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

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Department /Institute /Centre **Name** *(datos del centro/departamento donde estaría ubicado el investigador a contratar)*	Department of Naval Architecture, Shipbuilding and Ocean Systems (DACSON). CEHINAV Research group.
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Province	Madrid (Spain)
Research Area *(en base a las 8 áreas científicas establecidas en MSCA. Se podrán seleccionar entre una y tres áreas científicas por EOI)*	Information Science and Engineering (ENG) Mathematics (MAT) Physics (PHY)
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.)*	**CEHINAV** is an interdepartmental research group of Universidad Politécnica de Madrid, specialized in the development and application of **experimental and computational solutions for solving practical problems in naval architecture, marine and ocean engineering**. CEHINAV is made up of **three units**: ● ETSIN Lab, which includes a 100 x 3.8 x 2.2m model basin specialized in experimental hydrodynamics campaigns. ● HRL, devoted to mooring operation modelling, data management and IoT. ● JRU CIMNE-UPM, specialized in the development and application of computational methods, assessment tools and machine learning methodologies. In the experimental field, CEHINAV has participated since 1988, in more than 260 projects commissioned by both national and international companies. The group has also actively participated in EC projects funded by **FP6, FP7, H2020, INTERREG** and **EIT-Climate KIC** Programmes. CEHINAV **research team** is currently integrated by: 1 emeritus professor, 3 full professors, 3 professors, 1 associate professor, 2 assistant professors, 1 senior PhD researcher, 4 predoctoral researchers, 1 graduated researcher, 1 lab technician, 1 R&D manager. Between its **main infrastructures and facilities** stand out: ● Model basin (Length: 100m; Width: 3.8m; Depth: 2.2 m). ● Towing carriage: Max. Speed: 4 m/s. ● Wave Generator, regular and irregular waves.

	● Forced oscillation system for measurement of damping and added masses. ● Optical tracking tools for models motion recording – OptiTrack. ● Milling facilities (5 axes) for models construction. ● High performance computing capabilities, including access to UPM-CESVIMA supercomputing center. CEHINAV's Quality Management System is certified by LGAI Technological Center, S.A. under No. EC-4738/09 in accordance with the requirements of **ISO 9001:2015.**
Project description *(Max. 1800 caracteres con espacio: breve descripción sobre el proyecto /línea de investigación en el que se acogería al investigador/a Marie S.Curie.)*	CEHINAV is looking for a postdoctoral researcher to join ETSIN Lab Research & Technology Transfer Unit. ETSIN Lab activities are related to the research and development of experimental campaigns for vessels and marine renewable energy platforms. The postdoctoral researcher will be involved in an ambitious research line aimed at creating a step change in the design and engineering of platforms, mooring lines and damping systems for floating wind concepts, in order to shorter downtime periods in energy production, less fatigue stress in all systems and structures, easier maintenance, etc. The hydrodynamics of these devices is highly complex and not well understood, with questions open to research, including scale effects in experiments, the effect of constructive add-ons (such as flaps, damping elements and reinforcements), the motions and impulsive loads in the mooring lines systems and ultimately a roadmap for the optimization of these devices. The selected candidate will be involved in the design and development of several experimental campaigns at CEHINAV Model Basin and numerical simulations in order to contribute to an advance in the knowledge of the dynamics of the offshore wind platforms. It is expected to lead to more efficient platform designs, which will accelerate the future implementation of floating wind turbines as renewable energy sources, capable of competing in the energy market. **Keywords**: Fluid mechanics, hydrodynamics, floating wind energy, offshore wind energy, marine renewable energies, damping, mooring lines, heave-plates.
Applications: documents to be submitted and deadlines *(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)*	CV and letter of motivation (reference letters are also recommended). Deadline: 2022/04/30.