

**NTU DOCTORAL SCHOOL**

NOTTINGHAM TRENT UNIVERSITY 

*“Creating future innovators and impact for education, industry,  
the professions and society”*

**School of Science and  
Technology PhD  
Studentship –  
2017/18 Entry**

## **Professor Neil Mansfield - Optimisation of performance and well-being through taking breaks from driving**

Drivers and passengers are frequently required to travel for extended periods of time. At the end of a long journey drivers / passengers may feel fatigued and uncomfortable however good a seat design might be. In some cases those persons might have critical tasks to carry out such as performing safety critical processes, evacuate / treat vulnerable patients or perform physically demanding tasks. It is known that taking breaks from driving improves driver wellbeing. Taking short bouts of modest exercise further improves comfort and the benefits are maintained for hours after breaks. However, it remains unknown how the well-being, physical and cognitive performance of travellers may be affected by long journeys and how this could be optimised. This PhD will aim to understand how to maximise performance and well-being for those undertaking long journeys potentially in physically demanding conditions.

Research will be carried out using an approach including determining the state-of-the-art through literature review, and a series of lab and field trials using volunteer participants. The approach will use both subjective and objective methods to evaluate comfort, well-being and performance. Subjective methods may use qualitative methodologies and the application of questionnaires. Objective methods may use performance testing, cognitive agility tests and behavioural observation methods.

The successful candidate will be expected to communicate their work with external stakeholders such as funders and industry experts. They will be expected to be willing to present at conferences and writing associated conference and journals paper(s). The PhD will culminate in production of a thesis for examination.

### **Specific qualifications/subject areas required of the applicants for this project:**

Applicants are expected to be highly motivated and creative individuals with strong academic records, and in receipt of a BSc Hons (2:1 or above) (or UK equivalent according to Naric) in Engineering, Design, Ergonomics, Psychology or a related discipline.

**For informal discussion regarding the project, please contact:**

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