

Training Opportunity for Portuguese Trainees

Reference	Specialist Area	Duty Station
PT-2010-EOP-SM	Earth Observation satellite or campaign data analysis, algorithm development and scientific support	ESTEC
<p><u>Overview of the Division missions:</u></p> <p>The Mission Science Division is responsible for supporting preparatory research and the development and implementation of future concepts for Earth Observation satellite missions as part of ESA's Living Planet Programme (Earth Explorer, Earth Watch/GMES, and operational Meteorological satellite missions), with the objective of achieving specific scientific goals in environmental, climate research, and Earth system science. In support of this activity, the Division is responsible for definition and supervision of relevant supporting scientific studies and acts as a focal point for interactions between ESA and the Earth Observation scientific and user communities, and provides scientific support during design, development and early operations of ESA Earth Explorer and GMES missions.</p>		
<p><u>Overview of the field of activity proposed:</u></p> <p>The first three Earth Explorers, GOCE, SMOS and CryoSat were launched successfully March and November 2009 and in April 2010. Three additional missions have been approved and are in various stages of development (Swarm, ADM-Aeolus and EarthCARE).</p> <p>The Mission Science Division offers exciting opportunities for work in preparation of the new generation of Earth Explorer missions, including Earth Explorer 7 (EE7) and potentially Earth Explorer 8 (EE8).</p> <p>Three EE7 candidate missions are currently undergoing Phase A system study:</p> <ol style="list-style-type: none"> 1. CoReH20 - twin-frequency (X- and Ku-band) SAR for snow water equivalent measurements 2. BIOMASS - P-band polarimetric SAR for measurement of forest biomass 3. PREMIER - Infrared and mm-wave limb sounding mission for measurement of dynamic processes and composition in the Upper Troposphere- Lower Stratosphere region. <p>General opportunities exist for proposals for research activities in support of all the Earth Explorer and GMES missions, together with a potential forthcoming EE8 mission (to be confirmed). More detailed information on the missions can be found at: http://www.esa.int/esaLP and http://www.esa.int/esaLP/LPames.html</p> <p>Campaign Data Analysis - ESA has conducted a number of ground and airborne measurement campaigns and collected a wealth of data to support mission development (see: http://www.esa.int/livinaplanet/campaigns), Opportunities exist in exploiting these valuable data to conduct research into algorithms that transform calibrated satellite data into geophysical information, and investigations into the link between the technical characteristics of satellite sensors and accuracy of geophysical inversion.</p> <p>The candidates are requested to indicate and motivate a study topic related to one of the satellite missions or the campaigns based upon their interest, skills and experience. Topics can be chosen in the area of data analysis, algorithm development, scientific support etc.</p>		
<p><u>Required Education:</u></p> <p>Applicants should have just completed, or be in their final year of a University course at Masters Level or Ph.D. in geophysics, physics or in a related engineering discipline. Strong mathematical background and familiarity with the development of software are needed. Candidates must be fluent in English or French, the official languages of the Agency. Additional language skills are regarded as an asset. Candidates should have good interpersonal and communication skills and should be able to work in a multi-cultural environment, both independently and as part of a team.</p>		