



## **ANNOUNCEMENT**

### **Marie Skłodowska-Curie ITN**

#### **1 Early Stage Researcher Post - Lidar Knowledge Europe (LIKE)**

Applications are invited to work in the framework of Lidar Knowledge Europe (LIKE).

Lidar Knowledge Europe (LIKE) fosters training and education of young researchers on emerging laser-based wind measurement technologies and its translation into industrial applications. Doppler Lidars (light detection and ranging) that measure the wind in the atmosphere remotely have reduced in price and increased reliability over the last decade mainly driven by European universities and companies serving the growing wind energy industry. This opens the possibility for new applications in many areas. LIKE improves, tests and refines the technology thus expanding these areas of application. LIKE promotes wind energy applications such as wind resource mapping using scanning lidars and control of individual wind turbines or entire wind farms to increase energy production and reduce mechanical loads.

LIKE maps unusual atmospheric flow patterns over airports in real-time, improving the safety of landing aircrafts, and explores wind and turbulence under extreme conditions at the sites of future European bridges, paving the road for optimal bridge design.

LIKE trains 15 ESRs to an outstanding level at world-leading European academic institutions and industrial companies, thus forming strong interdisciplinary relations between industry and technical sciences. These relations are implemented through employment of the ESRs at academia and industry through inter-sectoral secondments. Finally, translation of technology into specific applications is emphasised through the implementation of an entrepreneurship training course LIKE partners, particularly industry.

Successful applicant will register for a PhD programme at the Faculty of Engineering - University of Porto related to the topic *"Computational flow models for lidar field campaigns"*.

The development of a new generation of numerical models for wind resource assessment that better represent the physical phenomena in the atmospheric flows over complex terrain will be



possible only using the detailed, high resolution data from lidars, such as Perdigão 2017 measurement campaign, a joint effort of research groups from Europe and United States. Data from this field campaign (most of which originated from many scanning lidars) in a variety of situations (stratification, pressure gradients, surface curvature, etc.) will be the main source for exploiting the potential of the lidar data in the development and validation of new computational flow dynamic (CFD) atmospheric flow models.

Outcome: (1) Improvement of computational models to predict wind resources in complex terrain. (2) Analysis of lidar scanning data for computer model validation

Innovation: A novel integrated approach between field experiments and the computational modelling of the real atmospheric flow.

Planned secondment(s):

- Technical University of Denmark (DTU) – Denmark - Prof. Jakob Mann, secondment of 4 months to take place in month 12 of the project, training on lidar scanning deployment;
- Renewable Energy Systems Ltd (RES) – United Kingdom - Peter Stuart, secondment of 2 months to take place in month 24 of the project , on computational modelling of real flows of interest to wind energy and lidar experimental data analysis;
- Natural Power (NP) – United Kingdom- Claude Abiven, secondment of 2 months to take place in month 28 of the project, CFD and lidar data comparison.

**Position Information:**

**Eligibility and admissibility conditions:**

- Candidates should have a master's degree in engineering or a similar degree with an academic level equivalent to the master's degree in Meteorology, Physical Sciences, Engineering, Remote Sensing or similar;
- Documented background in Computational Fluid Dynamics;
- Knowledge on Computational and numerical techniques, programming languages
- Ability to work in a project team and take responsibility for own research goals
- Fluency in communicating and reporting in English



- At the time of the recruitment the researcher must be in the first four years (full-time equivalent research experience) of their research careers and have not been awarded a doctoral degree;
- Mobility Rule: At the time of the recruitment researchers shall not have resided or carried out their main activity (work, studies, etc.) in Portugal for more than 12 months in the 3 years immediately prior to the appointment (compulsory national service, short stays such as holidays, and time spent as part of a procedure for obtaining refugee status under the Geneva Convention are not taken into account);
- 'Date of Recruitment' means the first day of the employment of the researcher (i.e. contract starting date) and 'Full-Time Equivalent Research Experience' is measured from the date when the researcher obtained the degree entitling him/her to embark on a doctoral degree programme.

