



Department of Automatic Control & Systems Engineering
would like to announce the following seminar:

Detection, Classification and Correction of the Spacecraft Magnetic Signature in Venus Express Magnetic Field Measurements

Speaker: Dr Simon A Pope

**BAE Systems CRAC
Department of Automatic Control and Systems Engineering
University of Sheffield**

**Wednesday 11 March 2009
at 14:10**

Location: St Georges Mappin Building LT3

Tea and Biscuits will be served afterwards.

ABSTRACT

Measurements of the magnetic field in space and near solar system bodies provides extremely important information required to understand the various plasma processes and interactions which occur in these environments. Venus Express attempts to make accurate measurements of the local magnetic field without following the traditional approach, which is to design a magnetic field instrument and spacecraft to meet the requirement that the contribution in the measurements from the spacecraft generated field is minimal. The combination of positioning the magnetometers close to the spacecraft, which has not undergone a 'magnetic cleanliness' program prelaunch, leads to magnetic field measurements which are significantly corrupted by the spacecrafts magnetic signature. The post measurement separation of the spacecraft and the local ambient environment magnetic fields is therefore crucial to achieving the scientific goals of the magnetic field instrument. Methods and techniques to detect, classify and correct the contributions from the spacecraft field will be described and results presented which show the successful outcome of the 'post measurement magnetic cleaning' of Venus Express magnetic field data. The application to other systems of the knowledge gained and techniques developed for Venus Express, will also be explored.