

Advancements in the multi-lidar anemometry for wind energy

Abstract: In this lecture we will explore advancements in the multi-lidar anemometry for wind energy. Recently, the multi-lidar anemometry became an intriguing new wind measurement technique that has great potentials not only to substitute the traditional mast-based measurements but also to provide deeper insights in the nature of the wind. A brief overview why and how do we measure the wind will be presented with a focus on the transition from the traditional anemometry to the laser-based remote sensing anemometry with single- and multi- lidars. A review of applications, technological background, development challenges and operational challenges of multi-lidar instruments will be provided on the example of the long-range WindScanner system.

Bio: Nikola Vasiljević is a postdoctoral research at Technical University of Denmark, DTU Wind Energy. He has been working in wind energy sector over the past 8 years, of which the last 6 years at DTU Wind Energy. Nikola developed the long-range WindScanner system as part of his Ph.D. project. The thesis, which summarizes the project, has received DNV GL PhD award for the best Ph.D. thesis in renewable energy for 2015. Nikola's scope of work covers the management and execution of entire lifecycle of atmospheric experiments, development of multi-lidar instruments, and assessment and improvement of laser beam pointing accuracy. Currently, Nikola designs and manages several large atmospheric experiments within the New European Wind Atlas project.