

Marie Skłodowska Curie Action –Postdoctoral Fellowship 2022 (MSCA-PF-2022)

Contact Person/Scientist in charge <i>(datos del IP del grupo de investigación o responsable científico)</i>	Name Antonio Surname Garcia-Abril
Email	gi.tmgs@upm.es
Department /Institute /Centre <i>(datos del centro/departamento donde estaría ubicado el investigador a contratar)</i>	Name Research Group Sustainable Environmental Management SILVANET College of Forestry and Natural Environment
Address	E.T.S.I. Montes, Forestal y del Medio Natural, Ciudad Universitaria, 28040 Madrid
Province	Madrid
Research Area <i>(en base a las 8 áreas científicas establecidas en MSCA. Se podrán seleccionar entre una y tres áreas científicas por EOI)</i>	Information Science and Engineering (ENG) Environment and Geoscience (ENV) Life Sciences (LIF)
Brief description of the Centre/Research Group <i>(Max. 1600 caracteres con espacio: información sobre el centro / grupo de investigación / personal científico, destacando los aspectos más relevantes de los mismos. Incluir URL si es posible.)</i>	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: Ecology and sustainable forest management: stand structure, competition and growth of forest species. Modelling and simulation of natural processes. Remote sensing: LiDAR, multispectral, object-oriented classification, etc. Design planning and management of natural areas. Quantitative methods in environmental management: Optimization of spatial allocation of forest activities, non-parametric analysis for dasometric measurements. Landscape and territorial planning: forest externalities, forest policy, etc. The research leader is Prof. Antonio Garcia-Abril, and the Silvanet Group has 16 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. Our URL addresses are: http://www.montes.upm.es/investigacion/grupos/SILVANET http://www.campusmoncloa.es/silvanet/
Project description <i>(Max. 1800 caracteres con espacio: breve descripción sobre el proyecto /línea de investigación en el que se acogería al investigador/a Marie S.Curie.)</i>	Evaluating habitat biodiversity conservation status We want to identify features of the favorable conservation status of habitats and species according the Habitats Directive. At least four factors should be considered: functional health, restoration, floral richness, and forest structure, but others also might be included. Most of these features will be measured using remotely sensed data, including ALS data, satellite and aerial images and topographic models. We want to consider criteria based on species composition and physiognomy, among others, the number of overlapping covers, age composition, type of regeneration, classifications related to vegetation size, etc; and also criteria based on future management, or no management at all (e.g., old-growth forest). Expected results are the Mapping of Vegetation Indices, obtained from satellite and aerial images to assess the functional health; Vegetation Height Maps, obtained either from LIDAR (Light Detection And Ranging)sensors or from Structure from Motion (SfM) to assess the forest structure. Mapping small-scale units inside the habitat. The main purpose of this phase is to demarcate the stands in the study area using ALS (Airborne Laser Scanning) or SfM data, satellite and aerial images and topographic models, for the forest types in our study sites. We need to identify criteria for separating the stands, based on the species composition and possible future management. This mapping and classification of forest stands is a crucial requirement for forest

Expression of Interest – UPM Supervisor

	<p>management and maintaining a favorable habitat conservation. Object-based image analysis (OBIA) will be used to produce detailed maps of forest stands merging ALS or SfM data, satellite and aerial images and topographic models. Since a human interpreter deals better with complexity, the semi-automated approach has the potential to improve forest stand delineation because decisions are based on rule sets and therefore produce consistent delineation results, and those segmentations are repeatable and not dependent on manual “ad-hoc” decisions by different interpreters. Expected are Habitat segmentation Maps, integrating features derived from remotely sensed data and connectivity at different segmentation level and Forest stand Maps within the Habitats of Natura 2000 Network.</p> <p>Assessment of the conservation status of each small unit and the whole habitat. Finally, we want to evaluate the conservation status of the previously determined smaller units (e.g., stands) also considering their connectivity.</p>
<p>Applications: documents to be submitted and deadlines</p> <p><i>(Indicar qué documentación deberá remitir el /la investigador/a interesado/a al centro para establecer el contacto: CV, letter of motivation, letter of references, etc., así como la fecha límite para el envío de la misma. Recomendado: Hasta finales de abril 2022)</i></p>	<p>Applicants should send a detailed curriculum vitae, a letter of motivation and at least two reference letters</p> <p>Deadline: 09/05/2022</p>