



RECOMMENDATION LETTER

Barcelona, June 2016

To whom it may concern,

I am writing this letter to recommend **Tiago Moço Ferreira** and express my support to his application to [REDACTED].

My name is Sebastià Olivella. I am Professor (Catedrático de Universidad) at the Department of Civil and Environmental Engineering of the Technical University of Catalonia (UPC). At present I am Dean of the Civil Engineering School (Escola de Camins, UPC). My research is in the field of Geotechnical Engineering and Multiphase flows in Geological Media. I develop numerical tools based on theoretical and experimental results which permit to model different types of geotechnical structures (underground constructions, embankments, earth dams, slopes, soil reinforcement, environmental actions, etc).

I have met Tiago Moço Ferreira in 2010 as a PhD student visiting Escola de Camins at UPC. In the context of his research I give him support to develop and implement a constitutive model to describe the behaviour of unsaturated soils subjected to cyclic traffic loading and environmental actions. During all this time he has developed strong technical skills and fresh knowledge regarding the design and modelling of transportation infrastructures.

Furthermore, he has demonstrated capability to work and progress with autonomy, working in the edge of knowledge, applying a complex numerical program (developed in our department for more than 20 years) to specific problems in a new field (high velocity railway), widening the field of applicability of our developments by including a new model specifically developed for cyclic loading. In this process Tiago steadily matured through participation in several national and European research and consultancy projects.

Tiago is among the best students I have been in contact, with an exquisite one-on-one personal relationship, empathy and with good predisposition and attitude to face challenging scientific and engineering problems.

For all the reasons I have stated above, I strongly recommend Tiago Moço Ferreira in his application to your organization.

Sebastià Olivella,

Full Professor (Catedrático de Universidad)

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