



Resonate Acoustics
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Matthew Stead

Managing Director

Qualifications

Bachelor of Mechanical Engineering (First Class Honours)
Master of Engineering Science

Affiliations

Current Chairman Association of Australian Acoustical Consultants
ASHRAE Technical Committee member (TC2.6) Acoustics, International Voting Member
Member IOA, Member AIRAH, Member ASHRAE
Former Federal Councillor Australian Acoustical Society

Awards

WH Ahearn Award for best paper published in AIRAH Journal in 1999.
2008 Australian Acoustical Society Excellence Award - MCEM
2009 Victorian Engineering Excellence Award for infrastructure projects up to \$20M – MCEM

Career History

Matthew is the Director of Resonate Acoustics. He has over 25 years experience as a professional acoustic consultant in Adelaide, Melbourne and a year in the USA with an internationally recognised noise and vibration consultancy. Matthew has had roles, leading and establishing offices in Melbourne and across Australia. He specialises in acoustics with niche expertise in a variety of areas such as environmental acoustics, transportation noise and vibration.

Specialist Areas of Expertise

Environmental noise prediction and assessment (traffic noise, planning and noise control act).
Vibration isolation and transmission within buildings, particularly for specialist uses.
Noise assessment (environmental and occupational) identification of noise sources.

Contact details

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Publications and Technical Papers

- Matthew Stead and Jason Turner, 'Fan generated pressure disturbance; an example of its discovery, source and rectification'. AIRAH Conference (Adelaide, 1996).
- Matthew Stead, 'Principals of Acoustic Isolation – Isolation of Equipment, Duct and Pipework and Structure Borne Noise', AIRAH Mini Conference (Victoria, 1998) (reprinted in AIRAH journal 1999).
- Hal Amick & Matthew Stead, 'Vibration Sensitivity of a Laboratory Bench Microscope', Presented at the First Pan-American/Iberian Meeting on Acoustics; 144th Meeting of the Acoustical Society of America (Cancun, Mexico, 2002).
- Matthew Stead, 'Changes to the Sound Insulation Provisions of the Building Code of Australia', Australian Institute of Building, 5th August 2004, Mt Gambier.
- Matthew Stead, 'What's all the noise about? Sound Insulation Provisions of the Building Code of Australia', Australian Institute of Building Surveyors, 26th February 2005
- Martti Warpenius & Matthew Stead, 'Road Design Challenges Across Australian, A Noise Perspective', August 2006, Queensland Main Roads Technical Forum 2006.
- Matthew Stead, Darren Jurevicius and Philip Agnew, 'Correlation of rural highway road traffic noise with vehicle speed and commercial vehicle percentages for the day and night time periods' 14th International Congress on Sound and Vibration (ICSV14), Cairns, Australia, 9-12 July, 2007.
- Matthew Stead, 'Monash Centre for Electron Microscopy Noise and Vibration Design', Australian Acoustical Society Technical Meeting, 14th November 2007.
- Marion Burgess and Matthew Stead, 'Education for professional career in acoustics', Acoustics 08, July 2008 Paris, Acoustical Society of America, ASA, the European Acoustics Association, EAA, and the Société Française d'Acoustique, SFA..
- Matthew Stead & Peter Swift, 'Noise and Vibration Sources and Mitigation in Green Buildings', Council of Tall Buildings and Urban Habitat (CTBUH) 2008 - Tall and Green, 5 March 2008.
- Marion Burgess and Matthew Stead, 'Sustainability of acoustics education in Australia', Proceedings of ACOUSTICS 2008 24-26 November 2008, Geelong, Australia.
- Damien Leclercq, Jonathan Cooper and Matthew Stead, 'The use of microphone windshields for outdoors noise measurements', Proceedings of ACOUSTICS 2008 24-26 November 2008, Geelong, Australia.
- Matthew Stead, Simon Moore, Jon Cooper and Andrew Mitchell, 'Technical Note, Noise and Vibration Design of the Monash, Centre for Electron Microscopy Building', Acoustics Australia, 28 - Vol. 37 April (2009) No. 1.
- Matthew Stead & Peter Swift, 'Architects Handbook 09/10, Noise and Buildings', Australian Institute of Architects, 2009.

