Early Stage Researcher with PhD enrolment

Sustainable **M**ulti-functional **A**utomated **R**esilient **T**ransport **I**nfrastructures **ETN** will bring together a stimulating platform where the stakeholders of the transport infrastructure sector will work alongside world-wide experts in smartening of systems (developers of high-tech sensors, advanced monitoring equipment, automated structures, etc.,) with direct support from the roads, railways and airports managers. As a result, SMARTI ETN will create a new generation of highly-skilled and appealing professionals that will be in great demand in this rapidly expanding field and will benefit Europe and developing countries. *Do you want to be one of them?*

Project 15

"WirelessBox" - Multi-functional road monitoring system (WP3-ESR15)

Ifsttar (France

Expected Collaborators

A3IP (France), The University of Nottingham (UK)

Project Objectives

The objective of the project is to develop a multi-functional road monitoring system, which can be used to measure continuously traffic and pavement condition, and provide information for road asset management. Based on the previous experience of IFSTTAR, the system will associate measurement of traffic loads and vehicle positions by piezo-electric sensors; pavement layer strains, using strain gage sensors; pavement deflections, using geophones; pavement layer temperatures. A wireless data acquisition system will then be developed, ensuring the processing of the sensor measurements and the calculation of different indicators characterising traffic composition and pavement conditions.

Environment

The research is carried out within the framework of the Marie Curie European Training Network 'SMARTI' with opportunities to join network wide training events and international collaboration. The candidate will work within the Work Package SMARTI Guidelines which investigates innovative transport infrastructure modelling and methodologies for the creation of guidelines for roads and railways management. Furthermore the candidate will benefit from collaborative research with 14 similar research positions in the network.

The project will be developed through planned international collaborations with at least two international partners. The LAMES laboratory of IFSTTAR, will provide experience in pavement instrumentation and full scale accelerated pavement testing. The SII laboratory of IFSTTAR is specialized in development of instrumentation and monitoring systems, and data analysis, for roads, railways, bridges and buildings. The partnership with strategic partners will provide:

- A3IP: sensor embedding and wireless data acquisition solutions
- The University of Nottingham: road engineering, sustainable pavements

The successful applicant will be recruited from IFSTTAR and will register for a 3 year PhD at The University of Nantes. The total funding available for each position is in line with the Marie Curie ETN Scheme, and comes to €37320 per year. This amount will be multiplied for a country factor[1] and on top an extra allowance will be available to cover mobility expenses. The fellows will pay taxes according to the rules of the country of recruitment. A career development plan will be prepared for

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[1] France factor = 1.110

each fellow in accordance with his supervisor and will include training, planned secondments and outreach activities.

Application Process

(1) SMARTI ETN will perform the recruitment of all the Early stage Researchers (ESR) through **smartietn.eu** website

(2) Check you meet Eligibility criteria and Specific requirements for the ESR position project/s you are applying for.

(3) Prepare the following application documents (in English):

1. A curriculum vitae, including contact details, education (at University level and other), work experience, prizes/awards, language skills, etc… (max. 2 pages). The CV should reflect a representative array of achievements and qualifications appropriate to the post for which application is being made.
2. Official academic record of undertaken courses & grades for Bachelor (and Master if required in specific criteria) degree.
3. A motivational letter in which the applicant describes his or her motivation to pursue postgraduate studies and to conduct the research project/s applied for. Mention the ESR project number or numbers (in the latter indicate order of preference if any) on your motivational letter and the subject of the email.
4. A reference letter.

(4) Upload your documents in smartietn.eu before the 1st June 2017 deadline.

(5) The documents provided will be used to select the best candidates. Applications will be analysed by a **selection committee led by the coordinator and formed by both academic and industry partners**. Recruitment procedures will be open, efficient, transparent and supportive, as well as tailored to the type of positions advertised. All Institutions value diversity and are committed to equality of opportunity.

Eligibility Criteria

- Applicants can be of any nationality. They are required to undertake transnational mobility (i.e. move from one country to another) when taking up their appointment. Nationality is therefore not a criterion. Rather the location of the researcher's residence or main activity during the 3 years prior to their recruitment is determining. (*This means: You can only apply to a project which is hosted in a country in which you did not reside or carry your main activities (such as work or study) for more than 12 months within the last 3 years. This excludes short stays such as holidays or compulsory national service*).
- Applicants must be Early-Stage Researchers (ESRs) which means, at the time of recruitment by the host organisation, they must be in the first four years (full-time equivalent research experience) of their research careers and have not been awarded a doctoral degree. For research experience it is meant since the date that the graduate has been awarded with a degree allowing him/her to embark on a PhD programme (i.e. date of master degree).

Specific Requirements

	Essential	Desirable
Qualifications/ Education	Master's degree, qualifying the candidate for PhD studies. At the time of recruitment, candidates must be in the first four years of their research careers (full-time equivalent research experience after qualifying degree) and have not yet been awarded a doctoral degree	

Skills/Training	• Good software capabilities and numerical skills
	• Skills in electronics and software development
	  o Electronics conception and embedded system
	  o C/C++, web programmation
	  o Wireless sensors networks, energy efficient
	• Web monitoring and data processing
	• Actively manage other stakeholders engaged in the research; also an ability to identify and set achievable targets and deliver to these deadlines.
		• Interest in civil engineering and materials mechanics

Experience	• Previous work experience is NOT necessary. However these are essentials: • Willingness to think out-of-the-box and use background to adapt into a new context	• Already worked within a research team • Scientific Papers published
Personal Qualities	• Ability to work independently • Ability to work efficiently in a team • Pro-active • Good communication skills	
Other	• Fluent in oral and written English. • Ability to present scientific work in oral and written format.	

Do not wait, apply for this position in the following link
smartietn.eu

Any question on:
- this specific project, contact Dr Pierre Hornych, pierre.hornych@ifsttar.fr
- the SMARTI ETN project, contact Dr Davide Lo Presti, Davide.Lopresti@nottingham.ac.uk

Please note that applications sent directly to these email addresses will not be accepted.