Program Book

inter.noise 2014

43rd International Congress on Noise Control Engineering

Improving the World through Noise Control

Proudly sponsored by the Australian Acoustical Society

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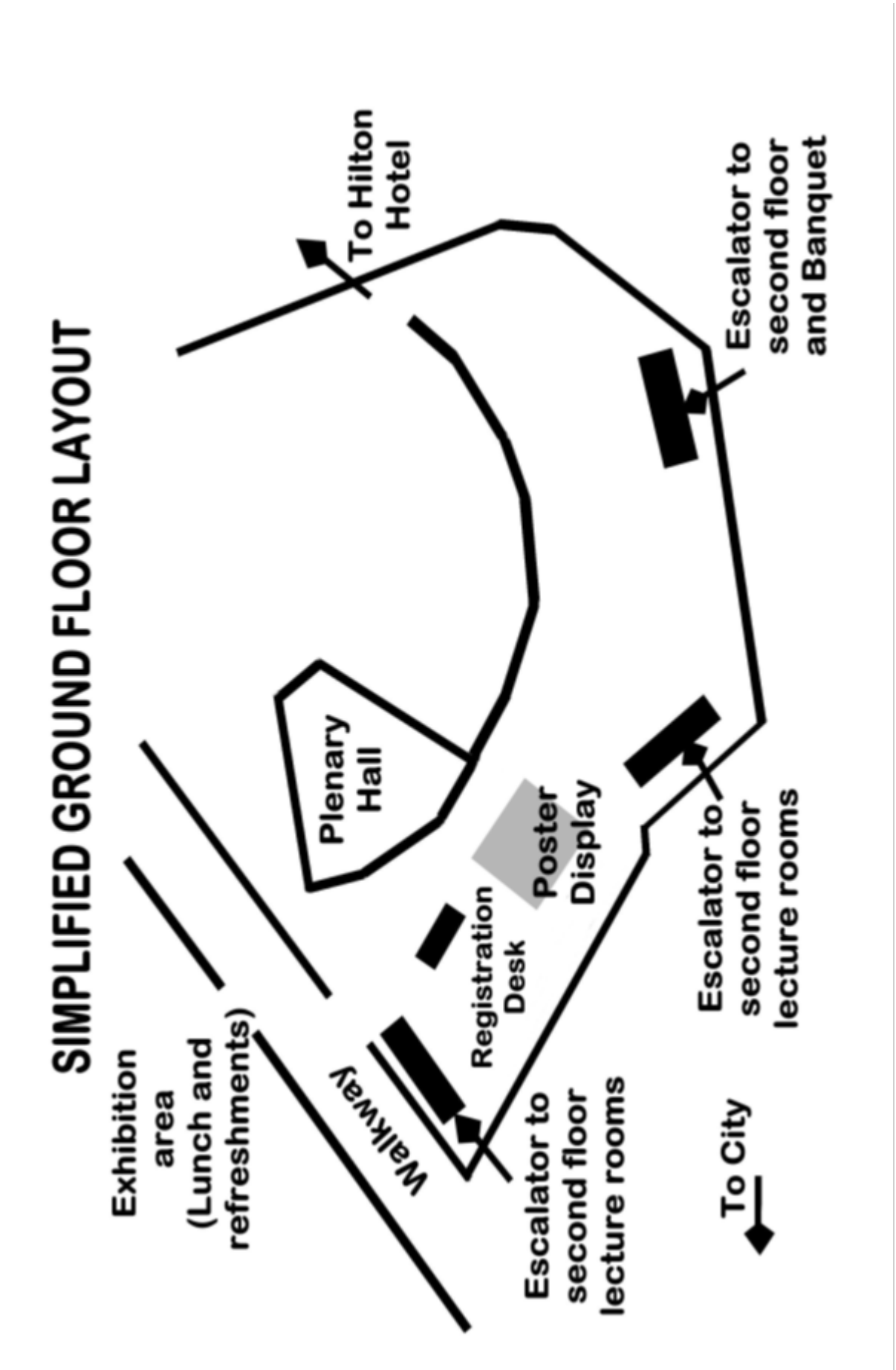
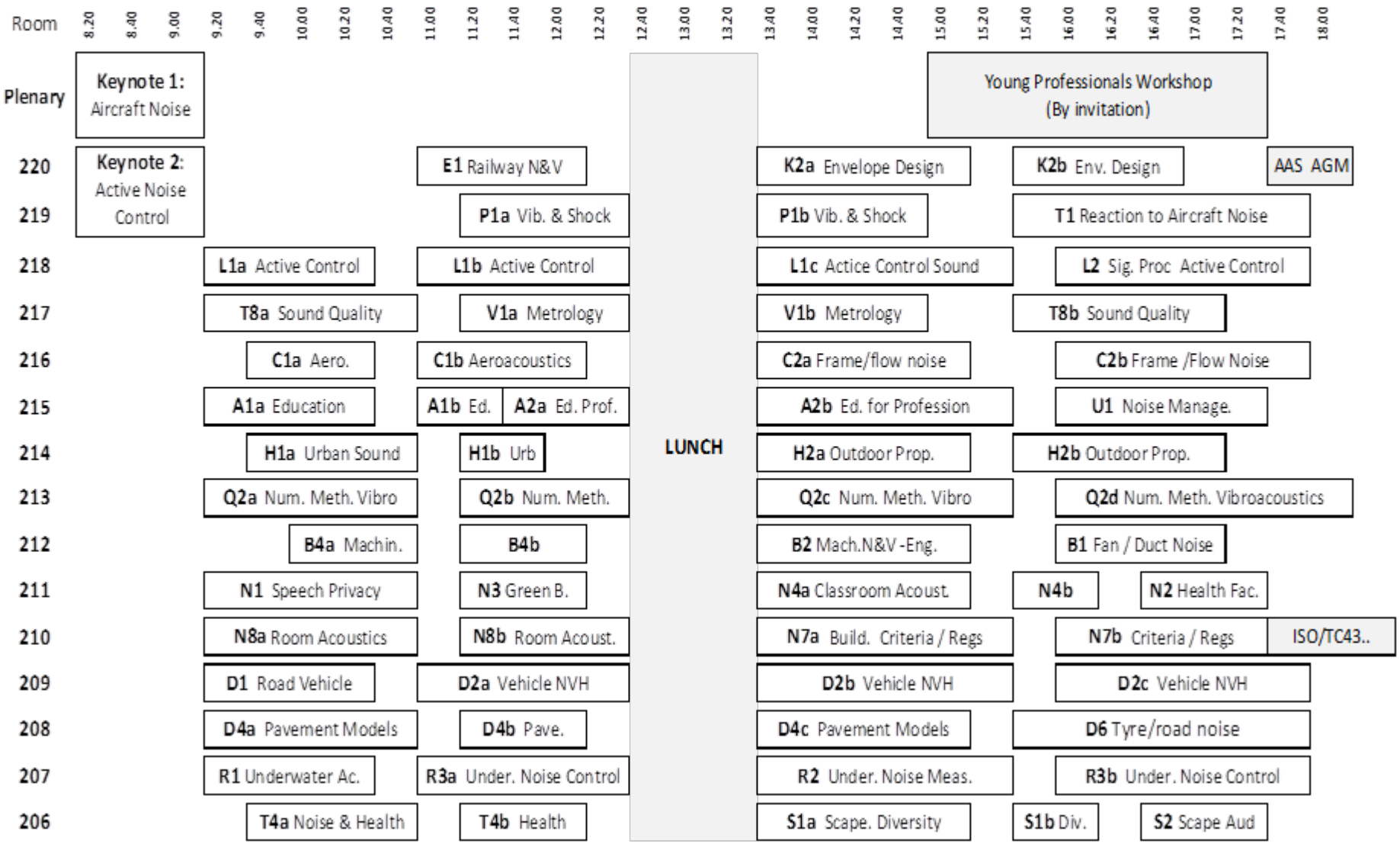
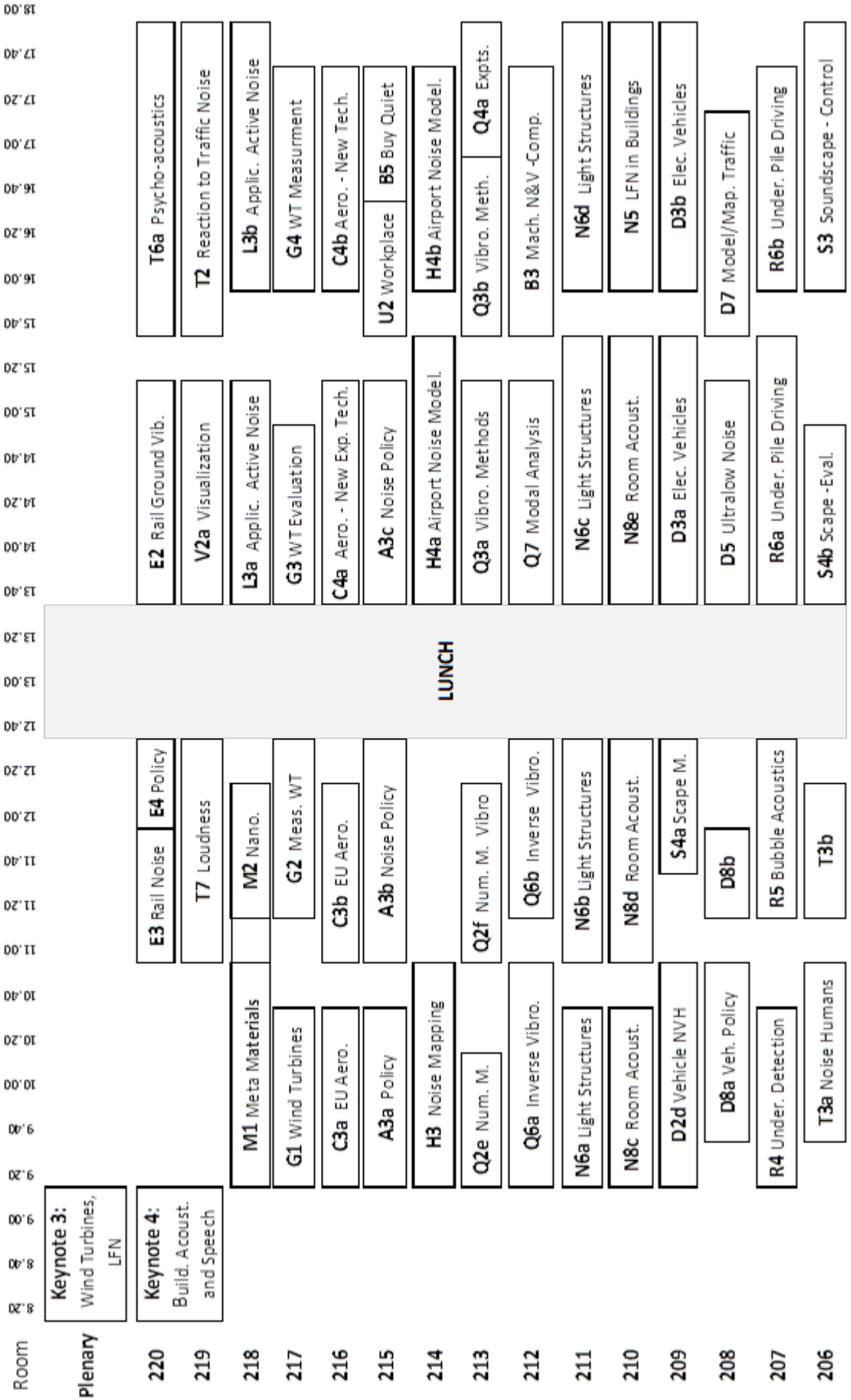

SIMPLIFIED GROUND FLOOR LAYOUT
To Hilton Hotel
Escalator to second floor and Banquet
Plenary Hall
Poster Display
Registration Desk
Escalator to second floor lecture rooms
Exhibition area (Lunch and refreshments)
Walkway
Escalator to second floor lecture rooms
To City

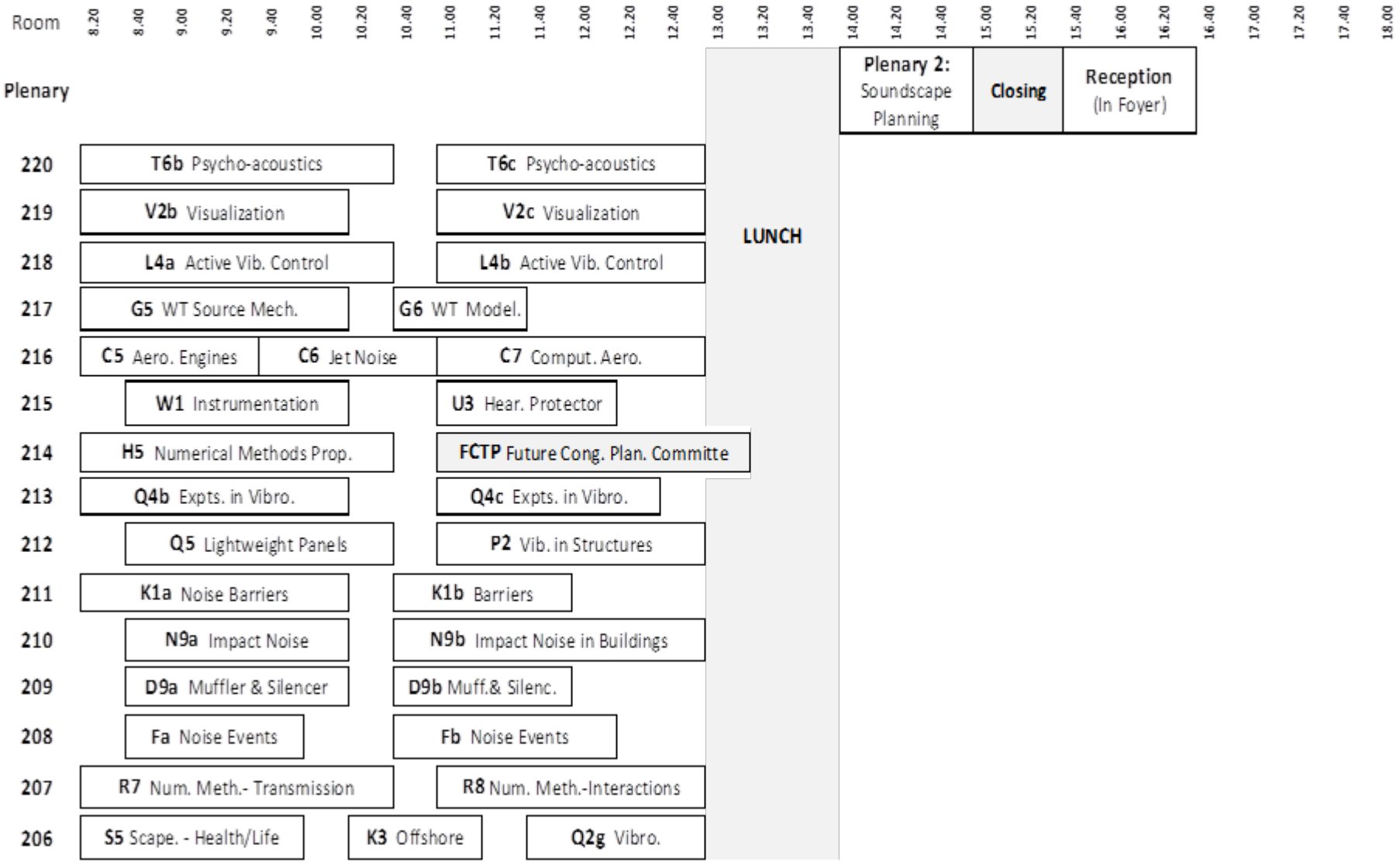
TECHNICAL PROGRAM FOR MONDAY 17 November



