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Lidar Knowledge Europe (LIKE) the European research and training network

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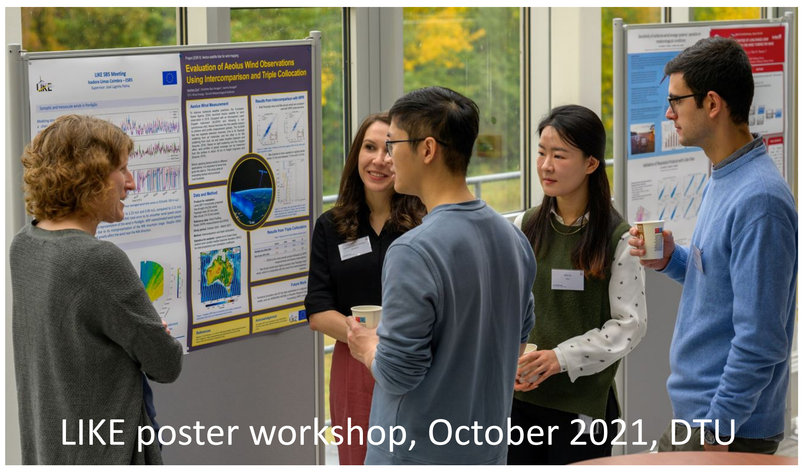
Abstract

Lidar Knowledge Europe (LIKE) is a large European research and training network focused on the development of new wind lidar techniques, novel methods for lidar data processing and careful calibration of data. Furthermore, the research and training involve several applied research fields such as siting in complex terrain, offshore and very high in the atmosphere, wind turbine and wind farm flow and turbulence, optimized control of turbines using nacelle-based wind lidars, and wind engineering for suspension bridges and airport safety related to winds and turbulence. The research and training extend from theoretical work, experimentation in laboratories, wind tunnel experiments, to full-scale data collection in the atmosphere. Data from past experiments from the involved partners are used in new ways and add extra width to the on-going research.

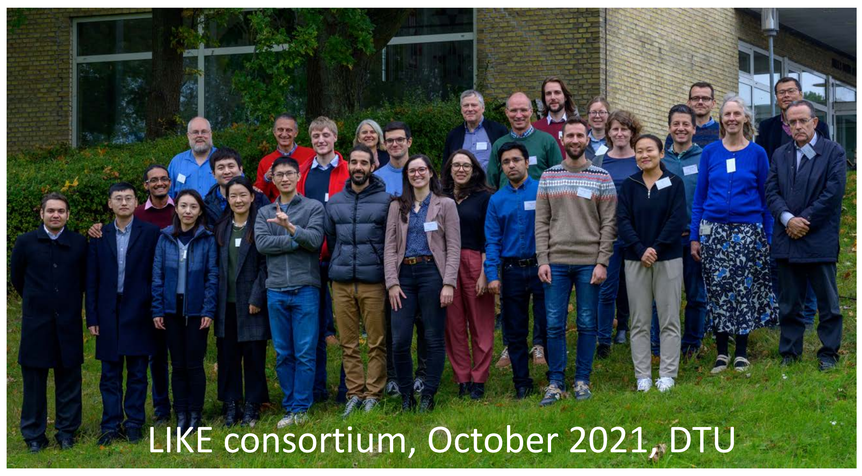
In the LIKE project 26 partners (ten beneficiaries and 16 associated partners) provide Early Stage Researcher training for 15 PhD students across Europe. All PhDs will be on exchange at two secondment partners allowing them to gain insight both in academic and non-academic perspectives in different countries.

Objectives

The objective is to train 15 PhD students in lidars for wind energy and wind engineering in the Marie Curie innovative training network.

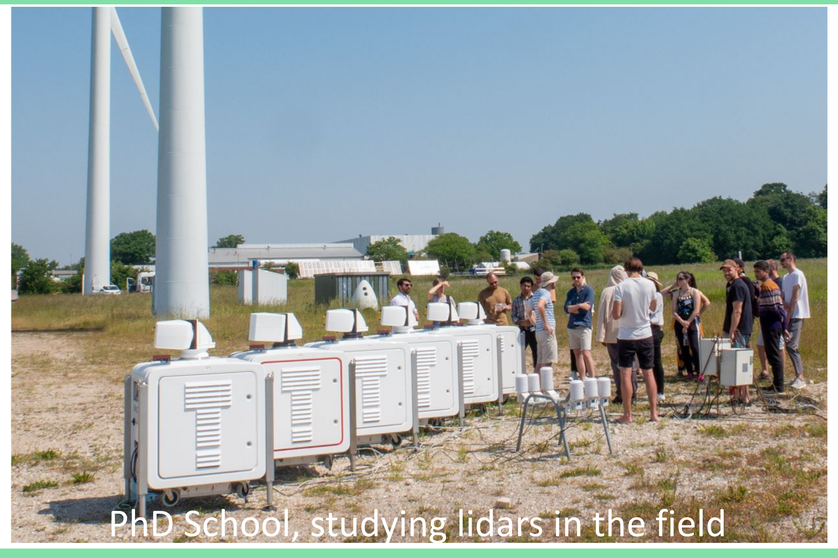


LIKE poster workshop, October 2021, DTU


LIKE consortium, October 2021, DTU

Methods

The method for research is based on several network-wide training events such as wind lidar fundamentals course and the PhD School on remote sensing for wind energy. Furthermore, a wide range of transferable skills including project time management, FAIR (Findable, Accessible, Inter-operational and Reusable) data management and Open Science course and its application in each PhD project, academic writing, good scientific practice and presentation skills are provided. Last but not least supervision by experts in academia and non-academia on the scientific and technical aspects, including how to make the results, new methods, new codes, new prototypes, etc. applicable in the industrial context.


PhD School, studying lidars in the field

PhD 15 research topics

1) Robotic small-scale lidars in wind tunnels; 2) Wind lidar volume reduction and rain detection; 3) OpenLidar – an open-source modular lidar design; 4) Floating lidar for offshore wind resources; 5) Lidar validated computational flow models in complex terrain; 6) Satellite-borne wind lidar (Aeolus) for wind forecasting; 7) Lidar observations for airborne wind energy; 8) Site independent wakes by long-range lidars; 9) Intra wind farm wake dynamics; 10) Power performance in wind farms using lidar; 11) Adaptive lidar control for load reduction; 12) Nacelle-lidar for turbulence characterization; 13) Long-span bridges and turbulence using lidar; 14) Lidar-assisted wind farm control studied in wind tunnel; 15) Turbulence characterization from lidar in exposed airports.

Conclusions

The introduction of 15 talented and highly skilled young researcher looking for career opportunities after completion of their studies could be relevant for employment at your place.

Acknowledgements

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Further details: www.msca-like.eu

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