Project Experience

Matthew has been involved in a wide range of projects as an acoustic consultant, some of which include:

Roads and traffic noise

- EastLink (Mitcham to Frankston Freeway, Vic) design work for ConnectEast consortium. This project involves a 45 km long Freeway which be a toll road. Bassett Acoustics is engaged by the successful team tendering for the construction and operation of the freeway. Traffic noise levels were predicted based on a comprehensive three dimensional noise model. Preliminary barrier heights have been designed for the length of the freeway.
- West Connex peer review for potential impact on Royal Prince Alfred Hospital.
- South Road Superway Project Director for the AECOM acoustic consultancy for tender evaluation stage.
- Northern Expressway – Project Director for the AECOM acoustic consultancy through the environmental impacts to project delivery stages
- South Road / ANZAC Highway underpass through the environmental impacts to project delivery stages
- South Road Tram overpass environmental impact assessment stage
- Marion Collector Road – Preliminary study of proposed road incorporating an assessment of noise from a proposed road extension.
- Eastern Freeway Extension, Springvale Road to Maroondah Highway and Ringwood Bypass (Vic) - Preliminary barrier heights design.
- Eastern Freeway Extension (Vic), Noise Monitoring, Bulleen Road to Elgar Road.
- South Gippsland Highway realignment, Koonwarra and Blackspur (Vic) – Traffic noise and barrier assessment.
- CityLink Grant Street Tunnel (Vic). Assessment of construction noise and noise reduction.
- Draft Transport Noise Policy Framework - Technical Review of Draft Transport Noise Policy Framework for Department of Transport and Urban Planning (SA).

Railway noise and vibration

- Peer Review of Melbourne Metro Rail Project and expert advice to University of Melbourne.
- Peer Review of Sydney Light Rail and expert advice to University of New South Wales.
- Peer Review of Cross River Rail Project and expert advice to Queensland University of Technology.

Ports and port facilities

- Victorian Channel Authority – Channel Deepening SEES and EES projects
- Grainco Terminal, Appleton Dock (Vic) - Grain processing/ handling terminal at Appleton dock.
- Victoria Dock - Noise assessment of environmental noise from the proposed redeveloped Victoria Dock (Vic).
- Outer Harbor, Grain handling facility – assessment of noise from proposed port and grain handling facility for AusBulk.

Airport and aircraft related noise

- Residential Building Acoustic Design – Melbourne Airport - numerous assessments of aircraft noise for residential and commercial buildings around the Melbourne airport.

- RAAF Edinburgh residential land usage - Investigation into land use and advice on residential construction guidelines for areas south of RAAF Edinburgh.

Government, planning and policy

- Assistance with Adelaide City Council Development Plan noise provisions 2006. Update of Development Plan provisions 2010.
- Training and guidelines to support Adelaide City Council Development Plan
- Sound Insulation Guidelines for Building Code of Australia
- Scoping Study into Building Code of Australia External noise provisions
- Review of Building Code of Australia External noise provisions (as Chairman of AAAC)

Health Care

- Women's and Children's Hospital (SA) – Construction phase acoustics for the new birthing suite, wards and associated consulting suites.
- Glenside Mental Health (SA) – full acoustic consultancy services for new mental health campus.
- Flinders Medical Centre Mental Health Unit (SA) – full acoustic consultancy services for new mental health building.
- Cabrini Hospital (Vic) – assessment of environmental noise associated with hospital redevelopment.
- St John of God Hospital Geelong (Vic) – environmental noise assessment for new hospital development.

Educational

- RMIT University, City Campus, MicroNano Research Facility (MNRF) – Vibration and Acoustics
- Flinders Medical Centre / Flinders University, Margaret Tobin Mental Health – full acoustic consultancy services for new mental health campus.
- Central Queensland University, Appleton Institute – Acoustic Design
- University of Sydney, AIN-PHYSICS BUILDING – Adviser Vibration & Acoustics
- Regency Tafe - Education | Mining and Engineering Industry Training Centre – Acoustic Design
- Flinders University School Of Optometry And Vision Science - Acoustic Design
- Equine Health and Performance Centre (EH&PC) – Acoustic Design

Vibration

- Seagate Research Facility, Pittsburgh USA (low vibration microelectronics facility): Rectification of excessive vibration from mechanical plant, structural stiffness and vibration level testing.
- Intel Phoenix, Albuquerque, San Jose USA: various assessments of low vibration levels in existing and new microelectronics facilities
- AMD, Austin Texas USA: Assessment of vibration levels in an existing facility and prediction of future vibration levels with the addition of new plant.
- National Institute of Standards and Technology, Boulder, USA: Assessment of vibration associated with proposed chiller replacement project.
- Numerous Projects Related to Ground Vibration from blasting, piling rock breaker and vibratory compactor operation vibration.

