

# **Instructions for Conference Paper Presenters**

## Timing for General Presentations

All papers in the conference are arranged into 20 minute slots, which allows for 15 minutes of presentation, 3 minutes for discussion, and 2 minutes to change over between presenters and allows delegates to move between conference rooms.

0 min	Begin presentation.
7.5 min	Half way warning sound.
13 min	Two-minute warning sound, presenters should conclude their presentation.
15 min	Presenters must immediately stop their presentation, regardless if they have
	finished or not. The session chair will interrupt all presenters at this time to ensure
	that the conference schedule runs on time.
	The session chair will open the floor for questions.
18 min	End of questions, and presentation.
	The presenter for the next time-slot will set-up.
20 min	End of time-slot for the presentation.

## Timing for Plenary Keynote Presentations

The plenary keynote papers in the conference are arranged into 60 minute slots, which allows for 50 minutes of presentation and 10 minutes for discussion. After every plenary keynote presentation is a coffee / tea break, and this time will be used to allow delegates to leave the lecture room.

0 min	Start presentation.
48 min	Two-minute warning sound, keynote presenters should conclude

- 48 min Two-minute warning sound, keynote presenters should conclude their presentation.
- 50 min Keynote presenters must immediately finish their presentation. The session chair will open the floor for questions.
- 60 min End of questions, and presentation. End of time-slot for the presentation.









# Sixth International Symposium on Active Noise and Vibration Control

## **Technical Equipment & Organisational Details**

All lecture rooms will be equipped with a computer video projector and a desktop computer (Microsoft Windows XP) that has a USB port and a CD-ROM drive to enable the transfer of presentations onto the computer.

All presentations must be prepared for viewing using either:

- Microsoft PowerPoint 2002, or
- Adobe Acrobat Reader (version 6.0)

without exception. Also note that there is no possibility to install additional software (codecs, viewers, etc) on the computers that are provided for the presentations. Overhead or slide projectors cannot be used. All lecture theatres have amplified audio playback from the desktop computer.

Please provide your presentation on a CD or a USB-stick. We recommend that you transfer your presentation to the computer in the respective lecture room in advance of the beginning of each session. A good time for this is during the coffee breaks. Each computer will have folders identified with the particular sessions taking place at each day. The staff member in the room will help you to copy your file into the corresponding folder.

In general, we urge you NOT to use your own laptop computer as this takes additional time for replugging, rebooting, adjusting the resolution etc.

However, some presenters may have specific video or audio presentations that they wish to show, in which case it is preferable that they provide their own laptop that has all the necessary video / audio playing software installed.

Please identify yourself to the sessions' chairperson at the beginning of each technical session so that he/she can know in advance that your presentation will take place according to the schedule.

Please be present in your presentation room at least 5 minutes before the beginning of your allotted session.

A laser pointer will be provided in each presentation room, along with glasses of water.

An additional room with a computer projector and desktop computer will also be available for presenters to practice their seminars.







