Title: Adaptation strategies for increasing heat and their contribution to reduce morbidity and mortality

Type of award  PhD Research Studentship
Department  Civil Engineering
Scholarship Details  Minimum £17,668 p.a. in 2022/23 subject to confirmation of eligibility and award
Duration  4 years
Eligibility  Home / EU/ Overseas students
Start Date  October 2023

PhD Topic Background/Description

Increasing temperature with climate change will have significant impacts on human health. The countries most affected lie in the global south. Sub-Saharan Africa is particularly vulnerable because (i) temperature increases will exceed global averages; (ii) poverty rates are high, and many people live in poor quality housing with limited protection against heat and work in manual labour; (iii) there is inadequate investment to support communities adapt to changing threats.

The University of Bristol is part of a consortium led by University of Cape Town (UCT) that has recently been awarded a four-year research grant to investigate the health effects of heat adaptation interventions in Africa. The project will measure the health effects of adaptation to heat in two key groups: people living in low-cost housing and those engaged in manual labour. We propose to test interventions for passive cooling in houses and communities, and behaviour change interventions for manual labour, including the development of heat warnings, which are largely absent in African countries. This PhD studentship will work on this project, with a focus on environmental engineering interventions on passive cooling, and development of heat warnings. This studentship will complement PhD studentships at UCT and University of Ghana.

This studentship will design interventions for passive cooling and design heat warning systems for use in Ghana and South Africa, based on successful interventions elsewhere and the climates and socio-demographics of Ghana and South Africa. The PhD student will design pilot interventions for passive cooling (for instance insulated roofs), identifying approaches that are affordable within the African context and test how effective these are in reducing night and daytime temperatures, through deployment of heat sensors. They will link with the health researchers on the project to assess what impact these have on selected health outcomes. The PhD student will contribute to the design of heat warning systems (these currently do not exist) and assess their effectiveness by monitoring public perception of warnings and compliance with recommended actions, as well as the reliability of forecasts upon which the warnings are based. It is expected that the PhD student will make extended trips to both Ghana and South Africa to support field studies and will also have access to training provided by the project for PhD students and post-doctoral
researchers. They will therefore have access to a cohort within this project as well as the cohort of studentships funded with the strategic fund.

**Candidate Requirements**

Applicants must hold/achieve a minimum of a master’s degree (or international equivalent) in an environmental science, climate science or environmental engineering discipline. Applicants without a Masters qualification may be considered on an exceptional basis, provided they hold a first-class undergraduate degree. Please note, acceptance will also depend on evidence of readiness to pursue a research degree.

If English is not your first language, you need to meet this profile level:  
**Profile E**  
Further information about [English language requirements and profile levels](#).

**Skills and knowledge required**

The studentship will cross over both engineering and climate science so the opportunity will best suit a candidate who has done a BSc and MSc that included aspects of climate change and engineering. Students will need to be prepared to learn new skills and acquire new knowledge in areas they are less familiar with.

**Scholarship Details**

The PhD Studentship for this research will receive a minimum stipend equivalent to the UKRI tax-free amount (currently £17,668 per annum for 22/23); an additional £2000 p.a. contribution to Research and Travel costs (pro-rated for part time or co-funded students). The funding will also cover tuition fees for the length of the programme at both Home and Overseas student rates.

Funding is subject to eligibility status and confirmation of award.

For eligibility and residence requirements please check the [UKRI UK Research and Innovation](https://www.ukri.org) website.

**Enquiries**

For questions about eligibility and the application process please contact came-pgr-admissions@bristol.ac.uk

Informal enquiries, please contact Prof Guy Howard guy.howard@bristol.ac.uk or Dr. Eunice Lo eunice.lo@bristol.ac.uk.

**Application Details**

To apply for this studentship, submit a PhD application using our [online application system](http://www.bristol.ac.uk/pg-howtoapply)

Please ensure that in the Funding section you tick “I would like to be considered for a funding award from the Civil Engineering Department” and specify the title of the scholarship in the “other” box below with the names of the supervisors.

Interested candidates should apply as soon as possible.

Closing date for applications **28 February 2023.**