TECHNICAL PROGRAM FOR TUESDAY 18 November



TECHNICAL PROGRAM FOR WEDNESDAY 19 November



LETTER FROM PRESIDENT OF THE INTERNATIONAL INSTITUTE OF NOISE CONTROL ENGINEERING

Welcome from International INCE

Dear Delegates and Accompanying Persons,

It is my great honour and pleasure to welcome you on behalf of I-INCE, the International Institute of Noise Control Engineering, to Melbourne for the 43rd International Congress and Exposition on Noise Control Engineering, Inter-Noise 2014. For four days, from November 16 to 19, the attractive capital of the Australian state of Victoria – "the place to be" - will host our international scientific community and our important discipline, noise and noise control engineering. The place to be – let us take over this self-assured slogan on many Victorian vehicle number plates to express our expectation that again many of us will come to exchange experiences, discuss new ideas and encourage each other for further developments and applications.

This is what has happened every year since 1972, when the series of Inter-Noise conferences was launched in Washington, D.C. and which soon proved to be useful and enlivened the addressed community of noise control engineers. These - at that time – felt spurred by the spirit of the 1970s (often identified as the environmental decade) to organize themselves to be more responsive to the needs of their profession and of the public.

Started in the US as the Institute of Noise Control Engineering of the United States of America, INCE/USA, international ambitions and the success of Inter-Noise conferences in 1972 and 1973 encouraged the formation of a truly international organization, I-INCE. As an umbrella institute for institutional members like national associations and societies, I-INCE together with its member societies was to sponsor, to coordinate and to further develop the Inter-Noise conferences, to disseminate information on the field of noise control engineering and thus to promote progress in both, technological approaches and problem awareness.

Being drafted and planned in spring and summer 1974, I-INCE was formally established on October 01, 1974 as a non-profit association according to Swiss civil law and announced on September 30, 1974 at the 3rd Inter-Noise conference in Washington, D.C. This was exactly 40 years ago, four decades in which 47 member societies and 17 sustaining/institutional members from 40 countries together with hundreds of volunteering experts and thousands of professional delegates continuously contributed to meet the expectations and to extend the scope of the Institute. I would like to express my deepest gratitude for the many successful efforts made by many to bring I-INCE and Inter-Noise to where it is at present.

Today both, the Institute and its conference series have become an indispensable element of international noise control activities. This is continuously substantiated by regular I-INCE symposia on particular topics, the quarterly magazine Noise/News International jointly published with INCE/USA and a program to undertake technical initiatives on critically important issues of international concern, resulting in reports from Technical Study groups (see http://www.i-ince.org/). Also, I-INCE is assuming a leadership role in formulating global noise policies, including an ongoing collaboration with CAETS (International Council of Academies of Engineering and Technological Sciences).

However, in spite of the many successful noise reducing activities in the past, unwanted sounds are far from being or getting under control within acceptable limits. This is because all success in noise control tends to be compensated by ongoing mechanization and industrialization which in turn needs more and new control efforts. From here it is clear that our task is a permanent challenge: noise control engineering must provide and progressively maintain insight and appropriate means to

ensure acoustic environmental compatibility of technical devices and systems.

Thus 40 years aren't enough! Our birthday, while looking back with pride on the many achievements so far, demands our future commitment as well. This is exactly why we are going to meet in Melbourne again – to review latest achievements and to face new efforts, new approaches for the future. However, this business-as-usual-attitude should not prevent us from taking the opportunity: anniversaries are to be celebrated! So let's do so. Let us dedicate ourselves to the satisfactory certainty of having achieved a lot. But let us not forget to turn this satisfaction into the new far-seeing energy we really need to cope with our subject – to increase and preserve the acoustic quality of life, to make life, to make this world acoustically worth living!

Melbourne, Australia is the ideal place for celebrating in this way. Australia's pioneering spirit, it's uncomplicated hands-on optimism for future tasks and challenges together with the ease said to be found in Melbourne by liveability rankings present an ideal platform for celebrating in consciousness of both, proud review and energetic continuation.

After Sydney in 1991 we look forward to be hosted again by the Australian Acoustical Society which I am sure has prepared an optimal platform for our conference. I therefore would like to thank the hosting team, the Organising and the Scientific Committees and the many supporting people and institutions for their enormous efforts to make Inter-Noise 2014 a successful, unforgettable event.

So welcome to this Inter-Noise 2014 in Melbourne. I really look forward to meet you there and to raise glasses at the welcome reception to our birthday, to what has been achieved so far, to most pleasant and fruitful days in Melbourne and, finally, to a successful future of I-INCE and Inter-Noise!

Joachim Scheuren

President of I-INCE

LETTER FROM PRESIDENT OF THE INTERNOISE 2014 CONFERENCE

Dear Delegates and Accompanying Persons

It gives me great pleasure to welcome you all to Melbourne to attend Internoise 2014 and to celebrate 40 years of I-INCE. It has been three busy years from since the Australian Acoustical Society bid to host this Internoise in Melbourne was accepted until today when all our efforts will hopefully provide you with an informative and memorable congress.

I could not have done this without the help of a very dedicated team who have been instrumental in pulling things together. I particularly want to thank our Technical Program Chair, Adjunct Professor Charles Don, and Technical Program Co- Chair Adjunct Professor John Davy and our Webmaster and Conference Proceedings Chair Terry McMinn. In addition, Marion Burgess, President Elect I-INCE, as Technical Program Advisor has been sharing her valuable experience and advising us on all matters related to running a successful congress. Our Congress Secretariat, run by Liz Dowsett, has kept us all on track. In the background the Congress Treasurer, Dianne Williams, our Social Program Chair, Geoff Barnes and a number of others have made valuable contributions. Phil Setton assisted in selecting our Internoise 2014 app developer. The conference would also not have been possible without the efforts of all the presenters.

I also want to thank our two Gold sponsors, Ortech and Embelton, our Silver sponsor Martini Industries and our two Bronze sponsors CSR Bradford and Pyrotek. Without our sponsors and exhibitors, it would be very difficult to provide the successful congress that we expect Internoise 2014 to be.

I want to also thank the Melbourne Convention Bureau for assisting us in promoting our Congress and for sponsoring the attendance of students from developing countries and for supporting our Welcome Reception. It has also been a great pleasure working with the MCEC (Congress venue) and ExpoNet (Exhibition Build) and I want to also thank Rosa and Yulie respectively.

I hope that you all take advantage of our great city. Enjoy your stay in Melbourne, tour the great sights of Victoria and most importantly, enjoy this Internoise congress.

Best regards to all,

Dr. Norm Broner

President Internoise 2014

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GENERAL INFORMATION

MELBOURNE

In 1835, John Batman was exploring the Yarra River and decided this would be the place for a village. Now, with a population around 4 million, Melbourne sits on the banks of the Yarra River and is the capital city of the state of Victoria. A melting pot of cultures, Melbourne is noted for its architectural heritage and is the shopping capital of Australia. The city centre has an intriguing mixture of broad boulevards and small lanes. Adjacent to the Convention Centre on the south bank of the Yarra River is a Mall containing boutique and outlet shops while a short walk away is an aquarium, entertainment centre and the National Gallery of Victoria, which contains an impressive collection of European and indigenous art.

VENUE

The Melbourne Convention Centre first opened its doors in 2009 while the adjoining Exhibition Centre began operating in 1996. They are on the south bank of the Yarra River, only a short walk from downtown Melbourne. In the Convention Centre, the Plenary Hall, seating around 1000 people, will be used for the opening and closing activities while the technical lectures will be held in adjoining rooms on the second floor. The Congress Banquet will also occur in the Convention Centre. The technical exhibition will take place in part of the adjoining Exhibition Centre.

AIRPORT – HOTEL TRANSPORTATION

An express SkyBus operates 24/7, every 10 minutes between the airport and the bus terminal at Southern Cross Railway Station. The journey takes approximately 20 minutes. The station is located only a few blocks from the Congress venue and many of the hotels. Taxis are also available at the airport.

ACCOMMODATION

Delegates must make their own arrangements for accommodation. However, additional information and links to nearby hotels are provided on the Congress website.

TOURIST REFUND SCHEME

Delegates will be eligible to claim a refund of the 10% Goods and Services tax (GST) paid while in Australia, on any goods over AUD$300 purchased in one store on one receipt. The refund can be claimed on more than one item, providing they are taken as carry-on luggage or worn on their person when leaving Australia. Visitors can collect their refund at the airport up to 30 minutes prior to the scheduled departure of their international flight. All they need to do is produce the item and a tax invoice (receipt).

CLIMATE

Melbourne’s climate is characterised by low humidity and low rainfall, with the average daily temperature in late spring being 20°C (or 68°F).

CURRENCY AND CREDIT CARDS

The unit of currency is the Australian dollar (AUD). Exchange counters are located at the airport and at booths in the city. Internationally recognized credit cards are accepted at most hotels, shops, and restaurants. ATM's are located at many venues.

TIPS

Modest tipping is common for good service but is not obligatory.

ELECTRICITY

Australia uses a 240 volt AC at 50 Hz system although many hotels also have 110 volt outlets. Always check the power supply before using electrical equipment. You may need to have an adapter to fit the Australian 3-pin socket.

LANGUAGE

The official language of the congress is English.

TOURIST INFORMATION

Melbourne is a great walking city with a variety of hotels, restaurants, cafes and shopping area within easy walking distance of the Congress venue. Here you will find large department stores and boutiques offering possibly the best shopping experience in Australia. Also there are many historic buildings, Chinatown and Federation Square opposite Flinders St Railway Station. Along the same side of the river as the convention centre is an entertainment complex with a casino and the arts centre precinct containing the National Gallery of Victoria under an impressive spire. Also nearby are the Skydeck, Melbourne's highest lookout, and the Melbourne Aquarium. In the other direction is Yarra's Edge, a new shopping complex. Across the river and two short blocks away is the Southern Cross Railway Station, which is also the terminal for bus transport to and from the Airport. Nearby is Docklands, offering waterside walks and more shopping. Stops for the free City Circle Tourist Tram and the free Melbourne Visitor Shuttle Bus are a short stroll away.

THE MYKI CARD

Delegates who wish to use the public transport system will require a "myki" card which provides the flexibility to travel on trains, trams and buses all around Melbourne and on public transport in some regional centres. A myki visitor's pack can be obtained from the Melbourne Visitor Centre at Federation Square, SkyBus terminals at Melbourne Airport and Southern Cross Station and from many hotels and accommodation providers. (http://ptv.vic.gov.au/tickets/myki/myki-visitor-pack/)

The myki Visitor Pack includes:

- a full fare, concession, child or seniors myki card, pre-loaded with enough value (myki money) for one day's travel in Zone 1, which includes the entire tram network
- discount offers at 15 attractions including Melbourne Aquarium, the National Sports Museum, Eureka Skydeck and Puffing Billy, saving visitors more than $130
- a public transport map and information on how to use myki.

A full fare myki Visitor Pack costs $14 and includes $8 myki money for travel.

ACTIVITIES AND TOURS

For a comprehensive summary of current activities and tourist destinations in and around Melbourne we suggest visiting www.visitmelbourne.com or www.visitvictoria.com

The following listing is an indication of some activities which you may care to undertake during your visit to Melbourne.

THINGS TO DO AROUND MELBOURNE

"Polly Woodside": a fully restored "tall ship" just outside convention centre

River cruises: regular daily sailings

City Circuit Tourist Tram (free): Stop on Flinders St., near Spenser St.

Eureka Skydeck: Unsurpassed views

Bourke St Mall and Laneways for boutiques, cafes and bars: eg: Block Arcade, Royal Arcade, Causeway and Hardware Lane. Walking tours www.meltours.com.au

National Gallery of Victoria (International art) and Ian Potter Centre (Aboriginal Art):

Royal Botanic Gardens: fine landscaped gardens

National Sports Museum – Melbourne Cricket Ground: icons of Australian sport

HALF-AND DAY TOURS

Fairy Penguins at Phillip Island (Highly recommended)

Australian animals at Healesville Sanctuary (Recommended)

Wine tasting in Yarra Valley

Fern gullies and Puffing Billy steam train in Dandenong Ranges

Coastal views along Great Ocean Road

EXTENDED TOURS

Historic gold mining towns: Ballarat, Bendigo

Ancient rock art and bushwalking in the Grampians

River boats at Echuca and Mildura on Murray River.

