ADDITIONAL INFORMATION

The Project

This project will develop new statistical and/or machine learning methods that can be used to incorporate *real time* data into agent-based models. These techniques, that are often referred to as **data assimilation**, are common in fields such as meteorology, but have yet to be adapted for use in agent-based models. The new methods will be applied to a model of daily mobility, termed the Dynamic Urban Simulation Technique (DUST), which is currently being developed. There are serious methodological barriers that must be overcome, but this research has the potential to produce a step change in the ability of models to create accurate short-term forecasts of social systems. This project is being funded through a €1.5M grant from the European Research Council. It was also highlighted by the ERC in their recent press release (https://erc.europa.eu/news/erc-2017-starting-grants-highlighted-projects).

You will gain experience in developing new techniques for integrating streams of data into simulations of urban systems and will have the opportunity to present the work at international academic conferences. You will also benefit from emersion in the exciting work taking place in LIDA and with our partners, and by working on a ground-breaking, prestigious ERC project. You should have an emerging track record in the publication of scholarly articles in peer-reviewed publications combined with excellent all-round skills as an independent researcher. Excellent communications skills are essential in order to work in a multidisciplinary research environment.

The Centre for Spatial Analysis and Policy, School of Geography

Leeds has a long tradition of providing cutting-edge analysis techniques and policy predictions based on the latest science and information. The Centre for Spatial Analysis and Policy (CSAP) builds on that tradition by developing innovative ways of looking at the world to understand business, society and the environment at different spatial scales and by providing applied or policy-related analyses of geographical behaviour. Leeds is ranked in the top five Geography departments in the UK for research power in REF2014 and awarded an 'Excellent' grading by HEFCE for the quality teaching.

http://www.geog.leeds.ac.uk/research/csap/

The Leeds Institute for Data Analytics (LIDA)

The Leeds Institute for Data Analytics (LIDA) was established in 2014 with major investments from the UK Research Councils and the University of Leeds. LIDA has developed state of the art physical and IT infrastructures to raise the bar in standards of data quality, access, protection and

exploitation. Growing through support from a network of local and national collaborators, LIDA is becoming a major powerhouse for research, civic engagement and business growth in the North of England and beyond.

www.lida.leeds.ac.uk