

**Marie Skłodowska Curie Action –Postdoctoral Fellowship 2023  
(MSCA-PF-2023)**

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	<b>Province</b>	Madrid
<b>Research Area</b>		X Information Science and Engineering (ENG) X Environmental Sciences and Geology (ENV) X Life Sciences (LIF)
<b>Brief description of the Centre/Research Group</b>		<p>SILVANET is the Research Group for Sustainable Environmental Management of the Universidad Politécnica de Madrid (UPM). It is located in the College of Forestry and Natural Environment, a body with 135 professors and teaching staff, and 1400 students. Scientific research related to Forestry and Environmental Science is very active. One of the Research Groups, SILVANET, is focused on the main research lines:</p> <p>Ecology and sustainable forest management: stand structure, competition and growth of forest species.</p> <p>Modelling and simulation of natural processes.</p> <p>Remote sensing: LiDAR, multispectral, object-oriented classification, etc.</p> <p>Design planning and management of natural areas.</p> <p>Quantitative methods in environmental management: Optimization of spatial allocation of forest activities, non-parametric analysis for dasometric measurements.</p> <p>Landscape and territorial planning: forest externalities, forest policy, etc.</p> <p>The research leader is Prof. Susana Martin-Fernandez, and the SILVANET Group has 22 researchers, has supervised 45 PhD Theses, has published more than 200 research articles in scientific journals, more than 25 books, 50 book chapters, 165 communications in Congresses, has participated in more than 100 research projects, and has registered 7 patents and software programs.</p> <p>Our URL addresses are:</p> <p><a href="http://www.montes.upm.es/investigacion/grupos/SILVANET">http://www.montes.upm.es/investigacion/grupos/SILVANET</a>  <a href="http://www.campusmoncloa.es/silvanet/">http://www.campusmoncloa.es/silvanet/</a></p>

## Expression of Interest – UPM Supervisor

<p><b>Project description</b></p>	<p>The site index (SI), the usual forest management concept to evaluate stand productivity, is a relevant ecological index of the potential forest tree growth in a particular stand. Our hypothesis is to build up models to predict SI from biophysical variables. The SI is also related to ecosystem productivity. The knowledge of the site index is highly important in forest decision making, for instance to adopt management decisions, such as the planning of short- and long-term harvesting operations. We have obtained prominent results in estimating forest structure variables from LIDAR data. Furthermore, it is possible to estimate total height growth or biomass increment from two LIDAR flights.</p> <p>The project aims to model and map the site index from LIDAR data, Structure from Motion, Spectral information, variables of stand structure and physiographic factors. Once this cartography is obtained, we could apply it to forest management models. These results would facilitate the planned application of improved management models, once the current models in the yield tables have been adapted to non-stand-age-dependent models.</p> <p>Finally, the relationship between SI, conservation status and Biodiversity should be analyzed and assessed.</p>
<p><b>Applications: documents to be submitted and deadlines</b></p>	<p>Applicants should send a detailed curriculum vitae, a letter of motivation and at least two reference letters, <b>before the 30<sup>th</sup> of April 2023</b></p>