

University of Notre Dame, 17 September 2017

Subject: Recommendation Letter for António Oliveira

Dear Sir or Madam,

I am a Post-Doctoral Researcher at University of Porto, where I have also worked as an Invited Professor for the last five years. My main research field concerns atmospheric flows over complex terrain, mainly through numerical simulations with both Computational Fluid Dynamics (CFD) and Mesoscale Regional Weather models.

Having worked several times in cooperation with the Wind Energy Group of INEGI for the last ten years, I know António Oliveira for whom I have the highest regard, both personally and professionally.

António has a large contribution as a wind data analyst, having been paramount to the development of the INEGI wind database. He revised the programming methods therein to allow direct updates to the database from tower measurements, most being collected through GSM communication. This is a large database comprising of nearly 500 towers, with 200 currently operational and some instrumented at several height levels. The complexity of this database is increased when considering that the calibration of the instruments varies in time, as field technicians perform corrections. António automated most of the database procedures, while allowing for users to revise past data easily.

António also developed a second database geared towards agrometeorological data, involving the computation of several climate indicators essential for crops management and viticulture. This forced him to study topics from a different field where the variables of interest are significantly different from those in wind energy. He has also experience in the analysis of LIDAR data, having compared it against tower measurements in project ADWIND, to understand how hill slopes affect turbulence intensity measurements. Additionally, he has both experience with Linear Flow models and CFD models, the latter related to his Master Thesis work.

António has high technical skills which, coupled with his dynamic attitude, allows him to tackle problems and develop innovative solutions. He is also an independent person whom one may give a task, knowing he will have completed it in due time. I believe he is a valuable asset to any engineering group, independent if its activity focus the industry or research & development.



Carlos Alberto Veiga Rodrigues

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