



Australian Acoustical Society
Queensland Division

CHRISTMAS PARTY and Technical Meeting 10 December 2008

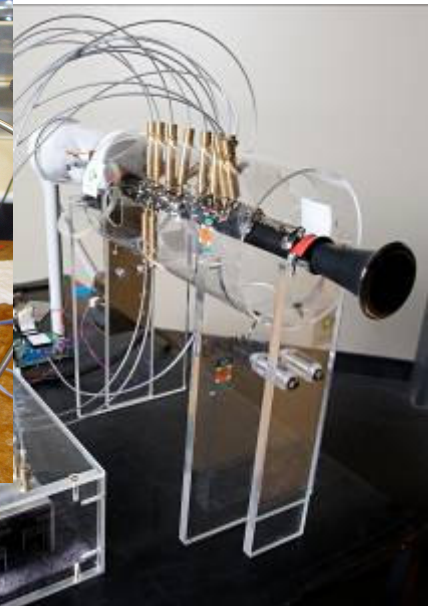
The Wisden Room, Queensland Cricketers Club

The acoustics of musical wind instruments - and of musicians

Joe Wolfe, School of Physics, The University of New South Wales, Sydney.

Simplified descriptions of musical wind instruments are often used to describe standing waves in ducts. Musicians, of course, are interested in subtle and complex higher order effects, many of which introduce interesting physical and acoustical effects. Wind instruments (and the voice) have a strongly nonlinear valve or control oscillator (reed, player's lips, singer's vocal folds) coupled to a nearly linear duct (the instrument bore or the singer's vocal tract). The music acoustic group at UNSW has developed techniques for measurement of the acoustical properties of musical instruments and has provided databases for wind instruments that have allowed the development of physical models precise enough to make predictions and analyses useful to makers and players. The group is able to measure the response of vocal tracts while they are in use for singing and playing. Applications will be presented, including how some singers modify the resonances of the vocal tract to increase their output power and/or change their timbre. The manner in which the player's vocal tract is involved in wind instruments, including those in which the tract has a spectacular influence on timbre (the didgeridu) and on pitch (saxophones and clarinets) will also be examined.

Joe Wolfe is a Professor of Physics at the University of New South Wales in Sydney where he leads the music acoustics research group (www.phys.unsw.edu.au/music). He is a Fellow of the Australian Acoustical Society and a winner of la Médaille Étrangère of the French Acoustical Society. The work to be presented is the result of collaborations with UNSW colleague John Smith and a number of students and other collaborators. Joe is also a musician and composer. His most notorious orchestral work is *The Stairway Suite*, a set of symphonic variations on *Stairway to Heaven*, each in the style of a different classical composer.





Australian Acoustical Society
Queensland Division

CHRISTMAS PARTY and Technical Meeting 10 December 2008

The Wisden Room, Queensland Cricketers Club

Date & Time: 6:30pm, Wednesday 10 December 2008

Venue: The Wisden Room,
Queensland Cricketers Club,
411 Vulture Street, East Brisbane

Parking is available in the QCC Vulture Street carpark, East Brisbane. Entrance to the carpark is from Vulture Street (opposite Gabba Gate 5 and adjacent to the 7-11 Convenience Store).

Dress Regulations apply: a high standard of smart casual clothing is required within the QCC. For details of QCC dress regulations, please contact AAS Queensland Secretary.

COST: \$30.00 Members

\$45.00 Guests

RSVP: Wednesday 3 December 2008

Richard Devereaux: AAS QLD Secretary

rdevereux@acran.com.au

