

UK Magnetics Society

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www.ukmagsoc.org

one day seminar

Superconducting Materials and Applications

Wednesday, 24 June 2009

at

University of Birmingham

Superconductivity was discovered in 1911 by Heike Kamerlingh Onnes. However, it was not until the 1960s that superconducting electromagnets (based on Nb-Ti with a critical temperature, $T_c \sim 20\text{K}$) were commercially available. These type of superconductors became known as "low T_c " after the discovery, in 1986, of the cuprate based "high T_c " superconductors with $T_c > 90\text{K}$. Today, the majority of applications are still in the use of superconductors to generate high magnetic fields for MRI, scientific experiments etc...., and mostly employ low T_c materials. The aim of this meeting is to review these applications and to present emerging and future applications of low and high T_c materials, including fault current limiters, microwave devices and rotating machines.

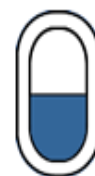
PROGRAMME

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| Chairman: Dr Andy Williams, University of Birmingham, Dept of Metallurgy and Materials | Chairman: Mr Roger Allcock, Cobham Technical Services |
| from 0900 REGISTRATION/COFFEE | 1330 AC Losses in MgB₂ Superconductors
Professor Yifeng Yang, University of Southampton, School of Engineering Sciences |
| 1000 WELCOME/INTRODUCTION | 1400 Challenges Facing the Successful Application of High Temperature Superconductors to Rotating Machinery
Mr Ruben Fair, Converteam UK, Advanced Technology Group |
| 1015 Superconducting Fault Current Limiters using Wire-Form MgB₂
Professor Sandy Smith, University of Manchester, School of Elec & Elec Engineering | 1430 TEA/COFFEE |
| 1045 Coated Conductor Cylinders - What's the Magnetic Attraction?
Dr Eamonn Maher, 3-CS Ltd | 1500 Superconducting Magnet Design Challenges for Large Scale Production
Dr Marcel Kruij, Siemens Magnet Technology |
| 1115 Microwave Applications of High Temperature Superconductors
Professor Mike Lancaster, University of Birmingham, School of Elec, Elec & Computer Engineering | 1530 High Field NMR and MRI Magnets
Dr Nick Kerley, Varian Inc |
| 1145 Finite Element Simulation of Superconducting Magnets: Ramping, Magnetisation and Quench
Mr John Simkin, Cobham Technical Services - Vector Fields Software | 1600 High Field and Cryogen Free Magnets for Research Applications
Dr Andrew Twin, Oxford Instruments |
| 1215 LUNCH | 1630 END |

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PLEASE COMPLETE AND RETURN TO:

Jane Ward, UK Magnetics Society, Grove Business Centre, Grove Technology Park, Wantage, Oxon OX12 9FA
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I wish to attend the UK Magnetics Society one-day seminar **Superconducting Materials and Applications**, to be held on Wednesday, 24 June 2009 at the University of Birmingham, School of Metallurgy and Materials 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: UK Magnetics Society, Barclays Bank plc, 17 Market Place, Wantage, Oxon OX12 8AG, UK, Acct No 50893293, Sort Code No: 20-90-91, IBAN:GB98 BARC 2090 9150 8932 93, SWIFTBIC: BARCGB22. **Please add £10 to cover bank charges if paying by bank transfer from overseas.**

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<input type="checkbox"/> Non-member students	£ 39.00	£ 5.85	£ 44.85
<input type="checkbox"/> I would like a poster session			

PLEASE REGISTER BY 8 JUNE IF POSSIBLE

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