Page 2 of 2

		Monday 18 Septembe	ER	
Mon 18	REGISTRATION: FOYER			
08:00 Mon 18 08:45	0 n 18 CONFERENCE OPENING: LG29 Mike Kidner and Car 5			
Mon 18 09:00	KEYNOTE LECTURE: LG29 Digital Signal Processing Algorithms And Implementations On Active Noise Control Systems <b>Sen Kuo</b> <i>Chair: Carl Howard</i>			
Mon 18	on 18 TEA / COFFEE BREAK, FOYER			
10.00	LG28	LG29	LG24	
	Active Control in Vehicles Ingo Borchers	Active Structural Acoustic Control Arthur Berkhoff	Smart materials and Structures Alain Berry	
Mon 18 10:30	Feedback noise control of low frequency noise in a station-wagon using a field programmable analog array (fpaa) Carl Howard paper: a06_103.pdf p.6	Active modal control of radiated noise of a submarine hull Xia Pan paper: a06_109.pdf p.1	Flexural vibration of a smart laminated fgm plate with initial imperfections Jie Yang 1 paper: a06_006.pdf p.29	
Mon 18 10:50	Interior active noise control in turbofan aircraft: characterisation of the test-article and numerical simulation for optimal actuator positioning by genetic algorithms Francesco Franco paper: a06_024.pdf p.6	A high-authority–low- authority control strategy for coupled aircraft-style bays Noah Schiller paper: a06_032.pdf p.1	<ul> <li>Distributed</li> <li>magnetorheological, MR, fluid damper for active structural vibration control</li> <li>Ley Chen paper: a06_030.pdf p.29</li> </ul>	
Mon 18 11:10	Optimization of actuator configuration for the reduction of structure-borne noise in automobiles Patrice Masson paper: a06_047.pdf p.7	Stability and controllability of velocity feedback loops with triangularly shaped piezoelectric actuators Paolo Gardonio paper: a06_055.pdf p.1	Boeing's morphing aerostructure for jet noise reduction James Mabe paper: a06_106.pdf p.30	
Mon 18 11:30	Sound profiling active noise control system Christian Carme paper: a06_058.pdf p.7	Simultaneous noise and vibration control using active structural acoustic control inside an enclosed stiffened cylinder with floor structure Marc Simpson paper: a06_071.pdf p.1	Experimental evaluation of MR controllable friction damper Bogdan Sapinski paper: a06_104.pdf p.30	
Mon 18 11:50	An investigation into active synchrophasing for cabin noise reduction in propeller aircraft David Blunt paper: a06_087.pdf p.7	Design of radiation mode sensors by means of piezoelectric fibers Stanislaw Pietrzko paper: a06_118.pdf p.1	<ul> <li>Negative capacitance shunts for vibration suppression: wave based tuning and reactive input</li> <li>power Kenneth Cunefare paper: a06_110.pdf p.30</li> </ul>	

LUNCH, Engineering building

		WIONDAT TO SET TEWIDER		
Mon 18 13:10	9 mplexity, Active Control, Prototyping.			
Mon 18 14:10	TEA / COFFEE BREAK, FOYER			
	LG28	LG29	LG24	
	Active Sound Control Francesco Franco	<b>Decentralised Control</b> Dunant Halim	Active Control in Ducts Stanislaw Pietrzko	
Mon 18 14:40	Feasibility study on active noise control of moving source in view using directional microphones and directional speakers Masaharu Nishimura paper: a06_045.pdf p.9	Smart panel with decentralised inertial actuator active dampers Cristobal Gonzalez Diaz paper: a06_031.pdf p.19	An analysis of the active silencer with and without side-branch resonator Wu Bin paper: a06_021.pdf p.5	
Mon 18 15:00	Feedback control of broadband axial fan noise for global attenuation Scott Sommerfeldt paper: a06_064.pdf p.9	Decentralised control using multiple velocity feedback loops Oliver Baumann paper: a06_052.pdf p.19	Active noise control for large exhaust pipe Christian Carme paper: a06_057.pdf p.5	
Mon 18 15:20	Limits on active noise control performance at virtual error sensors Dick Petersen paper: a06_090.pdf p.9	Performance and stability properties of a smart double panel with decentralized active dampers Paolo Gardonio paper: a06_059.pdf p.20	Decentralised feedback control for active absorption in flow ducts Marie-annick Galland paper: a06_098.pdf p.5	
Mon 18 15:40	Active control of sound transmission into an acoustic cavity surrounded by multiple flexible structural boundaries Guoyong Jin paper: a06_010.pdf p.8			
Mon 18 18:00	Conference	Banquet, Stamford Grand I	Hotel, Glenelg	

## Monday 18 September

Continued overleaf...

