Job Description

Post Doc Research Associate in Outdoor Thermal Comfort

Salary: Grade 7
Contract: Full time, fixed term
School/Department: School of Arts and Architecture
Location: Canterbury Campus
Responsible to: Marialena Nikolopoulou

Job purpose

The School of Art and Architecture, University of is seeking to appoint a post-doc research associate in the area of sustainable built environment and urban climate for the new three-year **EPSRC**-funded project "**sChOOL YARD: Outdoor thermal comfort models**", along with the University of Kent, Brunel and Loughborough University, as well as UCL. Our team at Kent includes collaboration between Professor Marialena Nikolopoulou from the School of Art and Architecture and Dr Christos Efstratiou from the School of Computing.

Children spend 30% of their time at school and 30% of that time in playgrounds. But design of such spaces is insufficiently child-centric in terms of thermal comfort and heat health. Climate change further complicates the challenge of keeping children safe while encouraging outdoor activity. These issues highlight the urgent need to better understand children's thermal comfort in outdoor spaces, particularly schoolyards, to deliver spaces that are effective in promoting outdoor activity and keep children safe across the seasons, especially given the increasingly frequent hot periods.

Professor Marialena Nikolopoulou is leading the large collaborative project to develop model and guidelines that ensure outdoor spaces in schools provide comfort conditions which reflect children's thermal state, along with preferences and expectations and are resilient to climate change. The main research objectives are:

- To develop outdoor thermal comfort models for children.
- To develop thresholds for thermal comfort based on physical and physiological processes, while also accounting for different forms of adaptation and habituation specifically for children.
- To evaluate the potential impact of different climate change scenarios on the thermal performance of the outdoor environment in schools.
- To develop guidance for the design of the schools' open spaces to increase resilience, enhancing outdoor comfort and reducing energy consumption under different climate change scenarios.

The University of Kent leads the outdoor thermal comfort surveys in different schools across the UK, and the post requires frequent travel for conducting the seasonal comfort surveys.

Key accountabilities

- To develop the experimental equipment and field survey protocols required for the monitoring of outdoor thermal comfort conditions and surveys.
- To conduct the extensive outdoor comfort surveys in the different schools in the UK across different seasons.
- To analyse the extensive datasets collected from the monitoring campaigns for the development of comfort models.
- To work with advanced modelling tools for the development of tools and guidelines for the schools' open spaces.

Key duties

The following are the main duties for the job. Other duties, commensurate with the grading of the job, may also be assigned from time to time.

- Selection of suitable schools from different regions in the UK.
- Seasonal field surveys (environmental and physiological monitoring along with questionnaires).
- Statistical analysis of the extensive data sets from the field surveys.
- Leading role in the development of the empirical outdoor comfort models for children.
- Contribute to the development of the tools and guidelines for schools' open spaces.
- Representing the research team at meetings with external stakeholders and disseminating project findings in academic and non-academic relevant events.
- Preparation of conference papers and research journal outputs and contributing to the authoring and editing of other over-arching project outputs (tools, guidelines, website, blog posts, etc.).
- To engage in training programmes in the University (e.g. through Staff Development) which are consistent with your needs and aspirations and those of the project team and the host department.

Internal & external relationships

Internal: Academic and professional services staff within the School of Art and Architecture, School of Computing and wider University.

External: Members of the core research project team at Brunel University London, Loughborough University and UCL, individuals and organisations involved in delivery and collaboration with project activities (particularly the primary schools involved in the project, the Department for Education, along with other teams from the Advisory Board, CIBSE, Greater London Authority, London Climate Change Programme, research participants and other external stakeholders).

Health, safety & wellbeing considerations

This job involves undertaking duties which include the following health, safety and wellbeing considerations:

- Regular use of Screen Display Equipment
- Repetitive limb movements
- Travel across the UK
- Prolonged weather hazard exposure – wind/rain/snow/pollen/UV & sun
- Pressure to meet important deadlines such as might be inherent in high profile projects

Person specification

The person specification details the necessary skills, qualifications, experience or other attributes needed to carry out the job. Applications will be measured against the criteria published below.

Selection panels will be looking for clear evidence and examples in an application, or cover letter (where applicable), which back-up any assertions made in relation to each criterion.

Essential Criteria:

- PhD and Masters in a relevant specialism area or equivalent (A)
- Postgraduate research experience in the built environment (A, I)
- Specialist knowledge in thermal comfort (A, I)
- Experience with experimental equipment monitoring microclimatic conditions (A, I)
- Confident use of qualitative and quantitative methods of analysis (A, I)
- Record of high-quality publications commensurate with career stage (A)

- Excellent written and oral communication skills (A, I)
- Ability to work both independently and as part of a team (A, I)
- Excellent data analysis skills, including the use of appropriate data handling software such as Excel and SPSS (A, I)
- Ability to manage and complete complex and substantial projects to clear and agreed deadlines (A, I)
- Ability to travel for the extensive field surveys, to attend project meetings and dissemination events (I)
- Firm commitment to achieving the University's vision and values, with a passion for a transformative student experience and multidisciplinary, impactful research (I)
- Commitment to deliver equality, diversity and inclusivity in the day to day work of the role (I)

Assessment stage: A - Application; I - Interview; T - Test/presentation at interview stage