Sydney harbour

Uluru (Ayers Rock) and Kakadu National Park

Great Barrier Reef

Program

Sunday 17:00-18:00 Room Plenary Plenary 1

Chair: Joachim Scheuren

17:00 Sound Sketch: Shaping sound in space and time using loudspeaker arrays
Choi, Jung-Woo

Monday 08:20-09:20 Room Plenary Keynote 1

Chair: Marion Burgess

08:20 Can technology deliver acceptable levels of aircraft noise?
Astley, R Jeremy

Monday 08:20-9:20 Rooms 219 & 220 Keynote 2

Chair: Charles Don

08:20 A new era for applications of active noise control
Qiu, Xiaojun; Lu, Jing; Pan, Jie

Monday 09:20-10:40 Room 218 L1a Active control of sound

Chair: Bosun Xie, Kean Chen

09:20 Analysis on the timbre of Ambisonics recording by circular and spherical microphone array using a binaural loudness model
Xie, Bosun; Liu, Yang

09:40 Reduction of air space behind piezoelectric absorbing panel using negative stiffness
Yamada, Keisuke; Yamagata, Kenta; Utsuno, Hideo

10:00 A stability analysis of cluster active control system of sinusoidal sound in free space
Yu, Haoxin; Chen, Kean; Sang, Zhiming; Tang, Dakai

10:20 Generation of localized sound using speaker array
Fukaya, Kigen; Iwamoto, Hiroyuki; Sanada, Akira; Tanaka, Nobuo

Monday 09:20-11:00 Room 217 T8a Sound Quality

Chair: Klaus Genuit, Roland Sottek

09:20 Improving sound quality measures through the multifaceted soundscape approach
Schulte-Fortkamp, Brigitte

09:40 Contribution of single sounds to sound quality assessments of multi-source environments
Skoda, Sabrina; Steffens, Jochen; Becker-Schweitzer, Jörg

10:00 Perception of sound quality of product sounds A subjective study using a semantic differential
Hülsmeier, David; Schell-Majoor, Lena; Rennies, Jan; Van De Par, Steven

10:20 Psychoacoustic analysis of HVAC noise with equal loudness
Hohls, Silke; Biermeier, Thomas; Blaschke, Ralf; Becker, Stefan

10:40 Study on evaluation method of the pure tone for small fan
Yamaguchi, Takao; Minorikawa, Gaku; Kihara, Masayuki

Monday 09:40-10:40 Room 216 C1a Aeroacoustics

Chair: Con Doolan

09:40 Study on modeling of flow induced noise using Lighthill's analogy and boundary element method
Mori, Masaaki; Masumoto, Takayuki; Ishihara, Kunihiko; Oshima, Takuya; Yasuda, Yosuke; Sakuma, Tetsuya

10:00 Direct numerical simulation of flow and acoustic fields around an air-reed instrument with tone holes
Yokoyama, Hiroshi; Kobayashi, Masaki; Onitsuka, Hirofumi; Miki, Akira; Iida, Akiyoshi

10:20 Aerodynamic noise produced in flow around an automobile bonnet
Yokoyama, Hiroshi; Nakajima, Takahiro; Shinohara, Taishi; Miyazawa, Masashi; Iida, Akiyoshi

Monday 09:20-10:40 Room 215 A1a Education - outreach to community

Chair: Courtney Burroughs, Marion Burgess

09:20 Education and Outreach: I-INCE Publications
Burroughs, Courtney B; Thompson, James

09:40 Role for an Acoustical Society Journal
Burgess, Marion

10:00 Public participation at measures to reduce noise in Germany
Zeisler, Annett
10:20 Communicating the noise message
Parnell, Jeffrey; Wassermann, John

Monday 09:40-11:00 Room 214 H1a Urban sound propagation

Chair: Timothy Van Renterghem

09:40 Comparison of acoustic pulse propagation between scale-model measurements and three-dimensional simulation over real-life urban topography
Oshima, Takuya; Ishizuka, Takashi; Kamijo, Takahide
10:00 Calculation of sound propagation with highly reflective environments
Probst, Wolfgang
10:20 Experimental analysis of the noise shielding by a green roof in response to rainfall
Van Renterghem, Timothy; Despriet, Mathias; Botteldooren, Dick
10:40 Model based monitoring of traffic noise in an urban district
Van Der Eerden, Frits; Graafland, Freek; Wessels, Peter W; Segers, Arjo; Salomons, Erik M

Monday 09:20-11:00 Room 213 Q2a Numerical methods in vibro-acoustics

Chair: Steffen Marburg , Herwig Peters

09:20 Enhancing the low frequency vibration reduction performance of plates with embedded acoustic black holes
Conlon, Stephen; Fahnline, John; Feurtada, Phil; Semperlotti, Fabio
09:40 FE based measures for structure borne sound radiation
Klaerner, Matthias; Marburg, Steffen; Kroll, Lothar
10:00 Analytical and numerical approaches to predict radiated sound power of fluid-loaded cylindrical shells
Zhang, Yilin; Jiang, Weikang; Peters, Herwig; Kessissoglou, Nicole
10:20 Experimentally uncertainty quantification in numerical and analytical beam models
Langer, P; Sepahvand, K; Krause, M; Marburg, Steffen
10:40 Prediction of airborne and structure borne sound transmission through hearing protectors using FEM
Sgard, Franck; Brummund, Martin; Viallet, Guilhem; Boyer, Sylvain; Doutres, Olivier; Nelisse, Hugues; Laville, Frederic; Petit, Yvan; Boutin, Jerome

Monday 10:00-11:00 Room 212 B4a Machinary N&V - Plant

Chair: Zhuang Li, Colin Tickell

10:00 Analysis of Sound Propagation in Finned Tube Bundle of HRSG in Power Plant
Ahn, Sungjong; Lee, Sanghyuck; Ha, Jinwoong; Shin, Eontak
10:20 Numerical and Experimental Study on Mechanism of Low Frequency Noise from Heat Recovery Steam Generator
Tang, Hongyun; Jiang, Weikang; Zhong, Zhenmao; Zhao, Yingjiu
10:40 Fatigue Life Estimation of Piping System for Evaluation of Acoustically Induced Vibration (AIV)
Izuchi, Hisao; Nishiguchi, Masato; Lee, Gary Y H

Monday 09:20-11:00 Room 211 N1 Speech privacy in buildings

Chair: Jorge Patricio, Kenric Van Wyk

09:20 Speech Privacy and Intelligibility in Open-Plan Offices as an Impact of Sound-Field Diffuseness
Utami, Sentagi Sesotya; Sarwono, Joko; Al Rochmadi, Nurwachid; Suheri, Nanan
09:40 Preliminary study of the acoustic behavior concerning an innovative prototype for indoor modular partitioning
Simões, Gonçalo; Patrício, Jorge; Faria, Paulina
10:00 The Influence of Abfusor Configuration to the Speech Privacy and Intelligibility in an Open Plan Office
Sarwono, Joko; Rachman, Arinda Puspita; Azzahra, Iva R Nisa; Utami, Sentagi Sesotya
10:20 An electronic database of speech sound levels
Nash, Anthony
10:40 Improvement of body-conducted speech recognition using model estimation
Nakayama, Masashi; Ishimitsu, Shunsuke; Nakatani, Satoshi

Monday 09:20-11:00 Room 210 N8a Room acoustics

Chair: Toru Otsuru, Nazli Bin Che Din

09:20 Psychoacoustic analysis of preference reverberation time for Gamelan Bali Concert Hall
Nitidara, Ni Putu Amanda; Sarwono, Joko; Merthayasa, I G Nyoman

09:40 Development and sound absorption of interior adjustable acoustical panels
Chou, Chuan-wen; Lai, Rong Ping; Chien, Shao-Chun; Yeh, Po Hung

10:00 Micro-perforated sheets as day-light ceilings
Nocke, Christian; Hilge, Catja; Scherrer, Jean-Marc

10:20 The Design of MPP and its Application to Enhance the Acoustics of a Real Auditorium
Sarwono, Joko; Prasetiyo, I; Andreas, S; William, A

10:40 Application of an in-situ measurement method using ensemble averaging technique to material development
Okamoto, Noriko; Otsuru, Toru; Tomiku, Reiji; Kamimizu, Takaaki; Yamaguchi, Makoto; Okuzono, Takeshi

Monday 09:20-10:40 Room 209 D1 Road vehicle noise

Chair: James McIntosh

09:20 Road traffic façade treatment in Israel
Epstein, David

09:40 Selection of state highway bridge expansion joints in noise sensitive areas
Chiles, Stephen

10:00 Towards a reduction of noise emission of powered two-wheels – Part 1
Lelong, Joel; Chatagnon, Roger; Clerc, Christian; Jamin, David; Seigner, Maxime; Thivant, Michael

10:20 Towards a reduction of noise emission of powered two-wheels - Part 2.
Thivant, Michael; Clerc, Christian; Jamin, David; Gauthier, Quentin; Lelong, Joel; Chatagnon, Roger

Monday 09:20-11:00 Room 208 D4a Pavement modelling and measurement techniques

Chair: Paul Donavan, Gaetano Licitra

09:20 Comparison of road and laboratory measurements of tyre/road noise
Swieczko-Zurek, Beata; Ejsmont, Jerzy; Ronowski, Grzegorz; Taryma, Stanisław

09:40 Investigating lateral porosity effect on air pumping noise from connected road cavities with CFD simulations
Conte, Frédéric; Klein, Philippe; Bérengier, Michel

10:00 Reduction of vehicle noise at lower speeds due to a porous open-graded asphalt pavement
Donavan, Paul

10:20 Test sections to study the acoustical quality and durability of thin noise reducing asphalt layers
Bergiers, Anneleen; De Visscher, Joëlle; Denolf, Katleen; Destrée, Alexandra; Vanhooreweder, Barbara; Vuye, Cedric

10:40 A study on comparison of noise reduction effect of single-layer drainage asphalt pavement and double-layer drainage asphalt pavement : Part 1 sound power level and frequency characteristic in initial construction
Mori, Hisho; Ishikawa, Kenichi; Ueta, Tomotaka; Noguchi, Eiji; Yoshida, Motoomi; Kokusho, Masami; Nagaoka, Hironori

Monday 09:20-10:40 Room 207 R1 Underwater acoustics

Chair: Alec Duncan

09:20 AQUO Project – Modelling of ships as noise source for use in an underwater noise footprint assessment tool
Audoly, Christian; Rousset, Céline; Leissing, Thomas

09:40 Ambient noise forward prediction from measured characteristics and high resolution modeling
Eller, Anthony I; Heaney, Kevin D

10:00 Shipping noise impacts on marine life
Cato, Douglas H

10:20 Directionality and coherence of underwater noise and their impact on sonar array performance
Zhang, Zhi Yong

Monday 09:40-11:00 Room 206 T4a Noise and health- overall effects and susceptible groups

Chair: Irene van Kamp, Stephen Stansfeld

09:40 Daytime and night-time aircraft noise and cardiovascular disease near Heathrow airport in London
Hansell, Anna; Blangiardo, Marta; Fortunato, Lea; Floud, Sarah; De Hoogh, Kees; Fecht, Daniela; Ghosh, Rebecca E; Lazlo, Helga E; Pearson, Claire; Beale, Linda; Beevers, Sean; Gulliver, John; Best, Nicky; Richardson, Sylvia; Elliott, Paul

10:00 Traffic noise in relation to self-reported mental health
Turunen, Anu W; Yli-Tuomi, Tarja; Tiittanen, Pekka; Halonen, Jaana; Männistö, Satu; Lanki, Timo
10:20 Noise sensitivity modulates the auditory-cortex discrimination of sound feature changes
Heinonen-Guzejev, Marja; Klyuchko, Marina; Heikkilä, Kauko; Spinosa, Vittoria; Tervaniemi, Mari; Brattico, Elvira
10:40 Four electrophysiological studies into noise sensitivity
Shepherd, Daniel; Hautus, Michael J; Lee, Jenny; Mulgrave, Joe

Monday 11:00-12:20 Room 220 E1 Railway noise and vibration

Chair: James Nelson

11:00 Considering the perception of combined railway noise and vibration as a multidimensional phenomenon
Sharp, Calum; Woodcock, James; Waddington, David
11:20 Railway vibration reduction using impact dampers
Yang, Wonseok; Ahn, Sangkeun; Koh, Hyo-In; Park, Junhong
11:40 Exhaust noise control case study for 2800 class locomotive
Croft, Briony; Brown, Stephen; Miller, Aaron; Parker, Andrew
12:00 Railway-noise reduction effect and aged deterioration properties of softer rail pad
Saito, Hidetoshi; Ninomiya, Masaki; Shimizu, Kenta; Takeda, Yoji; Sato, Daigo

Monday 11:20-12:40 Room 219 P1a Vibration and Shock

Chair: Len Koss, Vincent Rouillard

11:20 Vibration of a curved subsea pipeline due to internal slug flow
Reda, Ahmed M; Forbes, Gareth L; McKee, Kristoffer K; Howard, Ian M
11:40 Analysis on propulsion shafting coupled torsional-longitudinal vibration under different applied loads
Huang, Qianwen; Liu, Jia; Zhang, Cong; Yan, Xinping
12:00 Investigations of eddy current vibration damping
Ruber, Karel; Kanapathipillai, Sangarapillai; Randall, Robert Bond
12:20 Footfall vibration analysis of a high precision manufacturing facility
Gaekwad, Jason; Lee, Yong Keat; Mackenzie, Neil

