



The
University
Of
Sheffield.

Automatic
Control and
Systems
Engineering

The Department of Automatic Control & Systems Engineering
is pleased to announce the following seminar:

Interactions Between Nature and Technology – Spacecraft Operations and Space Weather

Dr Dave Pitchford
SES Engineering
Luxembourg

Wednesday, 22 October 2014 at 14:00
LT02, Sir Henry Stephenson Building

Abstract

Space Weather and the Space Environment are important issues for spacecraft designers, manufacturers and operators. This seminar will provide an overview of the way in which Space Weather / Environment interactions with spacecraft are considered cradle – to – grave, ie: during the design, build and operation phases of a spacecraft program. This emphasis will be on commercial telecommunications satellites although the principles are more widely applicable. Examples of spacecraft anomalies that can be caused by Space Weather and the Space Environment will be presented. The utility of small Space Environment sensors to give information on the environment local to a host spacecraft will be discussed. Finally the impact of Space Weather on future missions which use Electric Orbit Raising to take the spacecraft from the launcher orbit to Geostationary Earth Orbit will be presented as this kind of mission is both innovative and currently very topical.

Biography

Dave studied Electronics Engineering at the University of Sheffield; after graduating – just - he then spent 12 years in the Royal Air Force as an Engineering Officer. Much of this time was spent working on Skynet 4, the British military satcom program – involving routine operations at RAF Oakhanger in the UK, and LEOP (Launch and Early Orbit Operations) at Onizuka Air Station in California. Dave was seconded to the Defence Evaluation & Research Agency (DERA), which has now become Qinetiq; at DERA he worked on future satellite programs and the investigation of Spacecraft Anomalies, especially those with an environmental cause. Since leaving the military Dave continues to support on orbit operations, now for the commercial telecom satellites operated here at SES. Dave has significant experience of in – orbit anomalies caused by Space Weather, and his current duties involve space environment analysis and monitoring in support of SES Spacecraft Operations. His primary research interests are in the space electron environment and associated spacecraft charging effects.

*Refreshments will be served following the seminar
in the Foyer of the
Sir Henry Stephenson Building*