

Training Opportunity for Portuguese Trainees

Reference	Title:	Duty Station
PT-2015-EOP-SA	Earth Observation Data Mining	ESRIN
<p><u>Overview of the Unit missions:</u></p> <p>The Science Strategy, Coordination and Planning Office within the Science, Applications and Future Technologies Department is responsible for supporting the development of the overall strategy for the Directorate, including implementation and coordination of relevant actions to maximise the scientific return of ESA's Earth Observation (EO) missions. This includes the overall management of the Earth Explorer missions' selection procedure, initiation, implementation and coordination of scientific support projects, interfacing with international scientific entities, and planning and coordination of training and education activities.</p>		
<p><u>Overview of the field of activity proposed:</u></p> <p>Addressing global change issues requires global data in order to make informed decisions. Earth Observation from space can play a key role in this endeavour as satellites are uniquely place global and consistent data on the state of our planet and its rapid changes. However, EO data is only a part of the solution, and need to be interpreted in the context of other data (e.g. in-situ data, re-analysis, climate impact data, socio-economic data) to gain more insight into the inter-connections between environmental and economic factors, and the related availability of natural resources.</p> <p>In this context, the idea of this project is to develop a variety of data analytics techniques (based for example on Self organising Maps), enabling one to uncover patterns, anomalies, trends in multivariate data sets to better understand and attribute environmental risks, and ultimately better manage food-water-energy security. The value of such EO data analytics tool will be illustrated in a variety of test cases e.g. optimisation of agricultural and irrigation practices in Europe and Africa, link between climate and health, etc.</p>		
<p><u>Required Education:</u></p> <p>Background and experience in using open data, GIS and satellite information, and in exploiting and developing statistical tools for mining of large data sets would be an asset.</p>		