Monday 11:00-12:40 Room 218 L1b Active control of sound

Chair: Bosun Xie, Kean Chen

11:00 Individual Error Signal Design in Narrowband Active Noise Control Systems
Chang, Cheng-Yuan; Kuo, Sen M
11:20 Mitigation of indoor low-frequency noise using single channel active noise control system
Kaneuchi, Ken; Nishimura, Koichi; Matsui, Toshihito
11:40 Noise reduction through active noise control using stereophonic sound for increasing quite zone
Min, Dongki; Kim, Junejong; Nam, Sangwon; Park, Junhong
12:00 Hybrid active noise barrier with sound masking
Wang, Xun; Koba, Yosuke; Ishikawa, Satoshi; Kijimoto, Shinya
12:20 A power constrained algorithm for multi-zone sound reproduction
Liao, Xiangning; Zheng, Sifa; Peng, Bo; Lian, Xiaomin

Monday 11:20-12:40 Room 217 V1a Metrology - calibration and realisation of standards

Chair: Doug Manvell, Longbiao He

11:20 Influence of ground-shield configuration in reciprocity calibration of laboratory standard microphones
Olsen, Erling Sandermann; Carlsen, Henrik
11:40 Realization of Air-borne Sound pressure unit with LDA technique by Spectrum and autocorrelation method in a travelling wave tube
He, Longbiao; Feng, Xiujuan; Yang, Ping; Niu, Feng; Zhong, Bo
12:00 Noise dosimeter microphones: an evaluation of the measurement reliability
Bondarenco, David Bello
12:20 Experimental determination of the difference between free-field and pressure sensitivity levels of half inch laboratory standard microphones
Bacelar Milhomem, Thiago Antônio; Martins Defilippo Soares, Zemar; Machado Da Rosa Albuquerque, Lucas

Monday 11:00-12:20 Room 216 C1b Aeroacoustics

Chair: Con Doolan

11:00 Benchmark study of numerical solvers for the prediction of interior noise transmission excited by A-pillar vortex
Cho, Munhwan; Kim, Hyoung Gun; Oh, Chisung; Ih, Kang Duck; Khondge, Ashok; Mendonça, Fred; Lim, Jongyun; Choi, Eui-Sung; Ganty, Bastien; Hallez, Raphael

11:20 Characterization of an Aeroacoustic Wind Tunnel Facility
Pascioni, Kyle; Reger, Robert; Edstrand, Adam; Cattafesta, Louis

11:40 Characteristics of turbulent noise from backward-curved centrifugal fan with rectangular casing
Hayashi, Hidechito; Aramaki, Takuma; Shirahama, Seiji; Oda, Ippei; Okumura, Tetsuya

12:00 On the reduction of the engine and aerodynamic noise of aircraft
Campos, L M B C

Monday 11:00-11:40 Room 215 A1b Education - outreach to community

Chair: Courtney Burroughs, Marion Burgess

11:00 Common failings of inter-disciplinary studies on noise and the potential solutions
McLaren, Stuart J; Page, Wyatt H

11:20 Web-based calculators for transportation noise and vibration
Smith, Michael; Chiles, Stephen

Monday 11:40-12:40 Room 215 A2a Education- to the profession

Chair: Courtney Burroughs, Marion Burgess

11:40 Post baccalaureate professional development in noise control engineering
Holger, David K

12:00 Expanding the horizon of machinery noise source control via a dedicated short course on gear dynamics and noise
Singh, Rajendra

12:20 Extending the scope of urban sound planning by education and research
Scheuren, Joachim; Kropp, Wolfgang; Forssen, Jens

Monday 11:20-12:00 Room 214 H1b Urban sound propagation

Chair: Timothy Van Renterghem

11:20 Use of traffic modeling and geographic information systems to evaluate noise reduction policies in urban environments: case study in Bogota - Colombia
Paez, Daniel; Caviedes, Alvaro

11:40 Assessment of noise pollution sourced from entertainment places in Antalya, Turkey
Sari, Deniz; Ozkurt, Nesimi; Hamamci, Samet Feyyaz; Ece, Mustafa; Yalcindag, Nazli; Akdag, Ali; Akdag, Nese

Monday 11:20-12:40 Room 213 Q2b Numerical methods in vibro-acoustics

Chair: Franck Sgard, Matthias Klaerner

11:20 A review of the coupling parameter of the Burton and Miller boundary element method
Marburg, Steffen

11:40 A comparison of numerical methods for the large–scale modelling of acoustic coupled fluid-structure interactions of double-walled cylindrical shells
Peters, Herwig; Wilkes, Daniel Ryan

12:00 Prediction of the radiated sound power from a fluid-loaded finite cylinder using the surface contribution method
Liu, Daipei; Peters, Herwig; Kessissoglou, Nicole; Marburg, Steffen

12:20 Implementation aspects of the Boundary Element Method including viscous and thermal losses
Cutanda Henriquez, Vicente; Juhl, Peter

Monday 11:20-12:20 Room 212 B4b Machinary N&V - Plant

Chair: Zhuang Li, Colin Tickell

11:20 Noise Control for Fluid Power Systems
Li, Binghui; Moore, Simon

11:40 Acoustic and Vibration Stability Analysis of Furnace System in Supercritical Boiler
Kwon, Hyuk-Min; Cho, Chi-Hoon; Kim, Heui-Won

12:00 Minimising the cost of noise control in the coal seam gas industry by selection of noise treatments for gas wells using engineering optimisation
Davis, David James

Monday 11:20-12:20 Room 211 N3 Green sustainable buildings

Chair: Jeffrey Fullerton

11:20 The challenge of meeting both acoustic and thermal comfort in 21st century school classrooms
Campbell, Colin; Svensson, Carsten; Nilsson, Erling

11:40 Noise associated with the ground water systems serving residential geothermal heat pumps
Fullerton, Jeffrey L

12:00 Acoustical investigation of open-plan offices in green building: Simulation experiment
Nazli, Che Din; Nurul Amira, Abd Jalil; Nila Inangda, Keumala; Asrul Sani, Razak

Monday 11:20-12:40 Room 210 N8b Room acoustics

Chair: Toru Otsuru, Takeshi Okuzono

11:20 Room impulse response measurement with a spherical microphone array, application to room and building acoustics
Barré, Sébastian; Döbler, Dirk; Meyer, Andy

11:40 Influence of time-varying talker directivity on the calculation of speech transmission index from speech in a room acoustical context
Opsata, Adam; Cabrera, Densil; Yadav, Manuj

12:00 Validation of lateral fraction results in room acoustic measurements
Protheroe, Daniel; Day, Christopher

12:20 Sound source localization accuracy of ambisonic microphone in anechoic conditions
Malecki, Pawel

Monday 11:00-12:40 Room 209 D2a Vehicle noise vibration and harshness (NVH)

Chair: Joseph Lai, Zhichao Hou

11:00 Structural transfer path analysis of automobile tire/road noise
Yu, Xiongying; Pang, Jian; Min, Fujiang; Wen, Wei; Gong, Shichao

11:20 Measurement of the distributed dynamic stiffness of seats under compression to analyze dynamic characteristic of seats
Kim, Deokman; Min, Kyongwon; Park, Hyunkyu; Park, Junhong

11:40 Development of an adaptive composite leaf spring
John, Sebastian; Dannemann, Martin; Kostka, Pawel; Ehlig, Jana; Modler, Niels

12:00 Study on the vertical vibration of an occupant - seat cushion system
Hou, Zhichao

12:20 Tire/road contact modeling for the in-vehicle noise prediction
Vuj, Trong Dai; Yin, Hai Ping; Duhamel, Denis; Gaudin, Arnaud; Abbadi, Zouhir

Monday 11:20-12:20 Room 208 D4b Pavement modelling and measurement techniques

Chair: Paul Donavan, Gaetano Licitra

11:20 A study on comparison of noise reduction effect of single-layer drainage asphalt pavement and double-layer drainage asphalt pavement: Part 2 long-term change of sound power level and frequency characteristic
Ueta, Tomotaka; Ishikawa, Kenichi; Mori, Hisho; Noguchi, Eiji; Yoshida, Motoomi; Kokusho, Masami; Nagaoka, Hironori

11:40 Effect of road surfaces on road traffic noise on the public roads of Japan - An investigation based on tyre/road noise measurement
Koike, Hiroshi; Ito, Akiyoshi

12:00 Project ROSANNE: Rolling resistance, Skid resistance, and Noise Emission measurement standards for road surfaces
Haider, Manfred; Conter, Marco; Wehr, Reinhard; Sandberg, Ulf; Anfosso, Fabienne

Monday 11:20-12:40 Room 207 R3a Underwater noise and its control

Chair: Paul Croaker

11:20 LES-based Numerical Analysis of Surface-Pressure Fluctuations and Unsteady Thrust of a Marine Propeller
Tian, Jin; Yang, Haosen; Zhang, Zhenguo; Yuan, Guoqing; Rao, Zhiqiang; Hua, Hongxing

11:40 LDV-based vibration measurement of a stiffened plate covered by a rubber coating with multi-layered periodic porous in air
Huang, Xiuchang; Zhu, Dawei; Tian, Jin; Hua, Hongxing

12:00 Adulteration of underwater acoustic measurements
Schael, Stefan

12:20 Numerical Study on Non-Cavitating Noise of Marine Propeller
Jang, Ji-Sung; Kim, Hyung-Taek; Joo, Won-Ho

12:40 Optimisation applied to composite marine propeller noise
Mulcahy, N Lex; Croaker, Paul; McGuckin, Damian G; Brandner, Paul A; Kessissoglou, Nicole

Monday 11:20-12:20 Room 206 T4b Noise and health- overall effects and susceptible groups
Chair: Stephen Stansfeld, Irene van Kamp

11:20 Non-specific physical symptoms and related functioning in people with self-reported noise sensitivity
Baliatsas, Christos; Van Kamp, Irene; Hooiveld, Mariette; Yzermans, Joris; Lebret, Erik

11:40 What factors are associated with noise sensitivity in the UK population?
Clark, Charlotte; Smuk, Mel; Stansfeld, Stephen; Van De Kerckhove, Rik; Notley, Hilary

12:00 Influence of visual factors on noise annoyance evaluation caused by road traffic noise in indoor environment
Ma, Hui; Nie, Wenjing

Monday 13:40-15:20 Room 220 K2a Applying building envelop design for noise mitigation
Chair: Maurice Yeung, Shiu-keung Tang

13:40 Noise Control Potential of Vacuum Isolation Panels
Walters, Sheldon; Dance, Stephen

14:00 Investigations on road noise level spatial variability within a specially designed acoustic balcony
Naish, Daniel A; Tan, Andy C C; Demirbilek, F Nur

14:20 Prediction method of insertion loss of detached houses against road traffic noise based on a point sound source model- Prediction formula considering the heights of buildings and a prediction point
Fujimoto, Kazutoshi; Tominaga, Toru; Morita, Kengo; Hirata, Tomoko

14:40 The sound transmission loss across ventilation window under active noise cancellation
Tang, Shiu Keung; Tong, Yean-ghing; Tsui, Kwong-lam

15:00 Numerical analysis of sound insulation performance of double-layer wall with vibration absorbers using FDTD method
Lin, Shuo-Yen; Shinichi, Sakamoto

Monday 13:40-15:00 Room 219 P1b Vibration and Shock
Chair: Len Koss, Vincent Rouillard

13:40 Transient response of complex stiffness system using a green function from the Hilbert Transform and the steady space technic.
Bae, Seung-Hoon; Jeong, Wei Bong; Cho, Jin-Rae

14:00 Defect size estimation and analysis of the path of rolling elements in defective bearings with respect to the operational speed
Moazenahmadi, Alireza; Petersen, Dick; Howard, Carl; Sawalhi, Nader

14:20 In-Situ Assessment of Building Isolation Bearings
Mackenzie, Neil; Lee, Yong Keat; Dawson, Bill

14:40 Free vibration analysis of elastically connected multiple-beams with general boundary conditions using improved Fourier series method
Du, Jingtao; Xu, Deshui; Zhang, Yufei; Yang, Tiejun; Liu, Zhigang

Monday 13:40-15:40 Room 218 L1c Active control of sound
Chair: Bosun Xie, Kean Chen

13:40 Design of Active Noise Control System Applied to Helicopter Cabins
Yan, Shenggang; Tang, Dakai; Zhang, Xiaonei; Yu, Haoxin

14:00 Effect of transducer mismatch on the performance of spherical microphone arrays
Rao, Dan

14:20 Active noise control based on state feedback by a concentrated mass model
Hisano, Shotaro; Ishikawa, Satoshi; Kijimoto, Shinya; Koba, Yosuke

14:40 Withdrawn2
Withdrawn2,

15:00 Active noise reduction of a coupled rectangular cavity using active wave control
Watanabe, Motoya; Iwamoto, Hiroyuki; Tanaka, Nobuo

15:20 Active Structural Acoustic Control of Sound Power Radiation from a Soft-Core Sandwich Panel
Kiran, Sahu; Jukka, Tuhkuri

Monday 13:40-15:00 Room 217 V1b Metrology - calibration and realisation of standards

Chair: Doug Manvell, Longbiao He

13:40 First results in the realization of the unit Watt in airborne sound
Voelkel, Katharina; Bethke, Christian; Brezas, Spyros; Wittstock, Volker

14:00 Influence of reflecting plane having finite surface density on sound power level of reference sound sources calibrated in hemi free-field
Yamada, Keisuke; Takahashi, Hironobu; Horiuchi, Ryuzo

14:20 Calibration Methodologies and the Accuracy of Acoustic Data
Beyers, Craig

14:40 The Effect of Wind on Low Frequency Noise
Lin, I-Chun; Hsieh, Yein-Rui; Shieh, Ping-Fei; Chuang, Hsun-Cheng; Chou, Li-Chung

Monday 13:40-15:20 Room 216 C2a Airframe/flow-induced-noise

Chair: Danielle Moreau, Thomas Geyer

13:40 Measuring owl flight noise
Geyer, Thomas; Sarradj, Ennes; Fritzsche, Christoph

