



Australian Acoustical Society

A.C.N. 000 712 658
NEW SOUTH WALES DIVISION

TECHNICAL MEETING

Vibration Mitigation of a Bridge by use of a Tuned Mass Damper

Date: Wednesday 25th July 2012

Venue: National Acoustics Laboratories

Time: 6:30 pm

Speakers: **Andrew Parker, Associate – Structural Dynamics, SLR Consulting Australia Pty Ltd**
Joon-Pil Hwang, Senior Project Consultant – Structural Dynamics, SLR Consulting Australia Pty Ltd

Many bridge structures have suffered from greatly amplified dynamic responses to a range of excitation sources at or near their resonant frequencies. This in turn can cause undesirably high accelerations or displacements of the structure, which can then lead to elevated stresses and potential fatigue problems as well as discomfort to bridge users. Tuned mass dampers (TMDs) are often used in large structures such as tall towers to mitigate their dynamic responses to external excitations such as wind and ground vibration or internal excitations such as footfalls. This presentation discusses a case study of the measurement, modelling and analysis techniques implemented to design a TMD for reducing footfall vibration on a pedestrian/cycle bridge recently opened in Sydney.

Andrew has been with Heggies/SLR Consulting since 2006, and has extensive experience in the measurement of acoustic parameters including noise, vibration, strain and displacement and has a particular interest in the field of experimental modal analysis and underwater acoustics.

JP has been with Heggies/SLR Consulting for approximately 5 years in total, and has a wide range of experience encompassing fields such as wind/CFD to noise and vibration.

Both Andrew and JP are key members of SLR Consulting's Structural Dynamics group that focuses on investigation and assessment of complex structural dynamic issues such as vibration mitigation and fatigue life of structures using experimental and numerical methods.

**Members and guests of members are welcome to attend.
Refreshments will be provided.**

RSVP FOR CATERING PURPOSES BY

Monday 23rd July 2012 to Tracy Gowen by email tgowen@renzotonin.com.au