

Training Opportunity for Portuguese Trainees

Reference	Specialist Area	Duty Station
PT-2010-TEC-QEM(3)	Assessment of high temperature composites	ESTEC
<p><u>Overview of the Division missions:</u></p> <p>The Materials and Components Space Evaluation Division in the Product Assurance and Safety Department of the ESA Directorate of Technical and Quality Management is responsible for the evaluation and qualification of non-metallic materials, processes and Electronic, Electrical and Electromechanical components for space flight applications. This includes the direct technical support of ESA projects and technology programmes for all related product assurance tasks and includes standardization, research and development activities to determine the suitability and reliability of materials and components to withstand the influences of the space environment.</p>		
<p><u>Overview of the field of activity proposed:</u></p> <p>In the recent past high temperature based composites emerged that outperform commercially available materials. Such composites with continuous use temperatures above 300C will enable new applications in the aerospace field be it either for high temperature thermal protection systems or hot structures.</p> <p>The materials lab of ESTEC has some of these pre-commercial materials available and the purpose is to comprehensively characterise and analyse the performance of these materials in view of future applications. This will involve the use of state of the art of materials analysis tools as well as lifetime testing of the relevant materials.</p> <p>Expected contributions of trainee</p> <ul style="list-style-type: none"> Integrate within team at ESTEC carrying out materials analysis Perform extensive test programme Perform relevant materials analysis & interpret results Report results and prepare scientific publications 		
<p><u>Required Education:</u></p> <p>Basic understanding of space environment Graduate of Materials Science/Materials Physics & Chemistry, hands-on work Experience in a lab environment is beneficial. Good understanding of materials analysis techniques (microscopy/thermal analysis etc.)</p>		