



Australian Acoustical Society

A.C.N. 000 712 658

NEW SOUTH WALES DIVISION

TECHNICAL MEETING

MODELLING SOUNDSCAPES

The Date: Wednesday 24th March 2010

The Venue: NAL – 126 Greville Street, Chatswood

The Time: 6.30 pm

The Speaker: Dr Rob Bullen, Director, Wilkinson Murray

For architecture and design students, acoustics can easily be perceived as a boring exercise in selecting partitions, absorbers, etc. to meet an arbitrary set of design criteria - particularly if they are not designing an acoustically sexy space like a concert hall. (Could this apply to some practitioners as well?)

The exercise becomes more engaging and relevant if students can hear a reasonable simulation of sound in their space - which may be a restaurant, foyer, lecture theatre, yoga studio, etc - and then play with partition types, surface finishes and room dimensions to hear the results. This was the motivation behind the development of the SoundScape program - a software tool that I use in a number of courses. It allows students to select from a variety of sampled sounds and hear them reproduced in a room with selectable octave-band RT. The sources can be located behind a partition - a large number of partition types with defined 1/3-octave TL values can be selected, and others can be added. Any number of such sources can be heard simultaneously. The output can be calibrated to give (approximately) the correct SPL at a listening location.

Soundscape is not a replacement for dedicated room modelling programs like EASE and Bose Modeller. It is intended for spaces where this level of modelling is not justified, but good acoustics is still important - that is, most spaces.

The presentation will demonstrate some of the possibilities of the program, and give some details of the techniques for digital filtering and reverberation processing, and how they affect the realism of the output.

Although developed as a tool for students, Soundscape may have other uses. Using simulated environments to demonstrate the impact of environmental noise is notoriously dangerous, but there may be cases where such simulations would be appropriate.

And then there are questions such as "How accurately can we really measure, for example, construction noise in the presence of traffic?". We'll investigate this by trying to estimate the level of construction noise at various levels with a background of traffic noise, and then turning off the traffic to see how well we did. Bring your SLM!

RSVP FOR CATERING PURPOSES BY

Tuesday 23 March 2010 to Neil Gross by email

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