

## *Advanced Electromagnetic Modelling & CAD for Industrial Applications*

**Wednesday, 19 February 2003**

**at ALSTOM Research & Technology Centre, Stafford**

Electromagnetic modelling and CAD packages, based on numerical techniques such as finite elements, are now routinely used by engineers for the design and analysis of electromechanical devices. The continued development of the available software, facilitated by the continual increase in computing power, is extending both the sophistication of these packages and the features that can be accounted for.

This seminar will focus on the use of the latest simulation tools in the industrial environment, with particular regard to developments in user interfaces, automatic and adaptive meshing in finite element packages, coupling of electromagnetic models to circuit/mechanical/thermal models, transient analysis, repetitive design procedures and computer aided design of electrical machines/actuators. Case studies will be used to show how these developments may be exploited in the design and analysis of devices for industrial applications.

The seminar will be accompanied by an exhibition of the latest software and CAD tools.

### PROGRAMME

**from 0915 REGISTRATION/COFFEE**

**Chairman: Dr Jonathan Sturgess, ALSTOM Research & Technology Centre, Stafford**

**1000 Chairman's Introduction**

**1010 *The SPEED Software for Electric Machine Design*, Professor Tim Miller, University of Glasgow, SPEED Laboratory**

**1040 *Advanced Modelling of Industrial Applications using the OPERA Software Suite*, Chris Riley, Dr Alex Michaelides, Vector Fields Ltd**

**1110 *A Hybrid Magnetic Field Solver - using a Combined Finite Element/Boundary Element Field Solver*, Dr Bruce Klimpke, Integrated Engineering Software, Canada, and Dr Geraint Jones, Redcliffe Limited**

**1140 *Multi-Physics/Multi-Domain/Multi-Scale Modelling-the EPSRC 'Millennium Machines' Initiative*, Prof David Howe, University of Sheffield, Dept of Elec & Elec Engineering**

**1210 LUNCH  
Exhibition of latest software and CAD tools**

**Chairman: Dr Richard Clark, University of Sheffield, Dept of Elec & Elec Engineering**

**1400 *The Direct Drive: Co-Simulation between Flux and Simulink*, Dr Marc Vilcot, Cedrat SA, France**

**1430 *Finite Element Modelling of Electrical Machines and Devices*, Prof Dave Rodger, University of Bath, Dept of Elec & Elec Engineering**

**1500 *Multi Domain Simulation of Power Electronics and Machines*, Dr Bogdan Ionescu, Ansoft Corporation Europe**

**1530 *Finite Element Simulation of Dynamic Performance of a Brushless PM Motor Generator*, Dr Karim Benhama, Urenco Power Technologies Ltd**

**1600 *Advanced Electromagnetic Modelling of Power Transformers*, Dr Alessandra Sitzia, ALSTOM Research & Technology Centre, Stafford**

**1630 END/TEA**

The UK Magnetics Society accepts no responsibility or liability in any way whatsoever for any statements made or opinions expressed during this event

PLEASE COMPLETE AND RETURN TO:  
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I wish to attend The UK Magnetics Society one-day seminar *Advanced Electromagnetic Modelling & CAD for Industrial Applications*, Wednesday, 19 February 2003, at ALSTOM, Stafford, and enclose remittance to cover technical sessions, seminar documentation, refreshments and lunch (cheques made payable to 'The UK Magnetics Society' and drawn on a UK bank). Payment may also be made by bank transfer: The UK Magnetics Society, Barclays Bank plc 17 Market Place, Wantage, Oxon OX12 8AG, UK, Account No 50893293, Sort Code No: 20-90-91; please add on £10 to cover bank charges if paying by bank transfer from overseas. If you wish to be invoiced, please give Purchase Order number, if appropriate. PO Number..... If you wish to pay by VISA/Mastercard/Delta etc, please complete all sections of the form overleaf.

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The U.K. **Magnetics**  
**Society** 

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one-day seminar

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