**Duration:**

This full-time position is offered under an Uncertain Term Employment Contract never exceeding the maximum limit of four years.

**Expected starting date:**

1<sup>st</sup> April 2020

**Financial conditions/benefits:**

- Employment Contract (Temporary), Full-time
- € 2 753,34/month
- Mobility allowance: € 600/month
- Family allowance: € 500/month (subject to family situation)

These amounts are gross amounts, subject to taxation according to Portuguese national law. Consequently, the net salary results from deducting all compulsory (employer and employee) social security contributions as well as direct taxes (e.g. income tax) and insurance from these gross amounts.

- Legislation and regulations: Labour Code, Law no 7/2009, February 12, In its current wording.



**Applications:**

The applications should be e-mailed to [recursoshumanos@fe.up.pt](mailto:recursoshumanos@fe.up.pt) mentioning the reference **FEUP-LIKE** in the subject, and to Prof. José Manuel Laginha Mestre da Palma [jpalma@fe.up.pt](mailto:jpalma@fe.up.pt)  
Informal enquiries should be addressed to Prof. José Manuel Laginha Mestre da Palma ([jpalma@fe.up.pt](mailto:jpalma@fe.up.pt)); Further information at [www.msca-like.eu](http://www.msca-like.eu)

**Selection procedure:**

- CV
- Experience
- Selection Interview
- Detailed information about the selection criteria is available at ([https://sigarra.up.pt/feup/pt/conteudos\\_service.conteudos\\_cont?pct\\_id=634370&pv\\_cod=424IWp6HeaEa](https://sigarra.up.pt/feup/pt/conteudos_service.conteudos_cont?pct_id=634370&pv_cod=424IWp6HeaEa))

**Conditions of award of the Scholarship:** After this selection procedure it is mandatory to apply to FEUP's Programme respecting the following procedure:

**PRODEM**

Condições de acesso e critérios de seriação PT: [Informações para candidatura - PRODEM 2019/2020](#)

Access conditions and ranking criteria EN: [Information for applications - PRODEM 2019/2020](#)

List of documents and authentications fixed for the enrollment in the studies cycle - PT and EN (Lista de documentos e autenticações previstas no processo de ingresso ao ciclo de estudos PT e EN): [PRODEM Docs candidatura/application 2019/2020](#)

General Information on the Doctoral Admission – 2019/2020 ( [Informações gerais sobre o Regime de Ingresso em Doutoramento - 2019/2020](#)): [https://sigarra.up.pt/feup/pt/cand\\_info\\_geral.cand\\_reg\\_ingresso\\_view?pv\\_id=704](https://sigarra.up.pt/feup/pt/cand_info_geral.cand_reg_ingresso_view?pv_id=704)

Signing the contract implies enrolling and attending the Doctoral Program selected at FEUP.

The contract will only be signed after the confirmation of this last phase.

**Documents to be submitted with the application:**

- Elements of identification document;
- A detailed CV;



- A letter motivating the application (cover letter);
- Grade transcripts and BSc/MSc diploma;
- Excel sheet with translation of grades to the Portuguese grading system;
- Three reference letters
- Declaration of honour regarding the residency for the last three years. You have the template of this declaration available here: ([https://sigarra.up.pt/feup/pt/conteudos\\_service.conteudos\\_cont?pct\\_id=634407&pv\\_cod=42q7Lat7TI4M](https://sigarra.up.pt/feup/pt/conteudos_service.conteudos_cont?pct_id=634407&pv_cod=42q7Lat7TI4M) )

**Deadline of the recruitment process: From 11-11-2019 until 31-01-2020 (23h59m, Portuguese Time).**

**Notice for the selected candidate:** If the selected candidate for the job position obtained a higher education degree abroad, and in order to sign the employment contract and enrol in the PhD Programme, he/she might be required to deliver the academic transfers and degree certificates authenticated by consular offices or embassies of Portugal located in the country where the qualification was obtained, or hold the Hague Apostille, for countries that acceded to the Hague Convention. The same applies to the translations (mandatory) of documents whose original language is not Portuguese, Spanish, French or English.