

Research Fellow

Who are we?

We are the University of Cambridge research centre in Singapore called Cambridge CARES, sponsored by the NRF CREATE program CAM.CREATE. Health-driven design for cities (HD4) is a collaborative research programme between the University of Cambridge, NTU and NUS within Cambridge CARES.

HD4 sits at the heart of Singapore's global research and development hub and paves the way for a sustainable and healthy city. It will undertake research in the following key areas: characterising the features of the environment that potentially impact health in Singapore; understanding the links between environmental factors, individual behaviour and health outcomes; observing the impact of environmental change on health in Singapore; simulating the impact of potential changes on the health of Singaporeans; and working with government agencies to co-develop data-rich public health tools.

The scientific techniques, technologies, tools and most importantly the knowledge gained through the programme will create a comprehensive systems view of how the urban environment affects population health in Singapore. The programme will train and enrich the talent pool of next generation of researchers, and benefit from local and international expertise and an innovative interdisciplinary research ecosystem. It will provide the basis for a data-rich public health framework, supporting the development of a healthy Singapore.

Work Package 1, led by Assoc. Prof. Rudi STOUFFS (NUS) and Assoc. Prof. Ronita Bardhan (Cambridge), targets the identification and assembly of existing geocoded environmental datasets and linkage to individual behaviour and health outcomes. We will use existing data to analyse the built and natural environments in Singapore and construct profiles of urban environmental exposures at both population and individual levels. We will compile and map a set of environmental indicators and discover urban environmental exposure archetypes. These will be linked to the record of each study participant's individual behaviour and health outcome.

Who are we looking for?

A postdoctoral research fellow to conduct the following work activities:

- Coordinate the work package activities and report on these activities and their results.
- Daily supervise other researchers and their activities in the work package.
- Take the lead in writing articles for publication in reputable journals.
- Collect open-source data and fuse this data towards a comprehensive and integrated city model of Singapore.
- Transform this data for use in a knowledge graph.
- Apply data-driven clustering techniques to define urban exposure archetypes.
- Apply urban analytics and deep learning to understand and demonstrate relevant data correlations.

What skills do you have?

- A doctoral degree in architecture, urban planning, building physics, and or a strongly related field from a reputable university.
- Expertise in urban science, building physics, city modelling and GIS.
- Well conversant in coding in Python and/ or R and data science
- Expertise in development of AI driven physics based deep learning models, with an emphasis on graph-oriented data and network science.
- Experience with writing and publishing articles in reputable scientific journals.

When is position available and for how long?

The position is available immediately initially as a fixed-term 1.5-year contract. The position will be offered subject to a probationary period of three months.

What can we offer you?

- A stimulating working-environment with friendly, highly motivated colleagues.
- Opportunities to develop and implement new ideas in a creative environment.
- A competitive salary in line with your skills and experience.
- A comprehensive medical insurance cover as part of your employment.

Please note that this post is mainly based in the CREATE Tower at NUS University Town, Singapore.

How to apply?

Please apply by uploading your CV and academic transcript to <https://jobs.swagapp.com/jobs/cambridge-cares-research-fellow-ai-researcher-for-hd4-rr>. If you have any questions, please feel free to reach out to the HR team at recruitment@cares.cam.ac.uk