Bulldozers are frequently used to perform hazardous work tasks which expose operators to fatal risks. Teleoperation enables operators to perform work without direct exposure to these hazards. However, the physical separation of the operator from the bulldozer fundamentally alters their ability to perceive the machine and environment. This in turn can impact on operator performance and acceptance.

This seminar will present the results of a study conducted to determine how perception influences operator performance and acceptance in bulldozer teleoperation. Experiments were conducted with an enhanced perception cell capable of augmenting an existing bulldozer teleoperation system with high fidelity motion, visual and aural cues. Using this apparatus, the influences of individual and combined feedback cues on operator performance were examined. The experimental results are contextualized by the development of a perception-to-control model for the task performed. Results obtained suggest the prioritisation of visual information and task aligned visualisation while motion feedback may be beneficial under specific task conditions.

John is a part-time MPhil student under the supervision of Professor Ross McAree. He obtained his Bachelor of Mechanical Engineering at The University of Melbourne. John is a research engineer with the University of Queensland’s Smart Machines Group.

When
Friday, 9th May 2014, 3 – 4pm
Where
50-N202
Hawken Engineering Building, St Lucia
School of Mechanical and Mining Engineering

All interested persons are invited to attend
The seminar is free of charge – no RSVP is needed
Enquiries – Phone 3365 3714