

**Faculty of Engineering  
Computer & Mathematical  
Sciences**  
School of Mechanical Engineering



**THE UNIVERSITY  
OF ADELAIDE**  
AUSTRALIA

## **SEEKING POST-DOCTORAL FELLOWS AND PHD STUDENTS IN ACOUSTICS/VIBRATIONS**

The School of Mechanical Engineering is currently seeking a Research Associate to participate in an Australian Research Council funded linkage project with the company Trackside Intelligence Pty Ltd (TrackIQ), to further develop their trackside system for monitoring the condition of wheel bearings on railway rolling stock. The current system uses an advanced microphone array, ancillary sensors and sophisticated signal processing to diagnose bearing faults in freight trains as they pass a monitoring station at normal operational speed. Other monitoring products use arrays of load cells and accelerometers to detect wheel defects in underway rail vehicles. TrackIQ has more than 100 systems installed on railway lines in 9 countries,

This ARC funded project involves laboratory tests, field trials in Australia & overseas, and the development of analytical models to underpin the further development of the technology and its extension to other, more complex types of operational rail vehicles, with goals of reduced maintenance costs and increased operational safety.

We are seeking a Research Associate with a PhD in acoustics, vibration, signal processing or a related discipline and a PhD student with an undergraduate degree in mechanical, mechatronic, aerospace or automotive engineering to participate in this project, for its duration of 3 years. A skills mix spanning use of multi-channel measurement systems and advanced analytical methods, is required for the RA.

We are also seeking two PhD students with a background in acoustics and/or engineering dynamics. Practical and analytical skills are required in the PhD candidates. Candidates maybe eligible for scholarships. PhD students will be provided with a top-up to their scholarship of \$9,500 per annum for 3 years. PhD students will need to apply for their own APA scholarships and will be supported in their applications by the University.

The project has the support of large Australian and international rail transport companies.

Further information contact Dr. Carl Howard.

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## **SEEKING MASTERS AND PHD STUDENTS IN ACOUSTICS AND VIBRATIONS**

The School of Mechanical Engineering is seeking students interested in post-graduate research in acoustics, vibration and control. Some examples of research that the school undertakes includes:

- Use of ultrasound to control cyanobacteria
- Adaptive-passive and active noise control and vibration isolation
- Vibro-acoustic treatment to improve transmission loss of panels
- Thermo-acoustics
- Vibration Condition Monitoring
- Analysis of the acoustic properties of nano-materials
- Condition monitoring of rolling element bearings using acoustics
- Energy scavenging
- Optimisation of aero-acoustics and flow control

If you are considering post-graduate study in these fields, please contact Dr. Carl Howard to discuss potential opportunities.

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