14:00 Effects of wing tip shaping on noise generation
Klei, Christine E; Buffo, Rainer M; Stumpf, Eike

14:20 Analysis and Control of Flow-Acoustic Feedback-Loop Interactions in Transitional Airfoils
Golubev, Vladimir; Nguyen, Lap; Mankbadi, Reda; Roger, Michel

14:40 Wind Tunnel Test of Trailing Edge Serrations for the Reduction of Wind Turbine Noise
Fischer, Andreas; Bertagnolio, Franck; Shen, Wen Zhong; Madsen, Jesper; Madsen, Helge Aagaard; Bak, Christian; Devenport, William; Intaratep, Nanyaporn

15:00 Influence of Structural Elasticity on Trailing Edge Noise
Chen, Li; Kessissoglou, Nicole

Monday 13:40-15:40 Room 215 A2b Education - to the profession

Chair: Courtney Burroughs, Marion Burgess

13:40 European Acoustics Association Schools
Maffei, Luigi; Vorländer, Michael; Jambrošić, Kristian

14:00 Experiences of MOOCs and 25 year short courses for industries
Kim, Yang-Hann

14:20 Audio and Acoustical Response Analysis Environment (AARAE): a tool to support education and research in acoustics
Cabrera, Densil; Jimenez, Daniel; Martens, William Leigh

14:40 Study and practice of joint teaching between ZJU and UWA
Pan, Jie; Stone, Brian; Guzzomi, Andrew; Sun, Hongmei; Zheng, Jing; Tong, Yuhui; Du, Xuhao; Xia, Yinzhu

15:00 The NOISE database and other electronic and web-based tools for researchers and educators
Beach, Elizabeth Francis; Gilliver, Megan; Williams, Warwick

15:20 Car mechanic training course and acoustic technique education
Nakamura, Kinji

Monday 13:40-15:20 Room 214 H2a Outdoor sound propagation

Chair: Rob Bullen, Ho-Chul Shin

13:40 Acoustic Study and Visualization of a complex echo at the Klondike Bluffs, in the Arches National Park, Utha, USA
Heilmann, Gunnar; Navvab, Mojtaba; Boeck, Magdalena; Vonrhein, Benjamin

14:00 Experimental validation of the modelling of surface roughness effects by an effective impedance
Faure, Olivier; Gauvreau, Benoit; Junker, Fabrice; Lafon, Philippe

14:20 Field experiment on sound propagation from an elevated directional source
Sakamoto, Shinichi; Tkanashi, Toshikazu; Yokoyama, Sakae; Ishii, Hirokazu

14:40 Research on the directive property control for a phased rectangular loudspeaker array
Xu, Xuezhong; Cheng, Zhang; Fang, Houlin; Yang, Junmei; Sun, Deyu; Zhang, Liangyong

15:00 Field experiment on ground-to-ground sound propagation from a directional sourcee
Takanashi, Toshikazu; Sakamoto, Shinichi; Yokoyama, Sakae; Ishii, Hirokazu

Monday 13:40-15:40 Room 213 Q2c Numerical methods in vibro-acoustics

Chair: Vicente Cutanda Henriquez, Daniel Wilkes

13:40 The Adaptive Order FEM approach for vibro-acoustic simulations: a report on a newly implemented technology with application examples demonstrating its superior performance to conventional FEM methods
Vansant, Koen; Hallez, Raphael

14:00 A reduced-order stochastic finite element analysis for structures with uncertainties
Yang, Ji; Faverjon, Béatrice; Peters, Herwig; Kessissoglou, Nicole
14:20 A study of the assumptions used in statistical energy analysis
Lafont, Thibault; Totaro, Nicolas; Le Bot, Alain
14:40 Modelling the forced response of a stiffened structure
Forrest, James
15:00 Modeling sound radiation from a baffled vibrating plate for different boundary conditions using an elementary source technique
Putra, Azma; Shyafina, Nurain; Thompson, David; Muhammad, Noryani; Mohd Nor, Mohd Jailani; Zaki, Nuawi
15:20 Coupled analysis of two-dimensional acoustic and membrane vibration by concentrated mass model
Ishikawa, Satoshi; Kijimoto, Shinya; Owaki, Ryoma; Matsuo, Ataru

Monday 13:40-15:20 Room 212 B2 Machinary N&V - Engines

Chair: Zhuang Li

13:40 Experimental Analyses of Vibration and Noise of Faulted Planetary Gearbox
Li, Zhuang
14:00 Parametrically Excited Vibration in Rolling Element Bearings
Srinath, R; Sarkar, A; Sekhar, A Seshadri
14:20 Investigation of vibration transmission properties of compressor grommets in domestic refrigerators
Kuyumcuoglu, Aleks; Sakalli, Ozgun
14:40 Vibration reduction of brush cutter considering human response characteristic
Uemura, Masanori; Yoshida, Junji; Miyakawa, Shigeru; Oono, Teruhito; Ishikawa, Daiga
15:00 Coupling analysis of torsional vibration and engine rotational speed control system of marine propulsion shating
Yu, Shuwen; Liu, Yan; Han, Xiao; Chen, Meilong; Li, Wanyou

Monday 13:40-15:20 Room 211 N4a Classroom acoustics

Chair: James Whitlock

13:40 New generation learning environments: creating good acoustic environments - policy to implementation
Robinson, Amanda; Rose-Munro, Leanne
14:00 An investigation into the acoustics of an open plan compared to enclosed Kindergarten classroom
Mealings, Kiri Trengove; Buchholz, Jorg M; Demuth, Katherine; Dillon, Harvey
14:20 The same reverberation time in two identical rooms does not necessarily mean the same levels of speech clarity and sound levels when we look at impact of different ceiling and wall absorbers.
Campbell, Colin; Svensson, Carsten; Nilsson, Erling
14:40 Acoustical Quality Assessment of Lecture halls at Lund University, Sweden
Said Youssef, Rabab; Bard, Delphine; A Mahmoud, Abd El Fattah; Mkrm Esa, Nahed
15:00 A pilot study on the influence of language on the results of speech intelligibility tests in classrooms
Radosz, Jan; Zawieska, Wiktor M

Monday 13:40-15:40 Room 210 N7a Acoustic criteria in regulations and classification schemes for buildings

Chair: Birgit Rasmussen, John LoVerde

13:40 International proposal for an acoustic classification scheme for dwellings – Background and perspectives
Rasmussen, Birgit
14:00 A new approach to building acoustics regulation in Canada
Zeitler, Berndt; Schoenwald, Stefan; Quirt, David
14:20 Heavy/soft impact sound criteria and regulation in Korea
Jeong, Jeong Ho
14:40 Classification scheme of floor impact sounds with the standard rubber ball in dwellings
Sato, Hiroshi; Yoshimura, Junichi
15:00 Defining vehicular noise levels to manage risk associated with exterior facade design
LoVerde, John J; Dong, Wayland; Rawlings, Samantha
15:20 How to modify a tested fire-rated wall to improve its sound transmission rating, while maintaining its official fire-rated qualification
Forester, Harold

Monday 13:40-15:40 Room 209 D2b Vehicle noise vibration and harshness (NVH)

Chair: Joseph Lai, Paul Kennings

13:40 The Influence of Vibrations on Vehicle Occupant Fatigue
Azizan, Mohd Amzar; Fard, Mohammad

14:00 Automobile Power-train—Coupling Vibration Analysis on Vehicle System
Ding, Heng; Zhang, Weihua; Chen, Wuwei; Shi, Peicheng

14:20 Developing Powertrain Mounting Systems in the Virtual Engineering World Using a Full Vehicle NVH Simulator
Kennings, Paul; Layfield, Jonathan; Tarabra, Marco; Fothergill, David; Syred, Frank; Franks, Graham

14:40 The Transmission of Vibration at Various Locations on Vehicle Seat to Seated Occupant Body
Ittianuwat, Ratchaphon; Fard, Mohammad; Kato, Kazuhito

15:00 Study on startup transient vibration of a vehicle with 3-cylinder engine
Fu, Jianghua; Pang, Jian; Hu, Chengtai; Xu, Xiaomin; Deng, Renwei; Kuang, Xiaohong

15:20 Road noise sensitivity analysis with respect to suspension geometry
Kosaka, Fumihiko; Mizuno, Hiroaki; Inoue, Tsuyoshi; Takagi, Kentaro

Monday 13:40-15:20 Room 208 D4c Pavement modelling and measurement techniques

Chair: Paul Donavan, Gaetano Licitra

13:40 Assessing the acoustic properties of audio-tactile road markings
Goubert, Luc; Debroux, Philippe; Gail, Annette; Zöller, Marek; De Clerck, Kristof; Verleyen, Lenert

14:00 ODSURF: Optimized low noise urban road surfaces
Bérengier, Michel; Gusia, Peter Johann

14:20 On the sound absorption coefficient of porous asphalt pavements for oblique incident sound waves
Bezemer-Krijnen, Marieke; Wijnant, Ysbrand H; De Boer, Andre; Bekke, Dirk A

14:40 Influence of surface textures of road markings on tyre/road marking noise
Gail, Annette; Bartolomaeus, Wolfram; Zöller, Marek

15:00 Comparative assessment for low-noise pavements by means of the ISO 11819 and the OBSI
Buret, Marc; McIntosh, James; Simpson, Cassandra

Monday 13:40-15:40 Room 207 R2 Underwater noise measurement

Chair: Paul Dylejko

13:40 Patch near-field acoustical holography based on vector hydrophone array
Hu, Bo; Yang, Desen; Shi, Shengguo; Shi, Jie; Sun, Yu

14:00 Using low cost single-board microcontrollers to record underwater acoustical data
Travaglione, Ben; Munyard, Andrew; Matthews, David

14:20 Marine Soundscape Ecology
Sydney, Harris; Radford, Craig

14:40 Characterising the acoustic footprint of Australia's new research vessel RV Investigator
Kloser, Rudy; Martin, Tara; Sherlock, Matt

15:00 Modeling ocean noise on the global scale
Porter, Michael B; Henderson, Laurel J

15:20 A modelling approach to spatial extrapolation of ocean ambient noise measurements
Heaney, Kevin D

Monday 13:40-15:20 Room 206 S1a Soundscape and its diversity in history and culture

Chair: Koji Nagahata

13:40 Withdrawn1
Withdrawn1,

14:00 Soundscape Study of Urban Public Spaces along the Sea Shore
Kabilan, Tharangini; Mohan, Anjana; Jeyachandran, Keerthika; Ramasamy, Kalaiselvi

14:20 The Urban Park Soundscape in Mountainous Cities:A case study in Chongqing
Li, Heng; Xie, Hui; Kang, Jian

14:40 Analysis of soundscape of selected urban public places and its impact on their assessment by users
Kamenicky, Matej

15:00 A Soundscape Research on the Route Gezi Park–Tunel Square
Bahali, Sercan; Tamer Bayazit, Nurgun

Monday 15:40-17:00 Room 220 K2b Applying building envelop design for noise mitigation

Chair: Maurice Yeung, Shiu-keung Tang

15:40 Tackling Traffic Noise Through Plenum Windows – An Application in Hong Kong
Yeung, Maurice; N G, Isaac; Lam, John; Tang, Shiu Keung; Lo, David; Yeung, David

16:00 Design for noise mitigation measures for public housing developments in Hong Kong
Lo, David; Yim, Stephen; Leung, Kenneth

16:20 Investigation of sound insulation for a Supply Air Window – field measurements and occupant response
Søndergaard, Lars Sommer; Legarth, Søren Vase

16:40 Cost reduction of noise treatments in the oil & gas industry - design of noise mitigation for gas compressor stations using engineering optimisation
Davis, David James

Monday 15:40-18:00 Room 219 T1 Reaction to aircraft noise

Chair: Truls Gjestland, Femke Gelderblom

15:40 The economic value of aircraft noise effects: a UK perspective
Sanchez, Diana; Berry, Bernard; Knowles, Andy

16:00 Continuous Descent Approach (CDA) compared to Regular Descent Procedures: Less Annoying?
White, Kim; Arntzen, Michael; Bronkhorst, Adelbert; Meeter, Martijn

16:20 The impact of civil versus military aircraft noise on noise annoyance
Gelderblom, Femke B; Gjestland, Truls; Granøien, Idar L N; Taraldsen, Gunnar

16:40 Stated choice valuation of aircraft noise and other environmental externalities at Bangkok Suvarnabhumi Airport
Cheramakara, Narudh; Bristow, Abigail; Budd, Lucy; Zanni, Alberto

17:00 The next generation of supplementary aviation noise metrics and their use in managing aviation noise.
Porter, Nicole; Knowles, Andy; Fisher, Nick; Southgate, Dave

17:20 New insights into perception of aircraft and community noise events
Adams, Keith

17:40 Relaxations of operating restrictions on Noise and resident's reaction at Narita International Airport
Ogata, Saburo; Shinohara, Naoaki

Monday 16:00-18:00 Room 218 L2 Signal processing for active control

Chair: Jing Lu, Teik Lim

16:00 Multivariable control of tonal disturbances using minimization of the maximum error signal through adaptive error signal weighting
Cheer, Jordan; Daley, Steve

16:20 Adapting an MSE controller for active noise control to nonstationary noise statistics
Barkefors, Annea; Sternad, Mikael

16:40 Adaptive feedback noise control with leaky FeLMS algorithm
Chen, Kai; Paurobally, Roshun; Pan, Jie; Qiu, Xiaojun

17:00 A modified frequency domain adaptive filter for active noise control
Lu, Jing; Nirong, Li; Ning, Han

17:20 Active sound design for a passenger car based on adaptive order filter
Lee, Sang Kwon; Lee, Seung Min; Kang, In Deuk; Shin, TaeJin

