



TO ALL AAS MEMBERS and interested parties

TECHNICAL MEETING

11:30am Thursday 25th August 2005

Some Counter-Intuitive Problems in Vibration

by

Dr Hugh Hunt

Cambridge University Engineering Department

Mechanical vibration is often taught as if it were a simple science. The mass-on-a-spring, uni-axial vibration of a rod, viscous damping, modal analysis problems - all these are the bread and butter of vibration science. But real vibrating systems just don't behave like this. There are pitfalls in even the simplest cases and some will be demonstrated: a tuning fork; a bottle of cola; a glass of champagne; a bending beam; a turbocharger wheel. All of these systems behave counter-intuitively. The "simple" examples above have simple explanations, and wouldn't it be great if all engineering problems were simple?

Dr. Hunt is a lecturer at Cambridge University where he has the divided interests of studying dynamical systems and the education of engineers in the design of dynamical systems. He has received substantial grants for the study of existing rail systems and the design of new ones. The work of his research group is focused on developing methods for reducing noise and vibration generated by railway trains, especially in underground tunnels. The project involves analytical and numerical modelling of the track and tunnel and their interaction with the ground. The models are validated against measurements made in and near railway tunnels. The project is of considerable interest to all urban railway operators in Europe and elsewhere.

The meeting will commence at **11:30am** in the H.H. Davis Room, Department of Mechanical Engineering, Engineering South Building. Parking is available on Victoria Drive.

Please RSVP to the School of Mechanical Engineering on 8303 5460 or Luke Zoontjens via luke.zoontjens@mecheng.adelaide.edu.au, to help us organise the event.

PLACE: H.H. Davis Room, Level 1, Eng. South Bldg., The University of Adelaide, Nth Terrace Campus.

DATE: Thursday 25th August, 2005

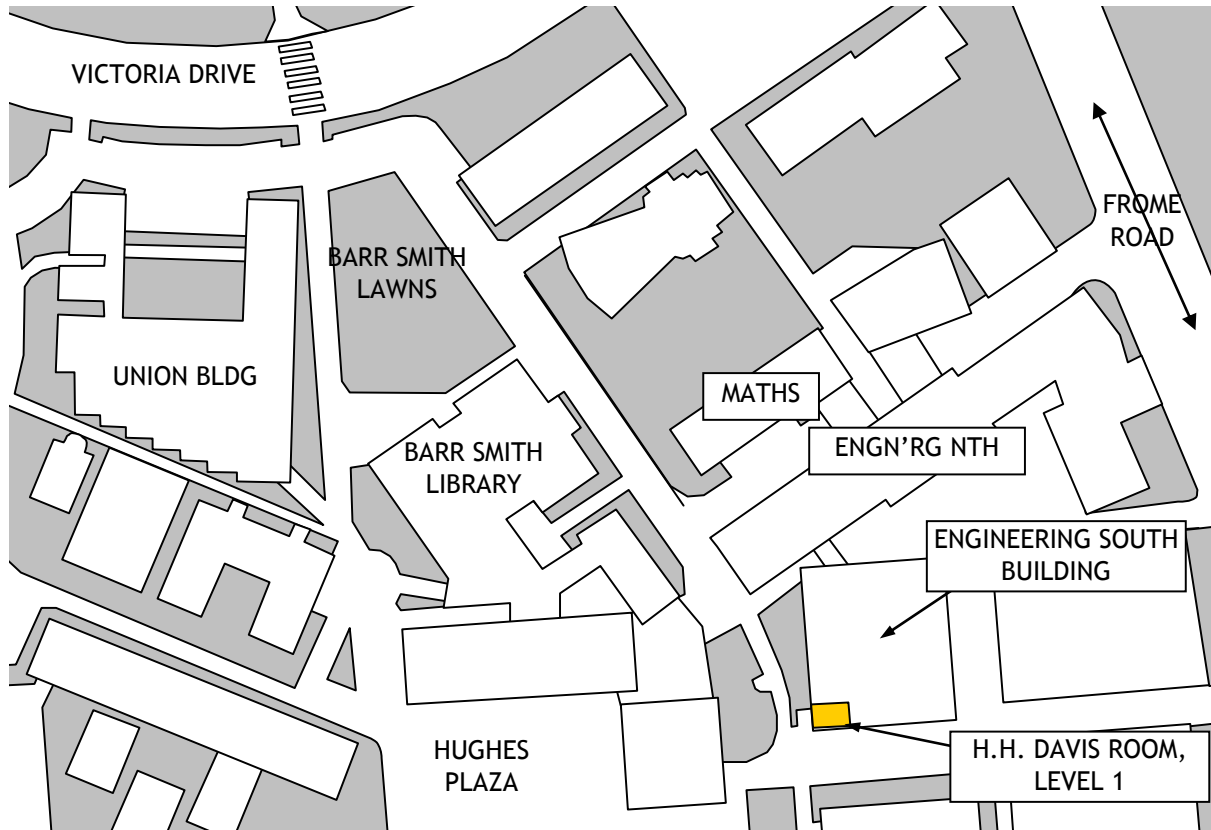
TIMING: 11:30am sharp in the H.H. Davis Room for the meeting.



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