

Speech intelligibility in a highly reverberant cathedral*

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ABSTRACT

For more than twenty years the congregation of The Cathedral of St Paul in Wellington have complained about poor speech intelligibility. A recent suggestion from the client team, to resolve this long-standing issue was to increase the absorption in the space to make it more suited for speech communication. This approach would have resulted in destroying one of Wellington's highly desired venues for Choral and Organ Music. Using simulations of organ and choral music as well as speech in different reverberant conditions, we demonstrated to the client team that it is possible to provide adequate speech intelligibility, whilst preserving the conditions desired for Choral and Organ music. The result is a new sound system using highly directional loudspeakers that provide intelligible speech throughout the Cathedral. The methodologies used will be discussed in the paper.

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