Contact Person/Scientist in charge	**Name**	Ana María
	Surname	Tarquis Alfonso
	Email	anamaria.tarquis@upm.es
Department /Institute /Centre	**Name**	Research Centre for the Management of Agricultural and Environmental Risks (CEIGRAM)
	Address	C/ Senda del Rey 13 Campus Sur de prácticas E.T.S. de Ingeniería Agronómica, Alimentaria y de Biosistemas Madrid 28040 España.
	Province	Madrid
Research Area *(en base a las 8 áreas científicas establecidas en MSCA. Se podrán seleccionar entre una y tres áreas científicas por EOI)*		Environment and Geoscience (ENV) Life Sciences (LIF) Information Science and Engineering (ENG)
Brief description of the Centre/Research Group *(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.)*		It is a Joint Research Centre of the Universidad Politécnica de Madrid (UPM), which was founded in 2007. It was established thanks to the collaboration agreement signed between the Spanish National Agency for Agriculture Insurance (ENESA, an Independent Body of the Ministry of Agriculture, Fisheries and Food) and the UPM. Since 2017 AGROSEGURO (The Spanish Association of Combined Agricultural Insurance Companies) has been included in this agreement. CEIGRAM is a reference and knowledge generation centre for conducting research and developing methodologies that respond to the growing concern about the production, market, and environmental risk management strategies that the agricultural sector is facing. One of the research areas is "APPLYING NEW TECHNOLOGIES AND DATA SCIENCE". As machines and a wide variety of sensors have been implemented in rural areas, data on agricultural holdings has increased exponentially in quantity and scope. Agricultural processes are increasingly data-driven and designed for data collection. While initially considering the variability in the field, over time, this research area has gone further by introducing various data collection, analysis, and modelling techniques for decision making and actions in agri-environmental systems. https://ceigram.upm.es/en/research-and-innovation/applying-new-technologies-and-data-science/

Project description	The concept of sustainability agriculture indicate that is necessary to promote the accountable use of resources, such water and nutrients, and decreasing the use of pesticides in a way which considers the future needs and will not compromise the quality of the environment. Which indicates that is important to respect the agro-climatic conditions and identify and promote the appropriate adaptation strategies of the crops including climate change scenarios.
(Max. 1800 caracteres con espacio: breve descripción sobre el proyecto /línea de investigación en el que se acogería al investigador/a Marie S.Curie.)	Fruit production is an important component of agricultural production in Spain, and it has a positive impact on the economy, especially in rural areas. In recent years, there has been increased investment in so-called 'emerging crops'. Among them, the almond tree (Prunus dulcis (Mill.) DA Webb) have experimented a high expansion with new varieties and agroclimatic areas. This is causing great pressure on agricultural insurance and how to quantify the risk based on climate threats.
	The objective of this study is to determine the suitability of different almond varieties for cultivation in Spain based on an evaluation of the climate, soil and topographical factor and the understanding of local biophysical restraints.
	In this project, many variables are involved and each one should be weighted according to their relative importance on the optimal growth conditions for crops through multicriteria evaluation and Geographic Information Systems. Advanced machine learning methods coupled with multi-criteria analysis methods will be used and compared to study which combination is more adequate for evaluation of almond tree varieties' suitability.
Applications: documents to be submitted and deadlines	Letter of motivation and CV before 1st of May 2023
(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 2023)	