The SMaRT project, "Sand Mitigation along Railway Tracks", has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Sklodowska-Curie grant agreement No 721798 for European Industrial Doctorate.

SMaRT at a glance

In the last decade, a growing number of railways and other transportation, civil or industrial infrastructures have been designed and or built in arid regions worldwide. In arid environments , windblown sand can have undesired effects on the safety, serviceability and maintenance of railway infrastructure. Effective, durable, robust and sustainable sand mitigation measures (SMMs) are an urgent requirement to allow industrial growth in such regions.

SMaRT aims to develop standardised techniques for assessing sand hazards to railways, conceive new and effective sand mitigation measures, and assess their performance using innovative computational simulations and field tests.

The SMaRT consortium structure reflects the production chain of the railway construction industry in order to train the researchers in a proper "in vitro" replica of their future working context, and to stimulate research from the different Partner Organizations.

Further information is available on the SMaRT website (www.smart-eid.eu).

Job Vacancy: Evaluation of sand hazards and field testing of mitigation measures (SMaRT ESR 3)

A 3-year Early Stage Researcher (ESR) position is available at the School of Geography and Environment, University of Oxford, UK.

Expected start date: September/October 2017

In parallel, the ESR will be enrolled in a 3 year DPhil course at the University of Oxford.

Deadline for application

Position open until filled, final deadline February 15th 2017.

Job Description

The recruited candidate will pursue research work investigating techniques for assessing windblown sand and dune migration hazards to railway infrastructure in arid environments. In collaboration with the partner organisations the research will lead to the development of various sand mitigation measures which will require field testing and validation. The recruited candidate will be expected to design, evaluate and carry out these field tests.

Requirements

We seek a person with strong motivation and the ability to define his/her own research questions. The applicant must hold a good undergraduate degree (first class or strong upper second class equivalent) or masters degree in physical geography, environmental science or a related quantitative field with good written and oral communication skills in English.
Applicants shall, at the time of recruitment, be in the first four years (full-time equivalent research experience) of their research careers and not yet have been awarded a doctoral degree. Full-Time Equivalent Research Experience is measured from the date when a researcher obtained the degree which would formally entitle him/her to embark on a doctorate. In addition, at the time of recruitment, applicants must not have resided or carried out their main activity (work, studies, etc.) in the UK for more than 12 months in the 3 years immediately prior to the recruitment date. Compulsory national service and/or short stays such as holidays are not taken into account.

Important characteristics of the European Industrial Doctorate programme are:

- you will be jointly supervised by academia and industry supervisors
- you are required to spend 50% of the time at the University of Oxford in the UK and a total of 50% of the time with the project partners at Optiflow (France) and Politecnico di Torino (Italy).

Personal Qualities

- Excellent collaborative and teamwork skills;
- Strong dedication and self-motivation;
- Full command of written and oral English. Recognized certificates of English language knowledge:
    - IELTS with a score of 7.5 (minimum 7.0 per component);
    - TOEFL iBt with a score of 110 (minimum component scores of listening 22, reading 24, speaking 25, writing 24);
    - Cambridge Certificate of Proficiency in English (CPE) with a score of 191 (minimum 185 per component);
    - Cambridge Certificate of Advanced English (CAE) with a score of 191 (minimum of 185 per component);
    - The requirement to provide English language scores may be waived if you have completed, or are completing, a degree-level course that is full-time, at least 9 months long, and undertaken at a recognised institution where the medium of instruction and assessment throughout the course is entirely in English. To request this waiver you must include a letter giving the reasons for your request with your application.

  An application can be made in advance of securing a certificate of English language, but a certificate (or waiver) must be obtained prior to enrolment at the

University of Oxford. Failure to submit the said certificate at that time shall entail the loss of the right to enrol.

We offer

- Competitive salary in a 3 year full time position of 3740 €/month
- Mobility and family allowance (600 or 1100 €/month depending on the researcher's family situation)
- High tutoring capacity. Academic tutor: Professor Giles Wiggs, PhD in Aeolian Geomorphology – University of Oxford. Industrial tutor: Dr Nicolas Coste, PhD in Fluid Mechanics - Optiflow.
- An excellent and intersectoral training environment at the academic host University of Oxfrod (UK), industrial host Optiflow (France), and host for short secondments at all the Industrial Partner Organisations (Ansaldo STS, Astaldi, Salcef-Reco).

With over 200 graduate students from a range of nationalities, professional and disciplinary backgrounds, the School of Geography and the Environment at the University of Oxford hosts one of the largest, most diverse and vibrant graduate schools in the world offering advanced degrees in the environment. The School undertakes world-class interdisciplinary research, addresses societal and environmental problems, and advances knowledge within an intellectually vibrant, interdisciplinary research environment combining natural and social sciences.
Optiflow is a French consulting company, with more than 15 years of experience in the field of Computational Wind Engineering. Its activities helped architects and engineers improve wind and ventilation performances on more than 100 major architectural and infrastructural projects worldwide. OPTIFLOW has a strong record in R&D activities and technology transfer relationships with a number of public and private research institutions. Optiflow is member of the Windblown Sand Modeling and Mitigation (WSMM) joint research, development and consulting group.

Application and Evaluation

1. Please submit your application by email as detailed below to: apply@smart-eid

Competences of applicants will be assessed by the SMaRT Governing and Educational Board.
The comparative assessment will be aimed at understanding the candidate's motivations, skills and abilities which will be inferred both from the documents attached to the application form, and from an interview as necessary. Any required interview may be remote by Skype conference.

The Application must include

1. A 2 page application letter detailing your reasons for applying, your research interests, research experience, academic achievements and career ambitions;
2. CV, summarizing your educational background, academic achievements, any relevant professional experience, contact details (including email and Skype addresses);
3. Copies of educational certificates and transcript of records detailing information on the individual grades received in your university-level qualifications to date;
4. Details of internationally recognized language qualifications achieved;
5. List of any publications and/or academic work that the applicant wishes to be considered by the evaluation committee;
6. A copy of some written work (2000 wd max) that demonstrates your ability to write a good academic document. This may be an essay you have previously written, a thesis chapter etc and need not necessarily be related to the proposed area of study.
7. Names and contact details of 3 referees: name, relation to candidate, e-mail and telephone number (at least two of which should be academic). Up to 3 letters of reference may be directly included.

Applicants will be notified of the outcome of their application as soon as possible after the closing date. The results of the evaluation will be published on the SMaRT website (www.smart-eid.eu).