Job Description – **Research Associate in Land Surface Albedo Science**

Job Title: Research Associate
Department/Group: Mullard Space Science Laboratory, Imaging Group
Work relationships: Line Manager – Prof. Jan-Peter Muller

The successful applicant will be engaged in processing a climatic time series for the retrieval of broadband and spectral BRDF and albedo from input calibrated spectral surface directional reflectances (SDR) of the Earth's land surface from several EO instruments on two different ESA platforms. The processing software created by our collaborator, Brockmann Consult, needs to be better optimized for the target linux cluster by the applicant. The resultant processing system will then be used by the applicant to produce up to a 15.5 year record of broadband BRDF/albedo from input BroadBand Directional Reflectance (BBDR) data supplied by our collaborators in Berlin and Swansea via ftp-push subscription. For the ADAM project, a spectral set of BRDFs and albedos will be produced for one year (2005). The broadband albedo data will then be inter-compared with corresponding broadband albedo data from NASA instruments, MODIS and MISR in which Prof. Muller is and has been a science team member for 22 years, as well as ground-based albedometer measurements over different land surface covers. The successful applicant will participate in the writing up of peer review papers as well as assess, for the first time, global land surface albedo datasets in a systematic manner.

Main duties and responsibilities: Software development, data processing, data analysis

Person Specification –Research Associate in **Land Surface Albedo Science**

Minimum qualification, which must be obtained before taking up the post, is either a Ph.D. in land surface science or significant experience, preferably related to albedo mapping.

Essential Skills: (i) Programming (in one or more of C, C++, Java, Python); (ii) data processing, data analysis (ideally in IDL); (iii) use of computers for software development and as a data processing, handling and research tool; (iv) knowledge of Red Hat Enterprise or equivalent linux OS

Desirable skills: (i) experience in processing large datasets and/or designing and implementing algorithms to achieve this; (ii) Skills in ENVI/IDL and the ESA BEAM toolbox; (iii) experience with the creation of Web sites (including the use of Javascript), and the set-up and maintenance of Web-GIS systems; (iv) high performance computing on multi-processor linux cluster (including use of Ganglia or similar environment); (v) an understanding of land surface shortwave energy balance processes.

Experience: Research track record as evidenced by a publication list appropriate for age and experience. The person appointed will be expected to contribute to as well as lead the writing of scientific peer reviewed papers describing the project's outcomes.

Aptitudes: Understanding of complex physical and engineering concepts; willingness and demonstrated ability to work co-operatively within a team.