		TUESDAY 19 SEPTEMBER		
Tue 19 09:00	KEYNOTE LECTURE: LG29 Using Energy Based Conrol To Achieve Global Attenuation <b>Scott Sommerfeldt</b> <i>Chair: Colin Hansen</i>			
Tue 19 10:00	TEA / COFFEE BREAK, FOYER			
	LG28	LG29	LG24	
	Feedback control Rohin Wood	Signal Processing and Algorithms I Stephen Elliott	Active Vibration Control I Anthony Zander	
Tue 19 10:30	Optimal truncated model for flexible structure system within a frequency band Dunant Halim paper: a06_028.pdf p.21	Frequency-domain broadband active sound quality control algorithms Sen Kuo paper: a06_008.pdf p.26	Material-adapted vibro-acoustic simulation concepts for actively damped lightweight structures Martin Dannemann paper: a06_011.pdf p.12	
Tue 19 10:50	The mechanisms of feedback control active ear defenders Roshun Paurobally paper: a06_042.pdf p.21	The implementation of delayless sub-band active noise control algorithms Xiaojun Qiu paper: a06_017.pdf p.26	Optimal vibration control for overhung rotor system using actively flexible pedestal Kazuki Mizutani paper: a06.026.pdf p.13	
Tue 19 11:10	A semi-active friction device controlled by nonlinear feedbacks and phase-shift compensation Patrice Masson paper: a06_051.pdf p.22	Behaviour of the films adaptive algorithm Branislav Vuksanovic paper: a06_023.pdf p.26	Active damping of a vibrating string Edgar Berdahl paper: a06_072.pdf p.14	
Tue 19 11:30	Nonresonant response of van der pol-duffing oscillator with nonlinear feedback control Jc Ji paper: a06_117.pdf p.22	Adaptive wave field synthesis with independent radiation mode control for active sound field Alain Berry paper: a06_036.pdf p.27		
Tue 19 11:50		Natural Mechanisms for feedback control of vibration in the inner ear Steve Elliott paper: – p.22		
12.10	L	UNCH, Engineering buildi	ng	

Continued overleaf...

		TUESDAY 19 SEPTEMBER		
Tue 19 13:10	KEYNOTE LECTURE: LG29 Active Control Of Ocean Vehicle Vibration And Motion <b>Jie Pan</b> <i>Chair: Anthony Zander</i>			
Tue 19 14:10	TEA / COFFEE BREAK, FOYER			
	LG28	LG29	LG24	
	Feedforward control Xiaojun Qiu	Active Vibration Isolation Bogdan Sapinski	Active Vibration Control II Marty Johnson	
Tue 19 14:40	Acoustic feasibility of feedforward control in call centers Aurèlie Boudier paper: a06_034.pdf p.23	Zero-stiffness magnetic supports for active vibration control Will Robertson paper: a06_080.pdf p.16	Model identification and optimal H <sub>2</sub> vibration control of an aeronautical panel Giuseppe De Maria paper: a06_035.pdf p.13	
Tue 19 15:00	A fast system structure for multichannel active control Iwao Nagashiro paper: a06_043.pdf p.23	Development of a controllable damping engine mount using mr fluid for reduction of impact force during automobile collision Toshihiko Shiraishi paper: a06_101.pdf p.16	Experiments in active control of panel vibrations with spatially weighted objectives using multiple accelerometers Dunant Halim paper: a06_039.pdf p.14	
Tue 19 15:20	A comparison of convergence and tracking in ED and SP based fx–lms algorithms Benjamin Faber paper: a06_068.pdf p.24		Comparison between different controllers when having abrupt changes in a process Henrik Akesson paper: a06_046.pdf p.14	
Tue 19 15:40	Phase corrected algorithm and its application to the active control of ship interior noise Naoaki Shibatani paper: a06_081.pdf p.24			
Tue 19 16:00	Tour of Mechanical Eng	gineering Laboratories. See	notice board for details.	
Tue 18 17:30	Co	ocktail Evening, Adelaide	Zoo Continued overleaf	

