

Dual PhD Studentship between The University of Manchester and The University of Melbourne

Project: Developing an integrated modelling framework to assess city-wide socio-spatial and environmental impacts of autonomous vehicles.

Autonomous vehicles or self-driving cars are increasingly becoming part of the portfolio of advanced technologies that will shape transport and mobility and transform urban built environments. Like transport innovations in the past, this new form of transportation will not only change the way we travel and interact in cities, but it will also re-shape existing built environments and the supporting infrastructure, and dictate how we design and build new towns and cities. Autonomous vehicles will also have implications for transport-related energy consumption, land use (e.g. road networks and parking), pollution, climate change, air quality and overall public health outcomes in cities of tomorrow. It is therefore critical to examine these socio-spatial and environmental impacts of autonomous vehicles. In doing so, an approach that transcends siloed thinking by embracing an integrated and complex systems perspective is particularly relevant.

The objective of this PhD research is to develop and apply an integrated visioning and decision support framework to understand the city-wide socio-spatial and environmental impacts of the diffusions of autonomous vehicles. The successful PhD candidate will be expected to integrate insights from systems dynamics theory and urban transport governance to address the following research questions:

- What scenarios of adoption, diffusion and modes of employment of autonomous vehicles are possible and under what conditions?
- What will the socio-spatial and environmental impacts be of the adoption and diffusion scenarios of autonomous vehicles for the Manchester and Melbourne city-regions?
- What are the implications of the scenarios of impact for urban transport and mobility governance?

Manchester and Melbourne city-regions will be used as case study areas for this research. Relevant empirical work and model development and applications will be undertaken within these contexts under a joint supervision arrangement involving academics at The University of Manchester and the University of Melbourne.

Supervisory Team: Prof Richard Kingston (Manchester), Dr Ransford A. Acheampong (Manchester), Dr Crystal Legacy (Melbourne)

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What is a dual-award programme?

This dual-award programme offers candidates the opportunity to apply for a project with a strong supervisory team both in Manchester and in Melbourne. A dual award is a PhD programme which leads to separate awards from two partner institutions. PhD candidates will be registered at both Manchester and Melbourne and must complete all of the requirements of the PhD programme in both the home and partner university.

PhD candidates will begin their PhD in Manchester and will then spend at least 12 months in Melbourne. The amount of time spent at Manchester and Melbourne will be dependent upon the project and candidates will work with their supervisory team in the first year to set out the structure of the project.

PhD candidates on a dual-award programme can experience research at two quality institutions and applying for a dual-award programme will support you to develop a global perspective and will open the door to new job opportunities. Boost your intercultural skills and experience the opportunities studying in Melbourne and Manchester by applying to one of our available projects.

Funding

The University of Manchester has ten studentships available and is now offering candidates the opportunity to apply to one of the following projects to start in September 2020.

You will spend at least 12 months at each institution and will receive a dual PhD at the end of the 3.5 year programme.

Funding for the programme will include tuition fees, an annual stipend at the minimum Research Councils UK rate (around 15,000 for 2019/20), a research training grant and student travel to Melbourne.

Eligibility and how to apply:

<https://www.manchester.ac.uk/study/postgraduate-research/golden/melbourne/>