

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

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Department /Institute /Centre	Name	INSIA – Instituto de Investigación del Automóvil - UPM
	Address	Campus Sur UPM. Carretera de Campus Sur UPM. Carretera de Valencia, Autovía del Este, km.7, 28031 Madrid
	Province	Madrid, Spain
Research Area		Information Science and Engineering (ENG) Environment and Geoscience (ENV)
Brief description of the Centre/Research Group		INSIA - the University Institute of Automobile Research of the UPM (https://insia-upm.es/en/) has a robust human capital of approximately 85 highly qualified researchers, has accumulated over 25 years of experience in Research, Development, and Innovation (R&D&I) projects, with a particular emphasis on the automotive sector and its environmental impact. Situated on the South Campus of UPM, INSIA is equipped with advanced facilities, including laboratory and research buildings. The institute has actively engaged with more than 1,200 industry companies, representing Spain in United Nations working groups on vehicle safety and environmental impact. Furthermore, INSIA has played a pivotal role in European and national networks, making substantial contributions to the automotive industry, transport, and road safety.
Project description		Title: Hydrogen and HVO Dual-Fuel Combustion: A Theoretical and Experimental Approach for Heavy-Duty Engine Optimization. This project aims to study, through engine simulation, the impact on the performance and emissions of a compression ignition (CI) engine converted to hydrogen (H ₂)-dual-fuel operation using hydrotreated vegetable oil (HVO). The objective is to develop a simulation model of this technology at the engine level to optimize the dual-fuel conversion of heavy-duty diesel engines, ensuring low pollutant emissions (Euro VI and Euro 7 compliance) and high efficiency. The final goal of the project is to compare the simulation results with experimental data and support a parallel study involving an experimental retrofitted engine, providing valuable insights for the development and optimization of this sustainable dual-fuel technology.
Applications: documents to be submitted and deadlines		Until 30 April 2025, please send: CV of the applicant Motivation letter Two letters of reference It is important that the applicant has experience on thermal engine simulation.