

**Person-Environment-Activity Research Laboratory (PEARL), University College London (UCL), London, United Kingdom**

Gower Street, London WC1E 6BT, United Kingdom

Marie Skłodowska-Curie Actions, Early Stage Researcher

**Salary £29,018 - £36,013 per annum (including London Allowance)**

**Deadline for applications: July 9<sup>th</sup>, 2018**

Expected starting date: October 1<sup>st</sup>, 2018

**Job description:**

The job is a full time position for an early stage researcher (ESR) in the field of pavement engineering and person-environment interactions. The title of the project is **Accessible Urban Surfaces (AccesUS)**. Our goal is to create a new approach to pedestrian surfaces on streets in order to make cities more accessible and improve health and wellbeing over the life span.

This position is funded by the EU Marie Curie Early Stage Researcher Scheme SAFERUP! Programme. The position is funded to enable an Early Stage Researcher to study for and obtain a PhD whilst holding an Early Stage Researcher position at UCL. The scholarship covers the UCL fees. The successful applicant will be employed as a member of research staff under the Marie Curie scheme. The gross salary per year is £29,018 -£36,013 per annum, inc London allowance. These gross amounts include all compulsory deductions under national applicable legislation (taxes depend on the country of the host institution).

**Job duration:** 36 months

**Main research field:** Civil Engineering - Accessibility

**Research subfield:** Pavement engineering - materials

**Institution description:**

The project will be based in University College London (UCL). UCL is ranked in the top ten universities worldwide and is characterised by the advanced level of transdisciplinary research based on investigating global challenges. The Department of Civil, Environmental & Geomatic Engineering is internationally renowned for its research and teaching in earthquake engineering, soil mechanics, space geodesy, big data and transport. The Centre for Transport Studies (Director Professor Nick Tyler) is a long-established centre for research into the modelling of transport, transport safety, railway engineering, infrastructure economics, transport safety, urban design and planning and equitable accessibility. CTS currently has over 60 staff and doctoral students.

**Working place**

The project will be based in UCL at the Person-Environment- Activity Research Laboratory (PEARL). PEARL (<http://www.ukcric.com/about/facilities/pearl/>) is a 40,000m<sup>3</sup> physically and sensorially configurable space that belongs to the Department of Civil, Environmental & Geomatic Engineering Centre for Transport Studies at UCL. PEARL is directed by Professor Nick Tyler, who specialises in transdisciplinary research related to person-environment interactions. PEARL is multiscale: current research includes interactions from the scale of the design of cities and transport systems through to the neurological responses of a person as they encounter different aspects of urban design. Secondments are planned in Spain, at Fundación ONCE (FONCE), which is a disability rights organisation based in Madrid, and in Italy at the University of Perugia (UNIPG).



## Project description

Moving about in the urban domain is a fundamental aspect of a person's ability to be able to gain access to employment, education, health care and leisure activities. Every journey in the urban environment involves some aspect of personal movement – whether this is undertaken on foot or in some form of personal vehicle (such as a wheelchair). However, the nature of the footway surface often requires a higher level of capabilities than some people can provide, due to its poor surface quality, bad maintenance, bad design or bad use by other people. This means that some people are denied their human rights because they cannot reach the places where these might be exercised, and thus the city is inequitable, unfair and unjust – all because of the poor quality of the footway surface. The objective of this project is to study how we can make the footways surface accessible to all, in a way that promotes health across the lifespan so that everyone can enjoy their human rights, and the access to employment, education, healthcare and leisure that these allow. At PEARL, we have been exploring the possibility of using polymer-based surfaces which are softer than the materials usually used for footways (e.g. concrete, asphalt or stone) so that it is more comfortable to walk on, imparts less long-term damage to the skeletal system, and is less damaging in the event of a trip or fall. However, for people who require a personal vehicle, such as a wheelchair, in order to move around, a soft surface might provide additional challenges, so it is necessary to investigate how to design a material which is soft enough to deliver the advantages for walkers without making life more difficult for people needing to use wheels. It is also necessary to ensure that such a material is practical – especially in terms of maintenance – and that its cost is appropriate given the benefits it delivers.

Particular Tasks related to this position are:

Task 5.1: assess users-pavement interaction by means of the PEARL/PAMELA testing facility in a simulated urban paved scenario

Task 5.2: determine and test appropriate surfaces with people to check their acceptability and safety

Task 5.3: study new paving solutions to improve accessibility and legibility at all levels for improved social inclusion

Task 5.4: to test surfaces with local implementing organisations for feasibility and UHI effect mitigation

To complement the work at PEARL, the ESR will have three secondments at Fundación ONCE, in Madrid, in order to receive training in the issues of importance to people with different capabilities, and 2 secondments at the University of Perugia, where they will study materials engineering, especially in relation to urban heat island effects.

