



Hong Kong Institute of  
Environmental Impact Assessment  
香港環境影響評估學會

Hong Kong Institute of Acoustics - Vibration Seminar 5:

## Railway Noise Control by Vibration Absorbers

(Jointly organized by CHKPWS and HKIOA, supported by MTRCL, HKIE MI, MMNC and HKIEIA)

Speaker: **David England**, MTR Corporation Ltd.  
**Wilson Ho & Banting Wong**, Wilson Acoustics Limited  
Venue: L2 Auditorium, MTR Headquarters Building, Kowloon Bay  
Time: 6:30-7:30pm, Thur, 14 Oct 2010 (Reception starts at 6:00pm)

A new type of vibration absorber designed to reduce rail vibration and noise radiation is currently under test and evaluation in Hong Kong. By the mechanism of Tuned Mass Damping (TMD), the vibration absorber comprises multiple oscillating masses and provides broadband damping (300 - 2500Hz). The oscillating masses are individually tuned to match the rail vibration modes at multiple frequencies to cover both vertical and lateral pin-pin resonance frequencies of the rail.

The vibration absorbers are installed at a curve section in the MTR operating railway tunnel for a 1-year trial in order to observe its noise reduction, long term performance and influence on the corrugation growth rate. Initial result indicates that the vibration absorber provides around 10dB vibration reduction and 4dB(A) overall noise reduction inside the tunnel. Such performance appears to be superior than the other rail vibration absorbers in the world.

**David England** is Engineering Manager- Permanent Way at MTR Corporation Limited responsible for the trackform design of new MTR railway lines.

**Wilson Ho** is the founder of Wilson Acoustics Limited. He invented shear-direction Tuned Mass Rail Damper to reduce both vertical and lateral rail vibrations.

**Banting Wong** is the design team leader in Wilson Acoustics Limited. He improved the damper structure design and conducted noise & vibration tests and fine tuning.

### Registration

The Seminar is free of charge to members of HKIOA, CHKPWS and supporting organisations. Non-members are welcome but will be charged at HK\$100 per head to cover administrative costs. For registration, please fill in and submit the form at <http://wal.hk/hkioa/vibration5.html>.

Registrations will be served in **first-come-first-served basis**. The maximum capacity of the venue is around 75 seats. Limited quota is assigned to individual supporting organizations. Enquiries please send to: [who@wal.hk](mailto:who@wal.hk).