



EUROPEAN COMMISSION  
DIRECTORATE-GENERAL  
JOINT RESEARCH CENTRE  
Directorate R - Resources  
Human Resources

2016-IPR-D-000-7711

**Airborne image analysis for the  
monitoring of trees at risk of pest  
infestation using airborne remote sensing**

**Position for:**

Trainee

Short description of activity:

As the science and knowledge service of the Commission, the mission of DG Joint Research Centre is to support EU policies with independent evidence throughout the whole policy cycle.

The JRC is located in 5 Member States (Belgium, Germany, Italy, the Netherlands and Spain). Further information is available at: <http://www.jrc.ec.europa.eu>

To support the fight against particularly harmful plant diseases and pests in Europe, a team at the JRC monitors tree health in at-risk areas using remote sensing. Currently, the work focuses on the outbreaks of Pine Wood Nematode and *Xylella fastidiosa*, exotic pests causing extensive damage to trees in Portugal and Southern Italy, respectively, lest they spread to other European countries. Very high resolution images acquired from aircraft are used to map and evaluate the health of millions of individual trees over large areas. This approach requires automated analysis methods applied to big remote sensing data sets. The research team regularly evaluates and refines these analyses based on comparisons with measurements and inspections on the ground.

The trainee will support this work, and particularly the algorithm development and GIS-tasks. She or he will have the opportunity to participate in a remote sensing team that both performs research and provides direct support to the European policy makers coordinating the fight against exotic plant pests in Europe.

**Qualifications:**

Essential:

- Background in computer science with a

	<p>good knowledge of writing code in Python, R, or Matlab.</p> <ul style="list-style-type: none"> <li>• Good knowledge of spoken and written English (Level B2)</li> </ul> <p><u>Advantage:</u></p> <ul style="list-style-type: none"> <li>• Knowledge of remote sensing concepts, particularly passive optical remote sensing, be it from satellite or airborne data.</li> <li>• Familiarity with handling big, gridded, data sets, and machine learning algorithms.</li> </ul> <p><b>For general eligibility requirements, please read the rules governing the traineeship scheme of the JRC:</b></p> <p><a href="https://ec.europa.eu/jrc/en/working-with-us/jobs/temporary-positions/jrc-trainees">https://ec.europa.eu/jrc/en/working-with-us/jobs/temporary-positions/jrc-trainees</a></p>
<b>Institute/Directorate Unit</b>	Directorate D - Sustainable Resources Bio-Economy Unit
<b>Indicative duration</b>	5 months
<b>Preferred starting date</b>	as soon as possible
<b>JRC Site</b>	Ispira
<b>Country</b>	Italy
<b><u>JRC contact details</u></b>	<b>For any technical problems with your application, please contact:</b> <a href="mailto:JRC-ESRA@ec.europa.eu">JRC-ESRA@ec.europa.eu</a>