

**Marie Skłodowska Curie Action –Postdoctoral Fellowship 2025
(MSCA-PF-2025)**

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Department /Institute /Centre	Name	Computational Statistics and Stochastic Modelling Research Group. Department of Industrial Management, Business Administration and Statistics.
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	Province	Madrid
Research Area		Information Science and Engineering (ENG) Mathematics (MAT) Life Sciences (LIF)
Brief description of the Centre/Research Group		The Research Group “<i>Computational Statistics and Stochastic Modelling</i>” pertains to the Department of Industrial Management, Business Administration and Statistics at UPM. We are a group of 7 professors (1 Full Professor and 6 Associate Professors) currently supervising 5 PhD students. More detailed information about us is available here: https://www.upm.es/observatorio/vi/index.jsp?pageac=estructuras/grupo.jsp&idGrupo=209&h=1 We are a small but very active group of researchers and we usually collaborate with colleagues from Departments in our area, such as: the Department of Statistics at Universidad Carlos III de Madrid, the Department of Fundamental of Economics: Quantitative Economics at UAM, the Group of Optimization, Modelling and Statistical Inference at the UDC, the Oasys Research Group at UMA, the Department of Econometrics and Data Science at the VU in Amsterdam or the Institute for Energy and Transport of the European Commission, among others. We have developed and/or are currently involved in projects funded by the EU, the National Spanish Agency for Research, the Instituto de Salud Carlos III, the Ministry of Science and Innovation or by regional administrations (CAM, for instance). We consider as well very important being part of projects funded by the private sector or relevant public organisms. Thus, the methodology developed is always motivated by solving a real problem of interest for industry or the society. That is why we have carried out projects for Spanish companies in many sectors, together with top public hospitals or for organisms such as the Spanish Nuclear Research Council (CSN) or the INE.

Expression of Interest – UPM Supervisor

Project description	The main objectives of this proposal are focused on developing methodology in the context of high dimensional multivariate data sets and big data, not only in the context of independent data, but also when having time- dependent data (multivariate time series) with focus on (but not limited to) energy sector, environmental area, epidemiology or climate change. We will try and study further developments in the context of dimensionality reduction techniques (dynamic factor models and dynamic factor analysis) and innovative real applications for them. Additionally, in the case of datasets from the medical/healthcare context in which both independent (quantitative or qualitative variables) and time series are available for a large sample of patients. In this case, the presence of missing values plays a key role that increases the complexity of the methods to be proposed and developed. We will be looking for new classification and clustering techniques that allow us to forecast severity of patients or risk of complications after major surgeries. As has occurred in the past years, we consider relevant the transfer of knowledge to industry and/or society. That is why we always keep an eye on making -as well- a valuable impact of our research in this aspect.
Applications: documents to be submitted and deadlines	• CV highlighting (but not limited to) skills related to the project, • Letter of motivation • 2 letters of recommendation (if possible) Deadline: 30th of April 2025.