



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

**Research Fellow in Resilient Health Systems and Infrastructure,
Faculty of Engineering and Physical Sciences**



Salary: Grade 7 (£41,064 – £48,822 p.a.) Due to funding restrictions, an appointment will not be made higher than £41,064 p.a.

Reporting to: Dr Nikolaos Nikitas

Reference: EPSCV1168

Closing date: Sunday 05 April 2026

Fixed term (12 months - to complete specific time limited work)

Location: Leeds main campus (with scope for hybrid working)

We are open to discussing flexible working arrangements.

Research Fellow in Resilient Health Systems and Infrastructure, School of Civil Engineering.

Are you an ambitious researcher looking for a career defining challenge? Do you have experience in modelling real systems and complex processes? Are you involved in impact-carrying research focused on climate resilience, digital twins, health infrastructure and the Global South? Do you want to further your career in one of the UK's leading research-intensive Universities?

Overview of the Role

We seek a motivated and versatile Research Fellow to help us deliver a novel simulation framework and practical digital tools to better understand and safeguard critical health facilities responding to weather extremes and associated compound hazards. You will be working as part of an interdisciplinary international consortium with a wide range of research and impact partners, spanning a wide range between engineering, health and social sciences. The role will be of critical importance for delivering the modelling/engineering-specific work package of a recently awarded high-calibre [NIHR project](#) on health systems, extreme weather, and business continuity. The project has a primary focus on low- and middle-income countries, with partners and stakeholders in Malawi, Tanzania, Uganda and Vietnam.

Working, among others, with Dr Nikolaos Nikitas, Professor in Structural Dynamics and Engineering, Dr Raffaele De Risi, Associate Professor in Civil Engineering, Dr Evangelos Pournaras, Professor in the School of Computer Science and Dr Paul Hutchings, Associate Professor in Water, Sanitation and Health, you will be conducting novel research and international impact activities across the project partner countries. These will include designing and delivering simulation studies of health facilities/systems, coordinating data-collection surveys, engaging with stakeholders, and supporting the establishment of an international learning partnership to share experiences and knowledge to enhance the relevant resilience agenda. The key contribution will focus on leading the development of novel digital twins simulating healthcare systems under extreme weather stressors, with the primary task of predicting and measuring the evolving system's resilience to help tailor appropriate interventions. Organising and attending international workshops will be part of the role.



With a PhD (or have submitted your thesis before taking up the role) in an engineering/computer-science/modelling related-area, you will have demonstrated strong theoretical understanding and skills to apply advanced modelling approaches within the context of resilience and complex socio-technical systems.

Main duties and responsibilities

- Designing and delivering original research and practical digital tools to support understanding and enhancing evolving health system resilience under extreme weather-related stressors;
- Contributing to the design and delivery of international learning forums bringing together implementation partners from five countries to share learning and generate participatory research insights;
- Supervising and organising data collection interventions, particularly regarding the vulnerability characteristics and performance of health facilities within the project countries;
- Undertaking simulation studies (e.g. employing Discrete Event Simulation and/or Digital Twin approaches) on extreme weather and healthcare resilience to generate predictive capacity and to enable more evidence-based, resilient healthcare systems;
- Conducting literature reviews and curating datasets for broader dissemination and support of relevant/follow-up work in the research field of healthcare system modelling;
- Contributing to data management within the project and preparing, with guidance, other project deliverables and presentations in a timely manner;
- Presenting work at project meetings and conferences nationally and internationally as required;
- Generating and pursuing independent and original research ideas in the appropriate subject area;
- Developing research objectives and proposals, and contributing to setting the direction of the research project and team, including preparing proposals for funding in collaboration with colleagues;
- Evaluating methods and techniques used and results obtained by other researchers, and relating such evaluations appropriately to your own research;
- Making a significant contribution to the dissemination of research results by publication in leading peer-reviewed journals and by presentation at national and international meetings;



- Working independently and as part of a larger team of researchers, both internally and externally, to develop new research links and collaborations and engage engaging in knowledge-transfer activities where appropriate;
- Maintaining your own continuing professional development and acting as a mentor to less experienced colleagues and partners as appropriate;
- Contributing to the training of both undergraduate and postgraduate students, including assisting with the supervision of projects in areas relevant to the project.

