

**\*\* with apologies for cross-posting \*\***

Please see below for information on an exciting PhD opportunity which may be of interest to current and recent final year geography/urban planning students or MA/MSc students with skills in GIS and/or interests in residential urban design  
ESRC White Rose DTP Collaborative Award Studentships

The University of Sheffield School of Architecture and Sheffield Hallam University in collaboration with the Sheffield Housing Company are pleased to offer an exciting PhD opportunity for study starting October 2018

Project Title

**Climate change impacts and liveability within new housing developments**

Project Description

The Sheffield School of Architecture in collaboration with Sheffield Housing Company is delighted to host an ESRC White Rose Doctoral Training Partnership Studentship due to start in October 2018. The project seeks to better understand how greater sustainability and liveability within urban housing environments can be secured in the era of a low carbon circular economy.

Restructuring urban housing to deliver affordable sustainable homes while improving the liveability and sustainability of the built environment is one of the most pressing contemporary societal challenges in the UK and internationally.

New housing development needs to balance affordability against the use of building technologies and site designs that can mitigate their ecological impacts.

This project aims to demonstrate how urban microclimate modelling of the design of housing developments can generate effective descriptors and predictors of change in liveability and thus contribute to improved housing design outcomes (liveability and decarbonisation) by influencing the appraisal of project designs.

The proposed doctoral research project seeks to answer the following questions:

1. How might the interaction between energy driven housing stock restructuring and future climate change impact on the liveability of urban housing developments?
2. Can urban microclimate modelling of the environmental quality of spaces between buildings lead to measurable changes in the liveability of urban housing environments?
3. What new methods of assessment, prediction, reporting and appraisal of liveability and sustainability of housing developments can be developed through co-design with stakeholders?

The project will be in partnership with the Sheffield Housing Company (SHC). SHC is a unique joint venture between Sheffield City Council, Keepmoat Homes (a leading house builder) and Great Places Housing Group (a developer and registered provider of affordable housing). SHC is the biggest developer of new housing in the city.

The successful candidate will benefit from the assistance of SHC including access to its partners and the professional team of architects, landscape architects and engineers in carrying out their research. With the ability to review the performance of the multiple new-build housing estates already built over the past five years, and influence decision making on the next 1,000 homes currently in the design stage, this research project will enjoy unprecedented access to data and industry professionals that sets it apart from other PhDs. The Project Director of SHC, John Clephan, will be part of the supervision team. Academic supervision will be jointly provided by Dr Chengzhi Peng (School of Architecture, University of Sheffield) and Professor Ed Ferrari (Centre for Regional Economic and Social Research, Sheffield Hallam University).

The project relates to three WRDTP thematic pathways but is most centrally located within the Cities, Environment and Liveability (CEL) pathway, given its focus on healthy cities, sustainable urban development, connected communities and the growing importance of interactions between populations and climate change. The project is also situated well within the Data, Communication, and New Technologies (DCT) pathway through its emphasis on data landscape, 'datafication', visual analytics and data driven decision-making. In addition, the project resonates with the Sustainable Growth, Management and Economic Productivity (SMP) pathway given its explicit reference to high-level quantitative methods and the role of state regulation and public services in facilitating change.

For more information or to apply please contact Principal Supervisor

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Closing date for applications 5pm on 29 June 2018