17:40 Active control of vehicle powertrain noise using inverse model LMS algorithm
Sun, Guohua; Feng, Tao; Li, Mingfeng; Xu, Ji; Lim, Teik C

Monday 15:40-17:20 Room 217 T8b Sound quality

Chair: Klaus Genuit, Roland Sottek

15:40 Noise Reduction Measures of Noisy Kitchen Devices and Evidence of their Improvement by an Objective Analysis of Spontaneous EEG Measurements
Fischer, Martin; Spessert, Bruno M; Emmerich, Edeltraut

16:00 The influence of the sensation of rhythm on comfort and productivity
Yamaguchi, Masao; Hanawa, Kazuto; Toi, Takeshi

16:20 Effect on car interior sound quality according to the variation of noisy components of tire-pattern noise
Shin, Sung-Hwan; Hashimoto, Takeo; Hatano, Shigeko

16:40 Stereo or binaural headphones for sound location
Cohen, Graeme J

17:00 Rhythmic constant pitch time stretching for digital audio
Trevorrow, Brendan

Monday 16:00-18:00 Room 216 C2b Airframe/flow-induced-noise

Chair: Danielle Moreau, Thomas Geyer

16:00 Estimation of pressure fluctuations in a turbulent boundary layer based on vibro-elastic models
MacGillivray, Ian; Skvortsov, Alex

16:20 The effect of flow on the natural frequencies of a flexible plate
Peters, Herwig; Chen, Li; Kessissoglou, Nicole

16:40 Attenuation of acoustic resonances in an inclined open cavity using Micro Perforated Panels
Gonzalez Diaz, Cristobal; Ortiz, Santiago; Cobo, Pedro

17:00 The flow-induced noise of square finite wall-mounted cylinders in different boundary layers.
Porteous, Ric; Moreau, Danielle; Doolan, Con J; Prime, Zebb

17:20 Effects of Hydrodynamic and Acoustic Pressure Fluctuations on Transmitted Sound in Wavenumber-Frequency Domain
Okutsu, Yasuhiko; Hamamoto, Naoki

17:40 Self-noise prediction of a sharp-edged strut using a quasi-periodic CFD-BEM technique
Karimi, Mahmoud; Croaker, Paul; Kessissoglou, Nicole; Doolan, Con J; Marburg, Steffen

Monday 16:00-17:40 Room 215 U1 Technical expertise in noise assessment and management

Chair: Pam Gunn, Emma Shanks

16:00 Discussion on noise control at workplaces
Pääkkönen, Rauno; Saine, Kari; Seppänen, Saara; Ollilla, Tapani

16:20 Comparative study of the performance of smartphone-based sound level meter apps, with and without the application of a 1⁄2" IEC-61094-4 working standard microphone, to IEC-61672 standard metering equipment in the detection of various problematic workplace noise environments
Robinson, David Paul; Tingay, James

16:40 Protection of workers from risks caused by loud sound fields. Comparison between the European and the United States standards.
Sabato, Alessandro; Sabato, Adolfo; Reda, Alfredo

17:00 A practical comparison of occupational noise standards
Tingay, James; Robinson, David Paul

17:20 New Zealand Code of Practice for retail fireworks - Revision of the noise testing provisions: Experiences and findings
Page, Wyatt H; McLaren, Stuart J

Monday 15:40-17:20 Room 214 H2b Outdoor sound propagation

Chair: Rob Bullen, Ho-Chul Shin

15:40 Field noise measurement in the huge industrial plants for accurate prediction
Hida, Takahiro

16:00 Determination of noise damping by forests
Trimpop, Mattias; Mann, Peter

16:20 Ground effect due to periodic and resonant roughness structures
Shin, Ho-Chul; Taherzadeh, Shahram; Attenborough, Keith

16:40 Determining the transmission loss of apertures above the plane wave cutoff frequency
Li, Jiazhu; Chen, Jian; Li, Can

17:00 Acoustic Yagi–Uda Antenna Using Resonance Tubes
Tamura, Yuki; Yatabe, Kohei; Ouchi, Yasuhiro; Oikawa, Yasuhiro; Yamasaki, Yoshio

Monday 16:00-18:20 Room 213 Q2d Numerical methods in vibro-acoustics

Chair: James Forrest, Steffen Marburg

16:00 Vibration analysis of a steam turbine blade
Mohan, R S; Sarkar, A; Sekhar, A Seshadri

16:20 Vibration transfer analysis based on characterization of vibration energy dissipation
Kitahara, Atsushi; Yoshimura, Takuya

16:40 Free vibrations of a box-type structure by plates with arbitrary boundary conditions
Zhang, Kaipeng; Zhang, Tao; Wu, Han; Shi, Dongyan

17:00 Improvement of Experimental SEA model accuracy using Independent Component Analysis
Nakamura, Hiroki; Chida, Shohei; Yamazaki, Toru

17:20 Impulsive Response Analysis Using Transient Energy Distribution Analysis
Chida, Shohei; Nakamura, Hiroki; Yamazaki, Toru

17:40 The modeling and free vibration analysis of coupled plates of various types
Shi, Shuangxia; Jin, Guoyong; Chen, Mingfei

18:00 Numerical noise generation in modelled bearing vibration signals
Singh, Sarabjeet; Howard, Carl; Hansen, Colin; Kopke, Uwe

Monday 16:00-17:40 Room 212 B1 Fan and duct noise

Chair: Colin Tickell

16:00 Standard, quiet and super quiet – the modelling of flow and the reduction of turbulences
Bradwell, Simon

16:20 Local improvement of flow and noise performances of axial-flow fans in a household refrigerator
Seong-hun, Kim; Seung, Heo; Cheolung, Cheong; Taehoon, Kim

16:40 Fan duct noise elimination by the use of helicoidal resonators
Lapka, Wojciech

17:00 Practical consideration of noise from fans
Burgess, Charles; Thompson, Rhys

17:20 Stall detection using near-field low frequency and pressure modulation in turbomachines
Corsini, Alessandro; Feudo, Sara; Tortora, Cecilia; Ullucci, Graziano

Monday 15:40-16:20 Room 211 N4b Classroom acoustics

Chair: James Whitlock

15:40 Classrooms and voice recognition applications in a foreign language teaching
Ono, Yuichi; Ishihara, Manabu; Onishi, Akio; Yamashiro, Mitsuo

16:00 Vocal problems for teachers and school acoustics - a field study
Durup, Nick; Shield, Bridget; Dance, Stephen; Sullivan, Rory

Monday 16:40-17:40 Room 211 N2 Healthcare facility acoustics

Chair: Kenric Van Wyk

16:40 Review of design approaches to acoustics in Australian hospitals
Zoontjens, Luke; Cockings, Thomas

17:00 A summary of the 2014 FGI and sound & vibration guidelines for healthcare facilities
Van Wyk, Kenric; Horan, Daniel; Murphy, Kristen

17:20 Acoustic design guidelines for dementia care facilities
Hayne, Michael James; Fleming, Richard

Monday 16:00-17:40 Room 210 N7b Acoustic criteria in regulations and classification schemes for buildings

Chair: Birgit Rasmussen, John LoVerde

16:00 Open plan offices - classification scheme based on ISO 3382-3 parameters
Nocke, Christian

16:20 Psychoacoustical evaluation of heavyweight floor impact sounds in apartment buildings
Jeon, Jin Yong; Oh, Seong Min

16:40 A new metric to quantify and evaluate low frequency impact noise
LoVerde, John J; Dong, Wayland

17:00 Determination of vibration acceptability and annoyance design indicators for human response to wooden-floor vibrations
Negreira, Juan; Trollé, Arnaud; Jarnerö, Kirsi; Sjökvist, Lars-Göran; Bard, Delphine

17:20 Extensions of EN 12354 vibration reduction index expressions by means of FEM calculations
Crispin, Charlotte; De Geetere, Lieven; Ingelaere, Bart

Monday 16:00-18:00 Room 209 D2c Vehicle noise vibration and harshness (NVH)

Chair: Zhichao Hou, Paul Kennings

16:00 Modelling of Fluid-Structure Interactions in the Hydraulic Circuit of Passive Interconnected Suspensions
Zhao, Jing; Zhang, Nong; Ji, Jin Chen

16:20 The characteristic identification of disc brake squeal based on ensemble empirical mode decomposition
Yao, Liang; Hiroshi, Yamaura

16:40 Instability prediction of brake squeal by nonlinear stability analysis
Zhang, Zhi; Oberst, Sebastian; Lai, Joseph C S

17:00 Vehicle Chassis Decoupling Control Based on Neural Network Inverse Method
Yang, Jun; Zhao, Linfeng; Chen, Wuwei; Huang, He; Xia, Guang

17:20 Target setting and source contribution for sound quality of a motorcycle
Lu, Ming-Hung; Jen, Ming Une

17:40 Indoor pass-by noise engineering: a motorbike application case
Bianciardi, Fabio; Janssens, Karl; Choukri, Mostapha; Van Der Auweraer, Herman

Monday 15:40-18:00 Room 208 D6 Tyre/road noise - tyre factors

Chair: Piotr Mioduszewski, Ulf Sandberg

15:40 Characterisation of low-noise tyres for the roads of Hong Kong
Hung, Wing-tat; Leung, Randolph Chi-kin; Lam, Yat Ken

16:00 An investigation of the relationship between texture and tyre/road noise for different types of road surfaces and passenger car tyres
Berge, Truls; Viggen, Erlend Magnus

16:20 Tyre tread pattern noise optimization by a coupled source-human perception model
Bekke, Dirk A; Wijnant, Ysbrand H; De Boer, Andre; Bezemer-Krijnen, Marieke

16:40 Temperature influence on tyre/road noise of selected tyres
Mioduszewski, Piotr; Taryma, Stanisław; Woźniak, Ryszard

17:00 A study of the tyre cavity resonance and its mitigation using modal analysis method
Chanpong, Napasin; Mohamed, Zamri; Wei, Haiqiao; Watkins, Simon; Wang, Xu

17:20 Influence of Circumferential Tread Pattern Stiffness on Tire Road Noise Generation under Driving Torque
Stalter, Frank; Gauterin, Frank

17:40 A Simulation Methodology for Tire/Road Vibration Noise analysis
Yintao, Wei; Feng, Xijing; Xiang, Dabing; Chen, Yalong

Monday 16:00-18:00 Room 207 R3b Underwater noise and its control

Chair: Nicole Kessissoglou

16:00 Attenuation of low frequency underwater noise using arrays of air-filled resonators
Wochner, Mark S; Lee, Kevin M; McNeese, Andrew R; Wilson, Preston S

16:20 Underwater noise generated by merchants ships in coastal waters of the Gulf of Gdansk
Listewnik, Karol

16:40 Modelling underwater shipping noise in the Great Barrier Reef Marine Park using AIS vessel track data
MacGillivray, Alexander; McPherson, Craig; McPherson, Geoff; Izett, Jonathan; Gosselin, Jeremy; Li, Zizheng; Hannay, David

17:00 Is underwater thermal noise useful?
Readhead, Mark L

17:20 Study on the effect of alignment style on shafting-shell coupled system radiated noise caused by propeller force
Cao, Yipeng; Zhang, Runze; Yang, Guodong

17:40 Real variability in ship systems' noise and vibration. Design and through-life management implications for underwater noise and habitability
McIntosh, David James

Monday 15:40-16:20 Room 206 S1b Soundscape and its diversity in history and culture

Chair: Koji Nagahata

15:40 On the Study of Effects of Views to Water Space on Noise Annoyance Perceptions at Homes
Leung, T M; Chau, C K; Tang, Shiu Keung; Pun, L S C

16:00 Characterizing the ecology of the Aboriginal soundscape
Muir, Bruce R

Monday 16:40-17:40 Room 206 S2 Soundscape and auditory cognition

Chair: Dick Botteldooren

16:40 How the meaning a person gives to tranquility could affect the appraisal of the urban park soundscape
Botteldooren, Dick; Filipan, Karlo; Boes, Michiel; De Coensel, Bert

17:00 Withdrawn4
Withdrawn4,

17:20 Temporal features extraction for the binaural soundscape samples
Wang, Daiwei; Deng, Zhiyong; Li, Xinxin; Liu, Aili

Tuesday 08:20-09:20 Room Plenary Keynote 3

Chair: Norman Broner

08:20 Noise and Low frequency noise from Wind Turbines
Søndergaard, Bo

Tuesday 08:20-09:20 Rooms 220 & 219 Keynote 4

Chair: John Davy

08:20 The impact of building acoustics on speech comprehension and student achievement
Wang, Lily M

Tuesday 09:20-11:00 Room 218 M1 Metamaterial

Chair: Stuart Bolton

09:20 A simple model of effective elastic properties of materials with inclusions
Skvortsov, Alex; MacGillivray, Ian

09:40 Noise shielding using active acoustic metamaterials with electronically tunable acoustic impedance
Mokry, Pavel; Steiger, Katerina; Vaclavik, Jan; Psota, Pavel; Dolecek, Roman; Marton, Pavel; Kodejska, Milos; Cernik, Martin

10:00 Random Incidence Transmission Loss of a Metamaterial Barrier System
Varanasi, Srinivas; Bolton, J. Stuart; Siegmund, Thomas

10:20 Acoustic metamaterial panel composed of funnel-shaped cell unit having multi-band negative material properties
Cho, Sungjin; Kim, Boseung; Min, Dongki; Kang, Jeonghoon; Park, Junhong

10:40 Tailoring Acoustic Metamaterials to Aeroacoustic Applications
Iemma, Umberto; Carley, Michael; Pellegrini, Riccardo

Tuesday 09:20-10:40 Room 217 G1 Wind turbines -Evaluation at neighbours I

Chair: Con Doolan, Mark Bastasch

09:20 Special Noise Character in Noise from Wind Farms
Lenchine, Valeri V; Song, Jonathan

09:40 Investigating the impacts of wind turbine noise on quality of life in the Australian context: A case study approach.
McBride, David Iain; Shepherd, Daniel; Thorne, Robert