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.

Qualifications and skills

Essential

- A PhD (or have submitted your thesis before taking up the role) in a systems-modelling related area (e.g. Engineering, Computer Science, Mathematics). In the PhD, or related work, you will have demonstrated theoretical understanding of systemic resilience, the ability to learn and apply advanced simulation methodologies, and an aptitude to work on policy-relevant issues;
- Evidence of working with a range of numerical modelling tools and appropriate and significant coding skills for performing the core part of the simulation deliverables of the cited NIHR project;
- A strong background in resilience-relevant research in the health or other sectors, including experience in engaging and working with non-academic partners;
- Experience and/or knowledge of working with system vulnerability, extreme weather events, socio-technical and/or global healthcare systems;
- Good time management and planning skills, with the ability to meet tight deadlines and manage competing demands effectively without close support;
- A developing track record of peer-reviewed publications in international journals;
- Excellent communication skills, both written and verbal, and the ability to communicate your research at national and international conferences;
- A proven ability to work well both independently and in a team;
- A strong commitment to your own continuous professional development.



Desirable:

- Experience in pursuing external funding to support research;
- Relevant experience, professional networks and language skills with relevance to the engineering or health sectors in Malawi, Tanzania, Uganda or Vietnam;
- Experience in mobile application building and/or designing VR training environments;
- Experience in supervising undergraduate and postgraduate research projects.

How to apply

You can apply for this role online; more guidance can be found on our [How to Apply](#) information page. Applications should be submitted by **23:59** (UK time) on the advertised [closing date](#).

Contact information

To explore the post further or for any queries you may have, please contact:

[Dr Nikolaos Nikitas](#), Professor in Structural Dynamics and Engineering and/or
Email: N.Nikitas@leeds.ac.uk

[Dr Raffaele De Risi](#), Associate Professor in Civil Engineering and/or
Email: Raffaele.Derisi@bristol.ac.uk

[Dr Evangelos Pournaras](#), Professor of Trustworthy Distributed Intelligence and/or
Email: E.Pournaras@leeds.ac.uk

[Dr Paul Hutchings](#), Associate Professor in Water, Sanitation and Health and/or
Email: P.Hutchings@leeds.ac.uk

Additional information

Faculty and School Information

Further information is available on the research and teaching activities of the [Faculty of Engineering & Physical Sciences](#), and the [School of Civil Engineering](#).



Working at Leeds

We are a campus-based community and regular interaction with campus is an expectation of all roles in line with academic and service needs and the requirements of the role. We are also open to discussing flexible working arrangements. To find out more about the benefits of working at the University and what it is like to live and work in the Leeds area visit our [Working at Leeds](#) information page.

A diverse workforce

As an international research-intensive university, we welcome students and staff from all walks of life and from across the world. We foster an inclusive environment where all can flourish and prosper, and we are proud of our strong commitment to student education. Within the Faculty of Engineering and Physical Sciences we are dedicated to diversifying our community and we welcome the unique contributions that individuals can bring, and particularly encourage applications from, but not limited to Black, Asian and ethnically diverse people; people who identify as LGBT+; and people with disabilities. Candidates will always be selected based on merit and ability.

The Faculty of Engineering and Physical Sciences are proud to have been awarded the Athena SWAN [Silver](#) Award from the Equality Challenge Unit, the national body that promotes equality in the higher education sector. Our [equality and inclusion webpage](#) provides more information.

Information for disabled candidates

Information for disabled candidates, impairments or health conditions, including requesting alternative formats, can be found under the 'Accessibility' heading on our [How to Apply](#) information page or by getting in touch by emailing HR via hr@leeds.ac.uk.

Criminal Record Information Rehabilitation of Offenders Act 1974

A criminal record check is not required for this position. However, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our [Criminal Records](#) information page.



Salary Requirements of the Skilled Worker Visa Route

Please note that this post may be suitable for sponsorship under the Skilled Worker visa route but first-time applicants might need to qualify for salary concessions. For more information, please visit [the Government's Skilled Worker visa page](#).

For research and academic posts, we will consider eligibility under the Global Talent visa. For more information, please visit [the Government's page, Apply for the Global Talent visa](#).

