

Network Rail-Sponsored PhD Studentship

Fully-funded PhD opportunity at the Institute of Railway Research (IRR) on:

Prediction of Longitudinal Rail Stress Distribution at Switches and Crossings (S&C)

The University of Huddersfield's Institute of Railway Research (IRR), in collaboration with Network Rail, is inviting expressions of interest for an industry-focused PhD opportunity.

Why This Research Matters?

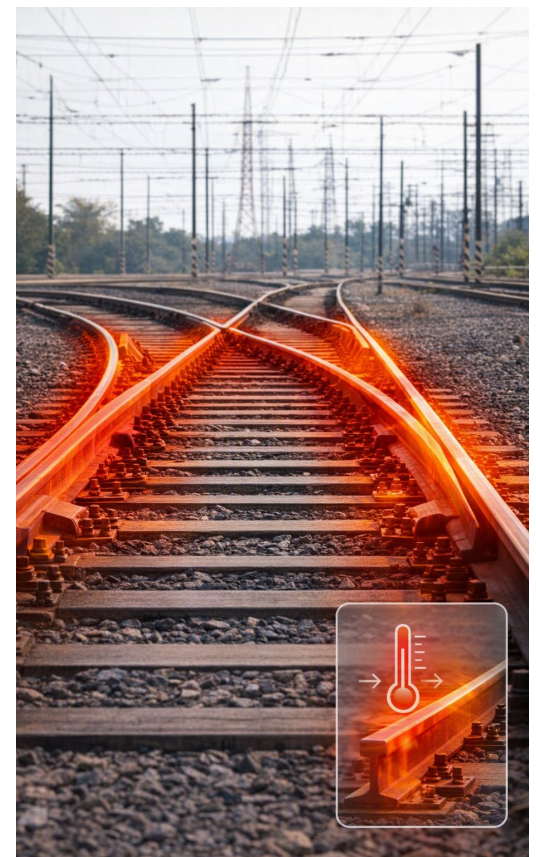
Switches and crossings are complex, high-risk parts of the railway. Their interaction with adjacent track can influence rail stress, increasing the risk of buckling in hot weather and rail or component failure in cold weather.

Project Aim

You'll develop complex, specialist finite-element modelling methods to investigate how rail stress develops during installation and changes throughout the service life of turnouts.

Industry Impact & Novelty

This research will develop advanced S&C finite-element modelling beyond what is currently available to the railways. The work you develop can directly impact the climate-resilience of the rail network while you gain valuable experience at the same time.



Studentship Benefits

- ✓ Tax-free stipend of **£22,000 per year for three years**
- ✓ **Network Rail** sponsorship and industrial collaboration
- ✓ Access to **real railway engineering** data and technical expertise
- ✓ Hands-on research experience on real-world infrastructure challenges
- ✓ Open to UK and international students

Expressions of interest with CV must be submitted by 31 October 2026

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