10:00 Outcome of systematic research on wind turbine noise in Japan Part 1
Tachibana, Hideki

10:20 Outcome of systematic research on wind turbine noise in Japan Part 2
Tachibana, Hideki

Tuesday 09:20-10:40 Room 216 C3a EU research projects on aircraft noise

Chair: Dominique Collin, Samir Gerges

09:20 European aviation noise research network (X-NOISE)
Collin, Dominique

09:40 OPtimisation for low Environmental Noise impact AIRcraft - OPENAIR
Kors, Eugene; Collin, Dominique

10:00 AFLoNext – A European Contribution to Airframe Noise Control
Bauer, Michael; Büscher, Alexander; Pott-Pollenske, Michael

10:20 Fundamental indirect noise generation by interactions between entropy, vorticity and acoustic waves in the context of aero engine applications
Ullrich, Wolfram Christoph; Schulze, Moritz; Sattelmayer, Thomas

Tuesday 09:20-10:40 Room 215 A3a Noise policy

Chair: Maurice Yeung, Marion Burgess

09:20 The evolution of noise policy and noise management in England during the life of the UK's Institute of Acoustics
Grimwood, Colin; Turner, Stephen

09:40 A Metric Matrix Establishment for Cases Studies on the Effectiveness of the Key Environmental Protection Policies for Transportation Pollution Control
Zhang, Jiping; Schomer, Paul D; Buret, Marc; Zhang, Lei; Wu, Dian; Boyle, James

10:00 Challenges in Planning against Road Traffic Noise in Hong Kong
Wu, Marco; Ng, Isaac; Szeto, Wing Kwok; Yeung, Maurice

10:20 Progress on environmental noise policies from 2008-2013 in Asia and the world
Schwela, Dietrich H; Finegold, Lawrence S; Gjestland, Truls

Tuesday 09:20-11:00 Room 214 H3 Noise mapping prediction tools

Chair: Gilles Daigle

09:20 Fast traffic noise mapping of cities using the Graphics Processing Unit of a personal computer
Salomons, Erik M; Zhou, Han; Lohman, Walter J A

09:40 Lessons from round 2 noise mapping in England
Hepworth, Peter; Shilton, Simon; Jones, Nigel; Burdett, Matthew

10:00 Statistical Method for an Assessment of Actions against Noise and Air Pollution in Order to compare the total Improvement in an Investigation Area
Zacharias, Frank-Christian; Kunka, Rainer; Hoar, Christopher F J

10:20 A low-budget road traffic noise model for individual building evaluation - a case study in Western Australia
Felder, Martin; Burgess, Marion; Arnold, Jörg

10:40 A web-based approach for the evaluation of acoustic performance of development designs and assessment of performance of mitigation elements
Hoar, Christopher F J; Wong, Kin Man; Noor, Noor Azlan Mohammed

Tuesday 09:40-10:40 Room 213 Q2e Numerical methods in vibro-acoustics

Chair: Abhijit Sarkar, Daniel Wilkes

09:40 Dispersion diagrams of a water-loaded cylindrical shell obtained from the structural and acoustic responses of the sensor array along the shell
Jung, B K; Ryue, J; Hong, C S; Jeong, Wei Bong; Shin, K K

10:00 Acoustic and flexural wave energy conservation for a thin plate in a fluid
McMahon, Darryl

10:20 Acoustic forcing of flexural waves and acoustic fields for a thin plate in a fluid
McMahon, Darryl

Tuesday 09:20-11:00 Room 212 Q6a Inverse approaches in vibro-acoustics

Chair: Jeong-Guon Ih, Stephen Hambric

09:20 Research on eigenfrequency shifts due to cracks in cylindrical structures and the application in non-destructive testing
Stache, Martin; Guettler, Marcus; Marburg, Steffen

09:40 Vibration rendering on a thin plate by actuator array on the boundary
Woo, Jung-Han; Ih, Jeong-Guon

10:00 Separation of non-stationary sound fields using single layer pressure-velocity measurements
Bi, Chuan-Xing; Geng, Lin; Zhang, Xiao-Zheng

10:20 Approximate model of sound source in consideration of evanescent waves in far-field acoustical holography
Wang, Ziteng; Yang, Diange; Miao, Feng; Wang, Rujia; Wen, Junjie; Lian, Xiaomin

10:40 Comparison of patch acoustic holography methods for confined space
Havránek, Zdeněk; Beneš, Petr; Klusáček, Stanislav

Tuesday 09:20-10:40 Room 211 N6a Noise in lightweight structures

Chair: Jean-Luc Kouyoumji, Heinz Ferk

09:20 A model based on loudness level to describe airborne sound insulation
Neubauer, Reinhard; Kang, Jian

09:40 Influence of design and leakages of the window-wall connection on the sound insulation.
Ferk, Heinz; Buchegger, Blasius; Meissnitzer, Marlon

10:00 Improvement of sound insulation performance at low frequencies by several fibrous absorbers in lightweight double leaf partition
Sugie, Satoshi; Yoshimura, Junichi; Iwase, Teruo

10:20 Parametric study of direct airborne insulation of wood stud walls in midrise construction
Zeitler, Berndt; Schoenwald, Stefan; King, Frances

Tuesday 09:20-10:40 Room 210 N8c Room acoustics

Chair: Nazli Bin Che Din , Reiji Tomiku

09:20 Absorption modeling with ensemble averaged impedance for wave-based room acoustics simulations
Otsuru, Toru; Tomiku, Reiji; Okuzono, Takeshi

09:40 A technique based on the equivalent source method for measuring the surface impedance and reflection coefficient of a locally reacting material
Zhang, Yong-Bin; Lin, Wang-Lin; Bi, Chuan-Xing

10:00 A coherent image source method for sound prediction in long spaces with a sound absorbent ceiling
Min, Hequn; Chen, Yan; Qiu, Xiaojun

10:20 A trial on calculating the equivalent reflection coefficient by acoustic distance measurement method based on phase interference in the actual sound actual field
Nakasako, Noboru; Neki, Yuma; Nakayama, Masato; Shinohara, Toshihiro; Uebo, Tetsuji

Tuesday 09:20-11:00 Room 209 D2d Vehicle noise vibration and harshness (NVH)

Chair: Joseph Lai, Zhichao Hou

09:20 Vehicle noise functional performance indicators using tire sound intensity
Donavan, Paul; Janello, Carrie

09:40 Parameter quantification for evaluation of vehicle's impulsive BSR noise
Lee, Sinyeob; Kwak, Yun-sang; Kim, Boseung; Lee, Jongho; Park, Junhong

10:00 Mechanism of Noise Generation on Outer Rotor Motor
Ikeda, Kazumasa; Semura, Junichi; Ohzawa, Tsukasa

10:20 Verification of contribution separation technique for vehicle interior noise using only response signals
Hirano, Tomohiro; Yoshida, Junji

10:40 Development of a prototype system to evaluate of contribution rate of each noise source in road traffic noise
Houzu, Hiroyuki; Sakamoto, Ichiro; Nishi, Takahiro; Ishihama, Masao; Sawatari, Katsumi

Tuesday 9:40-11:00 Room 208 D8a Motor vehicle noise - policy and regulation

Chair: Hans Bendtsen, James McIntosh

09:40 The Dutch Road Noise Mitigation Program
Faber, Nico

10:00 Value for Money in Road Traffic Noise Abatement
Milford, Ingunn; Aasebo, Sigve Jarl; Strommer, Kjell

10:20 The Swiss way to silent roads
Walker, Urs

10:40 The danish national road noise strategy
Pedersen, Frank; Kristensen, Brian

Tuesday 09:20-10:40 Room 207 R4 Detection, localisation and classification of sources

Chair: Alec Duncan

09:20 Advanced signal processing methods for the analysis of transient radiated noise from submarines
Leissing, Thomas; Audoly, Christian; Lachambre, Hélène; Stempfel, Guillaume

09:40 Application of the virtual time-reversal technique to transient sources localization in complex immersed struc
Leissing, Thomas; Audoly, Christian; Guyader, Jean-Louis; Guyader, Guillaume; Buisson, Quentin; Morange, Jean-Louis

10:00 Performance of time domain and time-frequency domain adaptive beamformers with moving sound sources
Bao, Chaoying

10:20 Cross correlation matched field localization for unknown emitted signal waveform using two-hydrophone
Yao, Shuai; Li, Kun; Fang, Shiliang

Tuesday 09:40-11:00 Room 206 T3a Effects of noise on humans

Chair: Lily Wang, Andreas Liebl

09:40 Effects of room acoustics on comprehension of foreign-accented speech by native and non-native English-speaking listeners
Peng, Zhao; Hanna, Kristin E; Boyd, Brenna N; Wang, Lily M

10:00 Vibration properties of hand-arm system while holding a grip
Kuwada, Masashi; Yoshimura, Takuya; Tsurumi, Yasuaki; Yamada, Daisuke

10:20 Assessment of noise-induced annoyance by tones in noise from building mechanical systems
Lee, Joonhee; Wang, Lily M

10:40 Combined effects of low frequency vertical vibration and noise on whole-body vibration sensation
Hiroshi, Matsuda; Nobuo, Machida

Tuesday 11:00-12:00 Room 220 E3 Railway wheel and rail noise

Chair: Barry Murray

11:00 Curve Squeal: Causes, Treatments and Results
Hanson, David; Jiang, Jiandong; Dowdell, Bruce; Dwight, Richard

11:20 Acoustic rail grinding – measures of long term effectiveness: Epping to Chatswood Rail Link case study
Vegh, Serge; Kochanowski, Radek; Croft, Briony

11:40 Bearing defect size estimation for extended raceway defects
Petersen, Dick; Howard, Carl

Tuesday 12:00-12:40 Room 220 E4 Rail acoustics policy

Chair: Mark Batstone

12:00 Comparison of Kilde and NORD2000 rail noise prediction methodologies
De Lisle, Simon; Burgemeister, Kym

12:20 A simplified approach for evaluating noise impact from high-speed lines
Zhang, Xuetao

Tuesday 11:00-12:40 Room 219 T7 Loudness and other psycho-acoustical parameters

Chair: Klaus Genuit, Roland Sottek

11:00 Improvements in calculating the loudness of time varying sounds
Sottek, Roland

11:20 Loudness Using a Threshold Correction Factor
Novak, Colin; Ule, Helen; Gaspar, Robert

11:40 Development of a new loudness model in consideration of audio-visual interaction
Aizawa, Kai; Kamogawa, Takashi; Arimitsu, Akihiko; Toi, Takeshi

12:00 Noise evaluation based on loudness-perception characteristics of older adults
Kurakata, Kenji; Mizunami, Tazu

12:20 Measurement of attention to auditory signal in noisy environment
Sato, Hiroshi

Tuesday 11:20-12:20 Room 218 M2 Nanomaterials in acoustics

Chair: Anthony Zander

11:20 Acoustic absorption behaviour of carbon nanotube arrays
Ayub, Md; Zander, Anthony C; Howard, Carl; Cazzolato, Benjamin S; Shanov, Vesselin N; Alvarez, Noe T; Huang, David M

11:40 Thermophones using carbon nanotubes and alternative nanostructures for high power sound generation and noise cancellation
Aliev, Ali E

12:00 Improving sound absorption bandwidth of micro-perforated panel by adding porous materials
Li, Dengke; Chang, Daoqing; Liu, Bilong; Tian, Jing

Tuesday 11:20-12:40 Room 217 G2 Measurement of wind turbine noise

Chair: Lars Sondergaard

11:20 An investigation of Different Secondary Noise Wind Screen Designs for Wind Turbine Noise Applications
Novak, Colin; Sjöström, Anders; Ule, Helen; Bard, Delphine; Sandberg, Göran

11:40 Wind turbine sound - metric and guidelines
Larsson, Conny; Öhlund, Olof

12:00 Wind turbine noise measurements - How are results influenced by different methods of deriving wind speed?
Broneske, Sylvia

12:20 Correlation of amplitude modulation to inflow characteristics
Madsen, Helge Aagaard; Bertagnolio, Franck; Fischer, Andreas; Bak, Christian

Tuesday 11:00-12:20 Room 216 C3b EU research projects on aircraft noise

Chair: Dominique Collin, Samir Gerges

11:00 IDEALVENT: Characterization of installation effects in aircraft Environmental Control Systems
Schram, Christophe; Kucukcoskun, Korcan; Christophe, Julien; Van De Wyer, Nicolas

11:20 COSMA – A European Approach on Aircraft Noise Annoyance Research
Bauer, Michael; Collin, Dominique; Iemma, Umberto; Janssens, Karl; Márki, Ferenc; Müller, Uwe

11:40 Multi-objective optimization of takeoff and landing procedures: level abatement vs quality improvement of aircraft noise
Iemma, Umberto; Burghignoli, Lorenzo; Centracchio, Francesco; Galluzzi, Valerio

12:00 NINHA: Noise Impact of aircraft with Novel engine configurations in mid- to High Altitude operations
Van Oosten, Nico; Collin, Dominique

Tuesday 11:00-12:40 Room 215 A3b Noise policy

Chair: Maurice Yeung, Marion Burgess

11:00 Control of noise from public entertainment activities in Hong Kong
Kwok, Kwun Ting; Cheng, Kin Wui

11:20 Residential acoustic amenity in 'vibrant' mixed use areas
Wheatley, Glenn Robert
11:40 Live music and the 'agent of change' principle
McArdle, Sean; Lee, Gillian; Hui, Elizabeth
12:00 New techniques to determine specific noise for increasing the effectiveness of continuous unattended noise monitoring systems
Manvell, Douglas; Stollery, Phil
12:20 Continuous noise monitoring network design: an end user perspective
Sparke, Clayton James

