

**Marie Skłodowska-Curie  
Early Stage Researcher position  
in the H2020 ETN project**

***zEPHYR***

***Towards a more efficient exploitation  
of on-shore and urban  
wind energy resources***



A total of 15 PhD positions are available at 8 universities, 1 research centre and 4 industries, in the framework of the European Marie Curie European Training Network (ETN) zEPHYR. This project is focused on the development of performant wind farms by addressing simultaneously the individual performance of each turbine composing the wind farm, and the efficient harvesting of the local wind resources in on-shore and urban environments. The researchers recruited in zEPHYR will investigate emerging technologies through laboratory experiments, theoretical modelling and numerical simulations addressing the following aspects: mesoscale and microscale atmospheric boundary layer simulations, rotor aerodynamics, aeroacoustics and structural dynamics, atmospheric propagation and human factors, uncertainty quantification, sensitivity analysis and multi-physical optimization.

In that context, the Universidad Nacional del Litoral (UNL), Argentina, is offering an ESR position for a PhD project entitled

***Efficient CFD methods for the simulation of WT fluid-structure interaction***

This research project is addressed to the development of finite volume methods as well as innovative particle methods for the numerical analysis of WT fluid-structure interaction. Particle methods are known to be advantageous in convection dominated flows, and well adapted to simulate flows with moving boundaries. The objective is to accelerate the computations while preserving accuracy in order to enable optimization in design of wind turbines. Methods should be interacting with an existing code for wind turbine simulation including flexible blades, the machine, the mast, etc. Parallelisation will be made in an already developed MPI environment between UNL and Samtech for cosimulation.

The PhD will be mainly based at the Research Center for Computational Methods (CIMEC) from UNL, under supervision by Profs. Norberto Nigro and Alberto Cardona, and several secondments are foreseen at partner institutions of the zEPHYR network: at Siemens Gamesa (Denmark), at Samtech SA (Belgium) and at National Technical University of Athens (Greece).

The contract can start between the 1<sup>st</sup> of April 2020 and the 1<sup>st</sup> of August 2020. Application deadline: 17 February 2020.

The multidisciplinary topics addressed in zEPHYR are scientifically challenging and of high technological and economical relevance, promising interesting career perspectives in academic and multi-sectorial industrial environments. The zEPHYR partners do strictly adhere to the ethical standards of the European Charter for Researchers and Code of Conduct for the Recruitment of Researchers<sup>1</sup>. Female scientists are particularly encouraged to apply. Applicants must satisfy some eligibility rules, in particular in terms of transnational mobility.<sup>2</sup> A strict equal opportunity, gender-neutral and internationally comparable recruitment procedure is implemented. Applications are to be made through the EURAXESS web site: <https://euraxess.ec.europa.eu/jobs>.

The EURAXESS offer ID corresponding to this position is: 471233.

<sup>1</sup> <https://euraxess.ec.europa.eu/jobs/charter>

<sup>2</sup> <http://ec.europa.eu/research/mariecurieactions>