

PhD Position in Urban Climate Modelling at NUS, Singapore

Join the Department of Geography at the National University of Singapore, a world-leading department, for a funded PhD position under the supervision of Drs Matthias Roth and Matei Georgescu at the Urban Climate Lab. The related project is part of the recently established CAWRAS research platform, focusing on enhancing urban weather and climate modelling for tropical environments.

Project title: Representing the Complexity of Singapore's Urban Environment and Understanding Its Effects on Weather Extremes

Objectives and key tasks: The PhD work aims to enhance urban climate modelling by developing a robust urban modelling scheme within next-generation weather and climate systems, tailored for tropical urban environments like Singapore. The candidate will implement Urban Canopy Models (UCM) in the LFRic model, customize these for tropical settings, and integrate high-resolution urban datasets. Additionally, the work includes developing subgrid-scale parameterizations for urban turbulence and fluxes, conducting simulations validated with observations, and collaborating on AI/ML model integration. These efforts will improve forecast accuracy, support disaster risk reduction, and facilitate urban climate adaptation and resilience planning.

Requirements:

- Strong background in atmospheric sciences, climate modelling, or related fields.
- Experience with numerical modelling and data analysis.
- Proficiency in programming languages such as Python or Fortran.

Application: Although funding for the position is already available, interested candidates need to apply through the respective Department of Geography website at: <https://fass.nus.edu.sg/geog/application/>. Application deadline is 15 May 2026 for the January 2027 intake. For more information please contact Matthias Roth at geomr@nus.edu.sg.

Department of Geography: <https://fass.nus.edu.sg/geog/>

Urban Climate Lab: <https://www.nusurbanclimate.com/>

CAWRAS: <https://ccrs.weather.gov.sg/climate-and-weather-research-programme-office/>