Wed 20 09:00	KEYNOTE LECTURE: LG29 Sensor–Actuator Transducers For Smart Panels <b>Paolo Gardonio</b> <i>Chair: Mike Kidner</i>		
Wed 20	TEA / COFFEE BREAK, FOYER		
	LG28	LG29	LG24
	Semi-active control JC Ji	<b>Transducers for active</b> <b>control</b> <i>Patrice Masson</i>	Array processing and imaging Damien Leclercq
Wed 20 10:30	Active tuning of a resonance changer to minimise the vibration transmission in a submarine Paul Dylejko paper: a06_079.pdf p.25	Design and fabrication of a micro velocity sensor for direct velocity feedback control systems Marco Gavagni paper: a06_056.pdf p.31	Acoustic reflectometry for determination of waveguide geometry James Carneal paper: a06_016.pdf p.17
Wed 20 10:50	Tuning a semi-active helmholtz resonator Sarabjeet Singh paper: a06_092.pdf p.25	Nonlinear models of electro pneumatic transducers for use in feedforward active noise control schemes André Jakob paper: a06_060.pdf p.31	Tracking noise sources using multiple mobile microphone arrays Marty Johnson paper: a06_065.pdf p.18
Wed 20 11:10	Hybrid piezo-poroelastic sound package concept: numerical/experimental validations Cedric Batifol paper: a06_099.pdf p.25	Active control of sound using a parametric array Mike Kidner paper: a06_111.pdf p.31	Control of low-frequency wall reflections in an anechoic room Emmanuel Friot paper: a06_048.pdf p.17
Wed 20 11:30		Implementing active noise control with parametric array loudspeaker as system controller Alfred Tan paper: a06_041.pdf p.32	
Wed 20 11:50	TE	EA / COFFEE BREAK, FOY	'ER

#### WEDNESDAY 20 SEPTEMBER

Continued overleaf...

	WEDNESDAY 20 SEPTEMBER		
	LG28	LG29	LG24
	Active Vibration Control III Scott Sommerfeldt	Signal Processing and Algorithms II Colin Hansen	Virtual Reality Applications and Psychoacoustics Anthony Zander
Wed 20 12:10	Usage of active balancing devices for passing through flexible rotor modes in active magnetic bearings Kai Adler paper: a06_093.pdf p.14	The selected digital systems of active sound control Wojciech Ciesielka paper: a06_061.pdf p.27	3D reproduction of low-frequency sound fields using the boundary pressure control method Nicolas Epain paper: a06_049.pdf p.18
Wed 20 12:30	Distributed control of a simply supported beam Oliver Baumann paper: a06_107.pdf p.15	Development of hartley domain filtered-s lms algorithm for active noise control system Debi Prasad Das paper: a06_089.pdf p.28	Noise masking using psychoacoustics Sen Kuo paper: a06_022.pdf p.33
Wed 20 12:50	Fault tolerant active vibration control Steve Elliott paper: a06_108.pdf p.15	A modified filtered-error algorithm with fast convergence in systems with delay Arthur Berkhoff paper: a06_097.pdf p.28	Acoustic field reproduction for psychoacoustic experiments: application to aircraft interior noise Maxime Keller paper: a06_054.pdf p.33
Wed 20	Confere	nce Close and Barbie, Nap	oier Lawn

13:10

xvii

Conference Venue Floor Plan: Lower Napier Ground Floor





University Of Adelaide: North Terrace Campus.

The conference venue is the Lower Napier Building, lower ground floor. It is the light grey square building. The entrance is shown by the arrow. The Sunday evening reception is held in the Art Gallery.



