



The
University
Of
Sheffield.

EngD Opportunity: Integrated Assessment of Railway Drainage Infrastructure

This interdisciplinary project sponsored by Network Rail presents an exciting opportunity for doctoral study at the interface between disciplines and between academia and industry. The successful candidate will have a strong desire to conduct research that makes a significant difference to the world around them.

Background

Network Rail (NR) own and manage most of the rail infrastructure in the UK. Part of the infrastructure includes drainage systems used to direct rainwater away from train tracks. Impaired drainage infrastructure performance can cause unexpected flooding, which presents inherent safety risks for staff and passengers and severe financial impacts on Network Rail and train operating companies.

Advanced modelling and intelligent instrumentation to monitor drainage infrastructure can enable these diverse and currently “invisible” assets and associated risks to be managed more effectively.

This project will produce a novel framework for the implementation of optimised monitoring strategies for railway drainage infrastructure. It will also explore the potential for the development of new mobile technologies (particularly train-borne) and data infrastructure to address drainage needs.

The University of Sheffield has a long history of research into the performance of drainage systems operated by water companies and local authorities. The researchers at Sheffield form the largest group of urban water system researchers in the UK and have access to a wide range of laboratory and numerical facilities that would be available to this project. The successful applicant would therefore work within a large and vibrant research group where interaction between researchers is strongly encouraged.

This post would be suitable for candidates holding or anticipating the award of an MSc, or 1st Class or 2.1 Class undergraduate degree in an Engineering or Numerical/ Physical Sciences (e.g. Mathematics/Physics) discipline. Candidates should have an enthusiasm for research with potential to deploy research outputs in a practical environment.

Funding Notes

Home or EU applicants: Fully funded EngD plus TAX FREE maintenance award (£17,553 pa in 2017/18) for four years. *The candidate will have the opportunity to be based at Network Rail.*

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