systems aspects are addressed throughout the requirements capturing, requirements management, design, manufacture, integration and on-site re-assembly, installation, commissioning, verification and acceptance phases, highlighting the value gained by appropriate application of step-by-step procedures and tools.

The role of systems engineering in relation to project management and contract management will be illustrated. Issues experienced throughout the development life-cycle will be covered. Consideration is given to the detail and practicalities of day-to-day site management, safety, housekeeping, and the management and support of site personnel and services remote from their host organisations.

Systems engineering is a relative new discipline in astronomy projects. Recommendations are made to improve the systems engineering process so that future projects can benefit from the lessons learned on VISTA.

**Biography of Speaker:** Andy Born has been employed at the UKATC as Systems Engineer for the VISTA Telescope since 2001; he has previously worked as a Systems Engineer on marine, oceanographic and aerospace projects in commercial, military and research organisations. He holds a Degree in Engineering Physics and a Master's Degree in Offshore Engineering.

## Rail Interest Group

The Rail Interest Group is holding its second Railway Systems Engineering Workshop on 22nd June 2010 in London. The workshop will adopt the format used with such success last year. It will tackle a number of topics that we know are of concern to our members. Each topic will be explored in a number of short presentations by practitioners active in the field describing real, current activities with balanced reflections on their effectiveness. The day-long duration will allow participants to listen to several perspectives on each question and then discuss whether an answer is emerging. The overall theme for the event is 'Railway Systems Engineering in a Tough Economic Climate'.

Further details and a Call for Presentations are available from the [INCOSE UK web site](#).

## **Annual Systems Engineering Conference 2010 (ASEC10) 8th to 10th November 2010 Call for Presenters**

This year INCOSE UK is introducing a new 3-day conference to replace the previous spring conferences and autumn assemblies. It will offer a combination of the plenary presentations, tutorials, workshops and discussion sessions. The name of this new event will be the Annual Systems Engineering Conference (ASEC) and its theme for 2010 will be **“Systems Engineering: Adding Value in Challenging Times”**.

The aim of this event is to provide exemplars of best practice in Systems Engineering and to promote the benefits of Systems Engineering to the widest possible community. To support this, we invite high quality presentations on all aspects of Systems Engineering research, practice and application. These presentations will be delivered to the plenary conference and the length of each one will be around forty minutes (including questions and answers). Our theme for 2010 provides a focus on the value added by Systems Engineering activities and the real world challenges they help to resolve. In this context we would consider ‘value’ to include the business case for Systems Engineering, tailoring Systems Engineering to different types of problem, or the specific value added by the different facets of Systems Engineering. ‘Challenging times’ could relate to the challenges of complex systems problems, the lack of competent Systems Engineers and/or the current economic situation. Presentations which consider these aspects will be particularly welcome.

### **Process and timetable for submitting presentations and papers:**

1. Let us know as soon as possible if you wish to submit a presentation for consideration (see contact details below).
2. By no later than 16th April 2010 submit an abstract of 250 to 300 words outlining your presentation topic. Please describe the topic your presentation addresses and the point(s) you will be making. A shortlist of presenters will be selected on the basis of the abstracts.
3. Potential presenters from the shortlist will then be asked to submit a 3-page overview of their presentation by no later than 28th May 2010. The 3-page overview should outline objectives, structure, main themes, supporting evidence, conclusions, etc. From these, final conference presenters will be selected and notified by mid June 2010.

Selected presenters will be invited to produce a paper for inclusion in the conference proceedings if they wish.

For more information why not visit the [INCOSE Website](#).

### **The German Chapter and the International Industrial fair in Hannover from 19-23 April 2010**

The German Chapter is financing a booth for INCOSE at the International Industrial fair in Hannover from 19-23 of April 2010 ([www.hannovermesse.de](http://www.hannovermesse.de)). They have ordered free visitor tickets for members. So, if anyone is interested in the Hannover industrial fair an electronic ticket is available at

<http://www.hannovermesse.de/ticketregistration?Rv2o2k2xsvzmzq>

Please use the URL (link) to the registration for an personalized day ticket during the week. After registration, each guest will receive a personalized ticket by e-mail. The visitors simply have to print out the ticket (in DIN A4 format/letter size) and present it at the entrance. Each personalized eTicket is valid for the entire duration of HANNOVER MESSE 2010. The ticket can also be used to travel free of charge on public transport in the Greater Hannover area on every day of the visit. The guest only has to note each day of the visit on the eTicket and climb aboard.



## EVENTS DIARY

### Future Events

Date/Time	Organisation & Location	Description
14/04/2010 All Day	<b>UK Chapter</b> Swindon Marriott Hotel	<b>"Simple Introduction to System Dynamics Modelling"</b> System Dynamics is a method for studying and managing systems characterised by the dynamic feedback relationships between their elements. This hands-on workshop will explain the key ideas underlying the method and its uses. System Dynamics is a method for studying and managing systems characterised by the dynamic feedback relationships between their elements. This hands-on workshop will explain the key ideas underlying the method and its uses.
20/04/2010 17:30 for 18:00	<b>Railway Interest Group</b> UCL's Engineering Building, Torrington Place, London WC1E 7JE	<b>Nimrod and the MoD: Missed Opportunities and Lessons for Rail</b> Nigel Murphy, Technical Director of Atkins Rail Systems Consultancy, will present the findings from a recent review conducted for the DfT. This examined transferable lessons from experience in the defence sector, including the recent Nimrod inquiry, for the management of safety and integrity and for the delivery of major complex programmes in rail. The current economic background poses challenges for the rail sector and these have implications for the effective delivery of rail's investment portfolio.
04/05/2010 18:00 - 18:30	<b>Scottish Local Group</b> UK Astronomy Technology Centre Royal Observatory Edinburgh EH9 9LA	<b>Viewing of the Crawford Collection:</b> See the article above for details.
04/05/2010 18:30 - 20:00	<b>Scottish Local Group</b> UK Astronomy Technology Centre Royal Observatory Edinburgh EH9 9LA	<b>VISTA – F/1 maps the southern sky</b> See the article above for details.
11/05/2010 - Early Evening	<b>Railway Interest Group</b> Parsons Brinckerhoff, Devonshire Square, London	<b>"The Roots of Systems Engineering", Eddie Goddard, LU.</b> <b>New date for this event!</b> (previously 16/03/2010)
19/05/2010 18:30	<b>Bristol Local Group</b>	<b>Risk: Framing for Consistency</b> The topic of risk is much discussed and understood by all, or at least, we all talk about it every day and all have our own personal understanding, but what of the world of business? Enterprise Risk Management (ERM) is now a well established paradigm for business, but does it go far enough? This forum is an opportunity for practitioners, managers, and academics to discuss a framework that goes beyond today's 'probability * impact = risk' mentality, and basic three-point estimating, in order to extend the power and flexibility of ERM through simulation modelling.

For more details visit the events page at [www.incoseonline.org.uk](http://www.incoseonline.org.uk)

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