# Sixth International Symposium on Active Noise and Vibration Control

# **Directions and venues**

Fitzroy Tce Jeffcott Robe Tci TCe Barton Barto 21 🚺 🕫  $\Box$ Ward Ward St Hackney Rd Weir King William Rd laide 12kn Torrens Laki Kintore Ave Torrens Lake North Tce North Тсе East Hindley 🛐 Rundle Mall Rundle St Rundle Rd St NIN <u>c</u> Glover Currie Grenfel St St Hindmarst So Wes Waymouth St Pirie St Bartels Rd East Franklin St Flinders St Wakefield St Grote Wakefield Rd St Jrbridge Ave Gouger St Angas St East Wright Carrington St St Tce Hurtle Sq Sturt St Halifax St East 250 Gilbert Gilles St St Tce South Тсе South Тсе Unley Rd King William Rd 22 Adelaide City elg 10kn Road Greenhill Road Greenhill Goodwood Hyde Pk Unley Mt. Lofty

Art Gallery of South Australia Conference Reception Sunday 18:00-20:00

Lower Napier Building Conference Venue University of Adelaide

Victoria Square

Monday 18:00. Departure point for historic tram ride to the Conference banquet at The Stamford Grand, Glen Elg. Approximately 30 min walk from conference venue. Return tram at 11pm

Adelaide Zoo Tuesday 18:00-20:00 Cocktail Evening and Zoo tour. Approximately 10 min walk from conference venue.



# Adelaide City Map Legend

- Central Bus Station Adelaide Aquatic Centre 2 Adelaide Botanic Gardens & Bicentennial Conservatory 12 Central Markets 3 Adelaide Casino 13 East End Markets 14 General Post Office 4 Adelaide Gaol 5 Adelaide Festival Centre 15 Keswick Interstate Rail Passenger Terminal 6 Adelaide Golf Links 16 Light's Vision 7 Adelaide Oval 1 Lion Arts Centre & Jam Factory Craft & Design Centre 8 Adelaide Zoo 18 Memorial Drive Tennis Centre 9 Art Gallery of South Australia (19) Migration Museum Ayers House 20 Mortlock Library of South Australia and Bradman Collection City Loop Bus Service City – Glenelg Tram 0'Bahn Busway Bee Line Bus Service
- National Museum of Australia & State History Centre
   Old Treasury Museum
   Parliament House
   South Australian Museum
   South Australian Theatre Museum
   South Australian Travel Centre
   Tandanya
   Tate Museum
   Passenger Information Centre
  - Linear Walk
     Restaurant & Cafe precinct

# Sixth International Symposium on Active Noise and Vibration Control

# **Schedule of Social Program Events**

#### SUNDAY 17 SEPTEMBER 2006 18:00 to 20:00 Conference Reception

Art Gallery of South Australia North Terrace

To welcome our delegates to the conference we have arranged a tour of the Art Gallery. Guests will be greeted with music from the Adelaide Girls Choir and provided with champagne and 'nibbles'.

### MONDAY 18 SEPTEMBER 2006

08:00 to 16:00 **Conference & Conference Registration** Conference Venue Lower Napier Building Foyer

Conference delegates will be able to collect the conference compendiums that contains the CD-ROM of proceedings, book of abstracts, pen, notepad, guide books of Adelaide, etc.

18:00 to 23:00 **Conference Banquet** Stamford Grand Glenelg

One of Adelaides famous 1929 H-type trams will take the delagates from Victoria Square to the seaside resort district of Glenelg. The conference banquet will be held at the Stamford Grand Hotel.

The tram will depart from Victoria Square at 18:00. Delegates are advised to be there in plenty of time as only one special tram will be running. Guides will be leaving from the conference venue at 17:30, for the pleasant 30min stroll along King William St to Victoria Square. However delegates may make their own way to Victoria Square if they wish.

Champagne will be served on the tram en-route. If you miss the tram to Glenelg, you can take the regular service that operates every 15 minutes from Victoria square: the cost is \$3 and there is no champagne! At the end of the evening a tram will return delegates to Victoria square.