Mining, quarries, civil works, landfill and waste transfer stations

- McMillan Contracting – ground vibration assessments
- Southern Titanium NL - assessment of environmental noise issues associated with proposed new mineral processing plant near Mindarie.
- Angas Zinc Mine, environmental approvals for the new mine located near to Strathalbyn.

Performing arts venues

- Frankston & Mandurah Reading Cinemas
- Queensland Cultural Centre Stage 5.
- Northern Territory University, Speech and Music Auditorium
- University of Central Queensland Theatre complex (QLD)
- Camberwell Grammar School Performing Arts Centre (VIC)

Court buildings

- Commonwealth Law Courts Project, Victoria. Full involvement from design to construction (Walter Construction) and commissioning.
- Perth CDB Courts Project, WA. Full involvement for design of courts building for PPP consortium.
- Victorian County Courts. Full involvement with privately funded and operated court complex developed by Multiplex and The Liberty Group.

Wind farms, gas supply, transformers / transmission lines and power generation facilities

- Myponga Wind Farm, revised design, community consultation and updated environmental reporting.
- Review and feedback to EPA on South Australian Wind Farm Guidelines.
- Assistance with research into windshield performance for input into South Australian Wind Farm Guidelines.
- ABB MurrayLink Converter Site - post construction environmental noise measurements.
- Adelaide - Moomba Gas Pipeline, natural gas compressor stations - on site noise reduction to local work areas and accommodation.

Defence

- DSTO Rationalisation Explosives Test Facility / Victoria and South Australia – DSTO Building 120: Measurement of test blast noise levels. Prediction of noise from explosive test facility being relocated from DSTO Maribyrnong to DSTO Edinburgh
- Joint Defence Facilities Pine Gap (NT): Noise and vibration assessment related to diesel generators. Advice on noise reduction to reduce low frequency noise (31.5 Hz octave band noise). Initial selection of exhaust attenuators.
- Lancelin Defence Training Area: This project involved the monitoring of noise and vibration from explosive demolition training at nominated sites including the boundaries of the surrounding buffer area and 2 at more distant areas of human settlement. The project involved the review of applicable noise, vibration and blast overpressure criteria. This included Australian Standards, Western Australia Environmental Protection (Noise) Regulations and state and federal occupational noise legislation.
- AAF Base Edinburgh: Control Tower: Demonstrates experience in assessment of operational and ground based aircraft noise. This includes run-up and ground based activities.

- Victoria Police Training Centre / Victoria: Acoustical design of training facility to ensure acceptable environmental gunshot noise levels.

Water and water treatment facilities

- SA Water – Heathfield Waste Water Treatment Plant – assessment of operation noise.
- Euston Water Supply Project – assessment of construction and operation noise.
- Lake Bellfield Causeway - assessment of construction noise.

Professional History

- August 2011 to present – Director, Resonate Acoustics
- December 2009 to August 2011 – AECOM Global Practice Lead - Acoustics
- July 2007 to December 2009 - AECOM Specialist Groups Director – Buildings and National Manager of Acoustics, Bassett Acoustics (promotion to Director of Specialist Groups). Note Bassett changed its name to AECOM in October 2009.
- January 2005 to June 2007 - Principal of Bassett, National Manager of Acoustics, Bassett Acoustics (promotion to role of principal)
- July 2002 to January 2005 - Associate, National Manager of Acoustics, Bassett Acoustics (promotion to National Manager role)
- July 2001 to June 2002 - Secondment to Colin Gordon and Associates, San Francisco USA. My role involved working as a senior acoustic consultant on a range of projects.
- July 1998 to June 2001 - Associate, Manager Acoustics Victoria with Bassett Acoustics. Promotion to role of associate)
- 1 June 1995 to June 1998 - Senior Acoustical Engineer, Manager Bassett Acoustics Victoria (division of Bassett Consulting Engineers)
- 4 March 1992 to 31 May 1995 - Acoustical Engineer, Bassett Consulting Engineers – Adelaide