



Surrey Space Centre (SSC), Faculty of Engineering and Physical Sciences, University of Surrey, Guildford, Surrey. GU2 7XH

PhD Studentship: Radiation Test Methodologies for Advanced Space Electronics

SSC are offering an Industrially sponsored PhD Studentship for 1st January 2010 in collaboration with Surrey Satellite Technology Ltd (SSTL), a world leading manufacturer of small satellites, at the University of Surrey and SSTL covering home/EU tuition fees plus a maintenance grant for three years.

One of the biggest challenges to using low cost, commercial-off-the-shelf (COTS) or state-of-the-art electronic devices in space is the deleterious effect of the space radiation environment - in particular single-event effects (SEEs). Mitigation strategies have been developed to allow the use of potentially susceptible electronic devices. However, new threats are emerging particularly in fast acting or complex devices. The objective of this PhD is to review test methodologies, prediction methods and mitigation strategies for SEEs and to ascertain their applicability to low-cost spacecraft production where a much wider range of devices are used, and where costs and development schedules need to be minimised. The outcome will be the development of a minimum impact test regime, compatible with the “small-satellite” minimal budget/schedule philosophy, where we can have good confidence that the test data reflect on-orbit performance. As part of the work, new mitigation strategies will also be developed and demonstrated. The project will involve the design and production of test boards and mitigation strategies for practical demonstration, using ion beams, laser tests and/or spaceflight.

Useful skills include digital systems circuit design, Matlab, VHDL, C-programming, and knowledge of ionising radiation physics.

Applicants require a 2:1, First Class Honours Degree or a Masters Degree in Electronic Engineering, Physics or a related discipline. The successful candidate will receive a studentship that pays full Home fees and a maintenance grant for three years subject to satisfactory progress. Successful candidates must fulfil UK residential requirements -: for eligibility rules, please see www.epsrc.ac.uk

SSC is part of the Department of Electronic Engineering which received the highest 5* research rating in the UK Research Assessment Exercise and 23 out of 24 in the Teaching Quality Assessment.

Please send your CV to: Mrs Karen Collar, Administrator, Surrey Space Centre, BA Building, University of Surrey, Guildford, Surrey GU2 7XH, including transcripts of marks for your undergraduate and/or MSc with your application. For research topic please mark your application "Ref: CIU"

The deadline for completed applications is 18th December 2009.

For further information about the University of Surrey, please visit www.surrey.ac.uk. The University is committed to an Equal Opportunities Policy.