#### **TUESDAY 19 SEPTEMBER 2006** 18:00 to 20:00 **Drinks at the Adelaide Zoo** Adelaide Zoo

A cocktail hour and an exclusive tour of the Adleiade Zoo is planned, delegates are then free to enjoy the nightlife & cuisine that the city has to offer under their own steam.

The Zoo can be reach by a pleasant stroll thorugh the university grounds and Botanic Park.

#### WEDNESDAY 20 SEPTEMBER 2006 13:10 Closing Ceremony

To close the conference an Aussie barbeque will be held on the lawns outside conference. We invite you to grab a beer from the eski, a snag off the barbie and sit back in the sunshine.

#### **END OF CONFERENCE**

## **Contact Us**

The following email addresses should be used to contact the organising committee:

Conference Chair:	chair@active2006.com
Technical Committee Chair:	technicalchair@active2006.com
Web Site:	webmaster@active2006.com
Proceedings Editor:	proceedings@active2006.com
Registration:	registration@active2006.com

Telephone: +61 8 8303 5460 Facsimile: +61 8 8303 4367

Postal Address: Active 2006 Conference School of Mechanical Engineering The University of Adelaide North Terrace S.A. 5005 Australia



# Sixth International Symposium on Active Noise and Vibration Control

# Transportation

# Air Flights to Australia

<u>Adelaide International Airport</u> (ADL) is located just 7km (10 minutes) from Adelaide's central business district, where the conference will be held.

On Sunday morning of 17th September 2006 there are direct international flights from Hong Kong, Singapore, and Kuala Lumpur. Alternatively, delegates can get domestic transfer flights from Melbourne (MEL to ADL, 1hr 15min flight) or Sydney (SYD to ADL, 2hr flight).

Transfers from the international to domestic terminal are easiest at Melbourne airport as they are located in the same building. Transfers from the international to domestic terminal in Sydney require passengers to take a free shuttle bus between the terminals.

Note that for all people arriving at <u>Adelaide International Airport</u>, there is <u>free wireless internet</u> access available within the terminal.

# Immigration and Quarantine

All passengers arriving from overseas must pass through Immigration and Quarantine. Flight arrival forms will be distributed to passengers on their inbound flight to Australia. After clearing Immigration, all passengers will collect their luggage and pass through customs, which is formerly known as the <u>Australian Quarantine and Inspection Services</u>. Please be aware that Australia has some of the toughest quarantine regulations in the world. You must declare for inspection all food, plant material and animal products on arrival in Australia to ensure they are free of pests and diseases. Please note that food includes anything you eat or drink such as processed foods, uncooked food, airline food and snacks. If you are in doubt, then declare it. Note that ALL luggage brought into Australia is X-rayed.







Page 1 of 2



Sixth International Symposium on Active Noise and Vibration Control

## Transport from the Airport to Hotels

Adelaide International Airport is about 10 minutes drive from the city. There are three main methods to get from the Adelaide Airport to your hotel:

- The quickest and easiest way to get to the city and hotels is by taxi, which costs about AUD\$25.
- Alternatively there is an <u>airport shuttle bus</u> that costs AUD\$7.50 and will stop at all the conference hotels.
- The cheapest way to get to the city is by <u>public transport bus</u>, which will cost AUD\$3.50, however you are likely to have a 15 minute walk to your hotel.

## Getting From Your Hotel to the Conference Venue

All the <u>recommended hotels</u> are within an easy stroll from the conference venue. See this <u>map</u> that shows the close proximity of the hotels to the conference venue.

## Getting Around Adelaide

- An easy way to get around Adelaide is to take public transport buses. See the <u>Adelaide</u> <u>Metro</u> web site for bus fares, and bus route information.
- There are many taxis around the city that can be hailed from the kerb or you can get from the taxi ranks around the city. All taxis have meters so there is no haggling with the driver for the correct fare. All taxis have sufficient change for money, so do not overpay. Most taxis have facilities for payment with Credit Cards in the vehicle, and indicated by stickers. In addition, tipping is not expected in Australia.







Page 2 of 2