## Marie Skłodowska-Curie Initial Training Network SAFERUP!

Urban pavements comprise almost 40% of European cities and are the main means by which the public travels every day. Urban pavements must accommodate all users in the most efficient, safe, sustainable and smart way. A key factor to increase the liveability of tomorrow's Smart Cities will be transforming the way urban pavements are perceived, designed, built, maintained and function. SAFERUP! aims at providing cities with innovative solutions that will form the future urban paved environment, by training talented researchers in the fields of: smart, recycled and durable paving materials; enhancing accessibility and safety of vulnerable users (e.g. elderly & disabled); studying user behaviour; analysing life cycles; managing wash-off water and bioremediation; producing tempered and acoustic pavements; enabling energy harvesting and self-sensing technologies. The SAFERUP! Consortium believes in this future and has created a unique team of world leading commercial and academic research engineers and scientists, with a diverse range of expertise needed to develop the novel solutions required to deliver this future and its anticipated benefits. Fifteen ESRs will undertake their PhDs in a research and training programme designed to optimise



their multidisciplinary and cross-sectoral experience through secondments and a variety of SAFERUP!-wide forums. All ESRs' projects are interrelated and considerable synergies, trans-project contributions and collaborations will occur. A key focus of the training will be career planning, entrepreneurship and skills development in particular communication. SAFERUP! participants with communication expertise will develop the communication and dissemination strategy to maximise the exploitation of the developed solutions. SAFERUP! will create a new generation of professionals with multidisciplinary expertise in urban pavements and related fields appealing to employers, who will expand the social benefits of the new urban pavements well beyond the end of SAFERUP!

## Candidate profile

Applications are invited from UK and EU members, who have a 2:1 or higher degree (or equivalent) in a relevant discipline (e.g. in related to Civil Engineering, Transport Engineering, or Materials science ) and who do not currently possess a doctorate, and Previous research experience, (which must be no longer than 4 years), although appreciated, is not mandatory. A PhD degree in any field is not compatible with this ESR position.

The candidate is required to have a masters degree at 2:1 or equivalent in civil engineering, materials science, human physiology or a related field, giving access to PhD school and NOT to have any kind of PhD degree. Previous research experience, (which must be no longer than 4 years), although appreciated, is not mandatory. Good (IELTS 7+) oral and written communication skills in English is compulsory. Willingness to travel internationally for the purpose of research, training and dissemination is mandatory.

## Eligibility requirements

ESR appointments are full-time fixed term for 36 months. Candidates matching the required profile will be evaluated until a successful candidate is appointed. There are strict eligibility rules associated with the recruitment of Early Stage Researchers in MSCA Innovative Training Networks.

- Career:** At the time of recruitment, the ESR must hold a Master degree giving access to PhD and not more than 4 years of previous research activity. A PhD degree in any field is not compatible with this ESR position.
- Mobility:** Transnational mobility is an essential requirement of Marie Skłodowska-Curie Training Networks. At the time of recruitment, the ESR must not have resided in the UK for more than 12 months in the 3 years immediately prior to the recruitment date and not have carried out in the UK his/her main activity (work, studies, etc.). Applicants must be aware that seconding periods are planned for this position, In particular, periods in Fundación ONCE in Madrid and the University of Perugia in Italy.
- Language:** A good knowledge of spoken and written English is required and will be evaluated during the selection process.

## How to apply

Applicants should send a covering letter, CV, application and the equalities form to Professor Nick Tyler [n.tyler@ucl.ac.uk](mailto:n.tyler@ucl.ac.uk) and the SAFERUP! Coordinator Professor Cesare Sangiorgi [dicam.saferup@unibo.it](mailto:dicam.saferup@unibo.it)

## Evaluation and interview

The selection process will consist of CVs, motivation and records evaluation and an interview (additional interviews could be required). The interview to assert the skills, the motivation and the fluency in English, will take place at the host institution or, for those candidates who are not able to travel to London (UK), by internet connection. The candidates will be ranked according to both their



records and the interview. The candidate at the highest ranking position will be offered the position. If, for any reason, the selected candidate will decline the offer or will fail to comply with the requirements for enrolment in the position, the one following in the list will be selected. More details on the selection process could be found on <https://site.unibo.it/saferup> and on <https://euraxess.ec.europa.eu/>.

### **Rights and responsibilities of researchers participating in Marie Skłodowska-Curie Actions**

The European Charter for Researchers is a set of general principles and requirements which specify the roles, responsibilities and entitlements of both researchers and the employers and/or funders of researchers. The aim of the Charter is to ensure that the nature of the relationship between researchers and employers or funders is conducive to successful performance in generating, transferring, sharing and disseminating knowledge and technological development and to the career development of the researchers.

It is obligatory for applicants to read and understand the detailed information regarding the rights and responsibilities of researchers engaged in a Marie Skłodowska-Curie Innovative Training Network. The European Charter for researchers can be accessed at:

<https://euraxess.ec.europa.eu/jobs/charter/european-charter>

### **Employment contract and remuneration**

The selected candidate will be appointed under a 36-months full-time employment contract with full social security and fiscal coverage, as foreseen by UK national legislation. The remuneration will be compliant with the rules of the ITN-MSCA, as by the Marie Skłodowska-Curie Actions Work Programme 2016-17,

