

ANNOUNCEMENT FOR SCHOLARSHIPS' ASCRIPTION FOR R&D

Title: Research Scholarship (1 scholarship)

Accordingly with the "Standards for Assignment of Scholarships in the scope of Research Projects" of the FCT (Portuguese Foundation for Science and Technology), we announce the following **call for one PhD research grant for Master fellows under the research project "Express – Exploration of Portugal's High Speed Rail and Economic Development Strategy Solutions"** (MIT/SET/0023/2009), co-developed by the Instituto Superior Técnico and MIT, and sponsored by the national research funds through FCT/MCTES (PIDDAC) and co-financed by the European Regional Development Fund (ERDF) under the Operational Agenda for Competitiveness Factors – COMPETE. The call is open during 10 working days (as from the date of the official announcement at IST) and the corresponding terms are as follows:

Scientific Field: Systems Engineering – Transportation area

Proposed Work Plan: "Analyze the High Speed Railway' impact on urban configuration"

Among the several projects on transports infrastructures undergoing in Portugal, the assessment of the HSR project is extremely relevant. Being at an early stage of development, under a high socioeconomic instability and uncertainty, it implies a large financial investment/commitment and will cause a wide set of negative and positive effects that should be considered for evaluation. The research will be developed under the EXPRESS project that aims to analyzing the strategic planning of the HSR implementation in Portugal, with the objective to maximizing its potential within a wider transport system strategy and economic development.

HSR network will imply a deep change in the accessibility of several urban areas that will be served. These access changes will impact the relative attractiveness of such areas, which can be translated into numerous considerable impacts at a local and regional level. Under this project the goal is to model those impacts in a dynamic and interactive way. Until now several econometric models have been developed both to assess the HSR impacts at a regional and local level. These models are to be integrated in Agent Base simulation framework. The generic tasks that the candidate shall perform under this scholarship are the following:

1. Develop a Agent Base Modeling (ABM) framework to integrate the models developed so far, regional and local impacts of HSR. This ABM framework should also consider the existence of transport modes that are competing with HSR
2. Implement the ABM framework in collaboration with the students that are developing both the regional and local assessment models.

Work place: The work will be performed at the Instituto Superior Técnico – Centro de Sistemas Urbanos e Regionais (CESUR - www.civil.ist.utl.pt/nispt), Lisbon, Portugal, under the supervision of João de Abreu e Silva (Assistant Professor in Transportation).

Scholarship duration: The scholarship will take 6 months, with a predicted start on May 2013. The scholarship can be renewed for a maximum period of 18 months.

Monthly Salary: € 980 (nine hundred and eighty Euros) accordingly to FCT standards (<http://alfa.fct.mctes.pt/apoios/bolsas/valores>).

Admission requirements:

- (1) Hold a Master Degree in Civil Engineering, Transportation Engineering, Land-use Planning and/or Engineering, Physics Engineering, Economics or Statistics,
- (2) Basic background on both statistical analysis and modeling (preferably in transports) and
- (3) Master English Language (Speaking, reading and writing).

Selection procedure: Final selection of grant holders will be as follows:

- (4) Curriculum Vitae Evaluation, considering specifically previous experience in transport demand modeling and Agent Base Modeling (*35% of final score*).
- (5) Interview (*35% of final score*)
- (6) Recommendation Letters (the letters should be directly sent by the authors to the following email address: joao.abreu@civil.ist.utl.pt) (*20% of final score*), and
- (7) Motivation Letter (*10% of final score*).

Publication form/notification of results: The final selection will be listed according to the final score and published in a visible and public place at Instituto Superior Técnico (Human Resources Direction's showcase) and all candidates will be notified through email.

Application Documents:

- Curriculum Vitae (indicate Passport Number if you are a foreigner),
- Certificate of Achievement,
- Motivation Letter, and
- Other relevant documents.

Applications should be sent to Ms Teresa Afonso (tafonso@civil.ist.utl.pt).

Inquiries and questions should be addressed to Ms Teresa Afonso (tafonso@civil.ist.utl.pt).