Tuesday 11:00-12:20 Room 213 Q2f Numerical methods in vibro-acoustics

Chair: Stephen Conlon, Weikang Jiang

11:00 Sound transmission between rooms coupled through partition with elastically restrained edges
Zhang, Yufei; Du, Jingtao; Liu, Yang; Yang, Tiejun; Liu, Zhigang
11:20 Transfer-matrix-based approach for an eigenvalue problem of a coupled rectangular cavity
Iwamoto, Hiroyuki; Tanaka, Nobuo
11:40 Study on aero-acoustic structural interactions in fan-ducted system
Chiang, Yan Kei; Choy, Yat Sze; Cheng, Li; Tang, Shiu Keung
12:00 Modal contributions to the acoustic responses of fluid-loaded shells
Qu, Yegao; Hua, Hongxing; Peters, Herwig; Kessissoglou, Nicole

Tuesday 11:20-12:40 Room 212 Q6b Inverse approaches in vibro-acoustics

Chair: Jeong-Guon Ih, Nourredine Atalla

11:20 A shape classification for the acoustic radiator using its sound field
Kim, Koo-Hwan; Kim, Yang-Hann
11:40 A moving sound source localization method based on TDOA
Miao, Feng; Yang, Diange; Wang, Rujia; Wen, Junjie; Wang, Ziteng; Lian, Xiaomin
12:00 High-resolution nearfield acoustic holography based on iterative weighted equivalent source method
Xu, Liang; Bi, Chuan-Xing; Zhang, Xiao-Zheng; Zheng, Chang-jun
12:20 A new method for monitoring far-field noise level with a few near-field sensors
Cheng, Xiaobin; Wang, Xun; Yang, Jun; Tian, Jing

Tuesday 11:00-12:40 Room 211 N6b Noise in lightweight structures

Chair: Jeffrey Mahn, Rikard Öqvist

11:00 Challenges for acoustic calculation models in "Silent Timber Build", Part 2
Kouyoumji, Jean-Luc; Bard, Delphine Gérard; Borello, Gérard; Guigou, Catherine
11:20 Laboratory data examining impact and airborne sound attenuation in heavy timber loft style construction.
Byrick, Wilson Robert
11:40 Effects of sample construction, sample size and niche depth on measured sound transmission loss
Wareing, Robin R; Davy, John Laurence; Pearse, John R
12:00 The uncertainty in sound insulation of an industrially prefabricated lightweight timber construction
Öqvist, Rikard
12:20 Laboratory facilities for sound transmission measurements – validation by measurement and simulation methods
Meissnitzer, Marlon; Buchegger, Blasius; Ferk, Heinz

Tuesday 11:00-12:40 Room 210 N8d Room acoustics

Chair: Toru Otsuru, Delphine Bard

11:00 The prediction of the complex characteristic acoustic impedance of porous materials
Larner, David James; Davy, John Laurence
11:20 A BEM study of the influence of musicians on onstage sound field measures in auditoria
Panton, Lilyan; Holloway, Damien
11:40 An explicit time-domain finite-element method for room acoustics simulation
Okuzono, Takeshi; Otsuru, Toru; Sakagami, Kimihiro
12:00 Digital sound system modelling and design
Davis, Lauren; Mackenzie, Neil
12:20 Evaluation of the acoustic performance of a theatrical space set up in a restored Latomia in Ragusa Iblea
Patania, Francesco; Gagliano, Antonio; Nocera, Francesco; Cicero, Andrea

Tuesday 11:40-12:40 Room 209 S4a Soundscape and methods of evaluation

Chair: Brigitte Schulte-Fortkamp, Paul Schomer

11:40 Measuring a Soundscape of the captive Southern White Rhinoceros (Ceratotherium simum simum)
Wiseman, Susan; Wilson, Preston S; Sepulveda, Frank

12:00 Towards a quantitative tool to assess the soundscape
Welch, David; Shepherd, Daniel; Dirks, Kim N; Tan, Mei Yen

12:20 Soundscape Transects: Case Studies from New York City and O'ahu
Carter, J Parkman

Tuesday 11:20-12:00 Room 208 D8b Motor vehicle noise - policy and regulation

Chair: Hans Bendtsen, James McIntosh

11:20 Outcome based optimisation of road traffic noise mitigation
Kean, Simon

11:40 Buffer distances for surface roads and elevated highways correlated with pre-existing ambient noise
Zhang, Jiping; Buret, Marc; Wu, Shuoxian; Zhao, Yuezhe; Shen, Saiyan; Zhang, Xin

Tuesday 11:20-12:40 Room 207 R5 Bubble acoustics

Chair: Joe Cuschieri

11:20 Application of lattice Boltzmann method to research bubble interacting with spherical particle
Shi, Dongyan; Wang, Zhikai; Zhang, Aman

11:40 Interaction of a pair of horizontally aligned bubbles in gravity field
Jiao, Han; Shi, Dongyan; Wang, Zhikai; Li, Hongqun

12:00 Planar laser induced fluorescence imaging of bubble formation
Fedrizzi, Marcus; Soria, Julio

12:20 Acoustic imaging of surface ship wakes
Kouzoubov, Alexei; Wood, Shane; Ellem, Richard

Tuesday 11:20-12:20 Room 206 T3b Effects of noise on humans

Chair: Lily Wang, Andreas Liebl

11:20 Transferability of the results from laboratory basic research on cognitive impairment by background sound to real life offices
Liebl, Andreas; Kittel, Maria

11:40 Road traffic noise, air pollution and cardio-respiratory health in European cohorts: a harmonised approach in the BioSHaRE project
Blangiardo, Marta; Cai, Samuel; De Hoogh, Kees; Gulliver, John; Morley, David; Doiron, Dany; Elliott, Paul; Hansell, Anna; Hodgson, Susan

12:00 Prediction of virtual sound source elevation improved by including input source spectral shape in the prediction equation
Manor, Ella; Martens, William Leigh

Tuesday 13:40-15:20 Room 220 E2 Ground-borne vibration and noise from railways

Chair: Jinchen Ji

13:40 Force Density Measurements at Sound Transit
Nelson, James; Watry, Derek; Faner, Patrick; Lamb, Isabelle; Reed, Tracy; Wright, Armin

14:00 Use of a "Hybrid" Empirical/Finite Element Approach for Predicting Groundborne Vibration from Rail Systems
Saurenman, Hugh; Roulo, Eric

14:20 A parametric study on the influence of track irregularities upon train induced ground vibration
Yokoyama, Hidefumi; Yashiro, Kazuyuki; Kato, Shinjiro; Ohta, Takehiro

14:40 Study on elevated light rail induced vibration attenuation along the surrounding ground
Liu, Changqing; Zhou, Yude; Tu, Ying; Xu, Weimin

15:00 Experimental modal analysis of high-speed railway carriage
Ouyang, Shan; Sui, Fusheng

Tuesday 13:40-15:20 Room 219 V2a Sound visualization and manipulation

Chair: Yang-Hann Kim, William Martens

13:40 Exploring the limitations and expectations of sound source localization and visualization techniques.
Heilmann, Gunnar; Doebler, Dirk; Boeck, Magdalena

14:00 Developing beam-forming devices to detect squeak and rattle sources by using FPGA
Kim, Youngkey; Kang, Jungoo; Lee, Myunghan

14:20 Detection and direction estimation of a sudden loud sound for the hearing assistive eyeglasses
Kim, Ki-Won; Choi, Jung-Woo; Kim, Yang-Hann
14:40 Non-stationary Holography on Arbitrary Source Shapes
Gomes, Jesper; Ishii, Yutaka; Ginn, Bernard
15:00 Reconstruction of sound fields with a spherical microphone array
Fernandez-Grande, Efren; Tim, Walton

Tuesday 13:40-15:40 Room 218 L3a Applications and systems for active control

Chair: Xiaojun Qiu, Woon Seng Gan

13:40 Applying Active Noise Control Technique for Augmented Reality Headphones
Ranjan, Rishabh; Woon Seng, Gan; Yong-Kim, Chong
14:00 Active Snore Control System Integrated with Apnea Detector
Kuo, Sen M; Chang, Cheng-Yuan; Pottim, Karunakar; Liu, Lichuag
14:20 A decoupled hybrid structure for active noise control with uncorrelated narrowband disturbances
Wu, Lifu; Qiu, Xiaojun; Burnett, Ian S; Eva, Cheng; Guo, Yecai
14:40 Development of a voice shutter (Phase 1: A closed type with feed forward control)
Nishimura, Masaharu; Tanaka, Toshihiro; Shiratori, Koji; Sakurama, Kazunori; Nishida, Shinichiro
15:00 Active flow control of the exhaust noise from internal combustion piston engine
Leclercq, Damien J J; Howard, Carl

Tuesday 13:40-15:00 Room 217 G3 Wind turbines - Evaluation at neighbours II

Chair: Renzo Tonin

13:40 Using Wind Farm Noise Auralisations for Effective Community Consultation
Butera, Frank; Burgemeister, Kym; Fisher, Kai; Mounter, David
14:00 The noise characteristics of 'compliant' wind farms that adversely affect its neighbours
Large, Sarah; Stigwood, Mike
14:20 The Relevance of the Precautionary Principle to wind farm noise planning
Thorne, Bob
14:40 Initial findings of the UK Cotton Farm Wind Farm long term community noise monitoring project
Stigwood, Mike; Stigwood, Duncan; Large, Sarah

Tuesday 13:40-15:20 Room 216 C4a New experimental techniques

Chair: Vincent Valeau, Carsten Spehr

13:40 Beamforming array optimisation and phase averaged sound source mapping on a model wind turbine
Prime, Zebb; Doolan, Con J; Zajamsek, Branko
14:00 Development of the Microphone-Array Measurement Technique for use in Cryogenic and Pressurized Wind Tunnels
Ahelfeldt, Thomas; Spehr, Carsten
14:20 Beamforming of aeroacoustic sources in the time domain
Fischer, Jeoffrey; Valeau, Vincent; Brizzi, Laurent-Emmanuel
14:40 Correlation of parallel car interior and exterior beamforming measurements in a wind tunnel
Neugebauer, Stefan; Rösel, Reinhard; Döbler, Dirk
15:00 Three-dimensional beamforming of aeroacoustic sources.
Porteous, Ric; Prime, Zebb; Valeau, Vincent; Doolan, Con J; Moreau, Danielle

Tuesday 13:40-15:20 Room 215 A3c Noise policy

Chair: Maurice Yeung, Marion Burgess

13:40 Challenge on Environmental Mitigation Measures on Site Formation Work to Achieve Win-Win-Win Situation for Project Proponent,
Lee, Lawrence; Cheung, M K; Liu, Alfa
14:00 Effective noise objectives for industrial and resource developments – setting, compliance assessment monitoring and audit
Tickell, Colin
14:20 Noise sentinel – a proactive approach to noise management in mining operations at BHP Billiton Worsley Alumina Pty Ltd
Kenny, Silver; Manvell, Douglas
14:40 Quiet Construction: State-of-the-Art Methods and Mitigation Measures
Cheng, Kin Wui; Law, Chi-wing; Wong, Cheung-lam
15:00 Quality Powered Mechanical Equipment System to Reduce Construction Noise in Hong Kong
Law, Chi-wing; Wong, Cheung-lam

Tuesday 13:40-15:40 Room 214 H4a Airport noise modelling and measurement

Chair: Ichiro Yamada, Chris Middleton

13:40 Challenges in Producing an Australian Noise Exposure Forecast
McLeod, Ian; Latimore, Mark

14:00 Land-use planning at airports in Germany
Weinandy, Rene; Myck, Thomas; Thierbach, Roman

14:20 Reliability of aircraft noise evaluation by measurement for comparison with prediction
Shinohara, Naoaki; Yamada, Ichiro

14:40 Measurement of noise exposure planar distribution in aircraft approach path vicinity
Ishii, Hirokazu; Yokota, Takatoshi; Makino, Koichi; Shinohara, Naoaki; Sugawara, Masayuki

15:00 Noise assessment in the neighbourhood of Italian military airports
Filomena, Vincenzo; De Vivo, Luciano; Notarnicola, Lorenzo; Aversano, Renato; Tusciano, Manolo

15:20 Angular and distance dependence of the standard deviation of maximum sound level for aircraft noise
Wall, Martin; Liljergren, Mikael; Heed, Christer; Tari, Alborz

Tuesday 13:40-15:20 Room 213 Q3a Vibro-acoustic methods for noise control treatments

Chair: Nourredine Atalla, Stephen Hambric

13:40 Numerical modelling of the vibro-acoustic behavior of a closed vehicle with frequency dependent polymer materials
Bouayed, Kaiss; Mordillat, Philippe; Mebarek, Lassen; Hamdi, Mohamed Ali

14:00 Research on vibration and sound radiation characteristics of ship stiffened composite plate structure
Pang, Fu-zhen; Song, Hong-bao; Miao, Xu-hong

14:20 Optimal design of unconstrained damping material on a thin panel by using topology optimization
Yamamoto, Takashi; Yamada, Takayuki; Izui, Kazuhiro; Nishiwaki, Shinji

14:40 Optimal Configurations of ACLD/Plate for Bending Vibration Control using INSGA-II
Zhang, Dongdong; Zheng, Ling; Li, Yinong

15:00 Stochastic porous model of a bone-implant healing process using polynomial chaos expansion
Yang, Ji; Faverjon, Béatrice; Dureisseix, David; Swider, Pascal; Kessissoglou, Nicole

Tuesday 13:40-15:20 Room 212 Q7 Modal analysis

Chair: Robert Randall, Stephen Conlon

13:40 Automotive cabin characterization by acoustic modal analysis
Peeters, Bart; El-kafafy, Mahmoud; Accardo, Giampiero; Bianciardi, Fabio; Janssens, Karl

14:00 Using frequency and modal analysis to attenuate low frequency waves
Ziaran, Stanislav

14:20 Regeneration of frequency response functions from poles and zeros: a discussion with implications for cepstrum-based operational modal analysis
Smith, Wade A; Randall, Robert Bond

14:40 Removal of shaft speed related components from the response signals of a machine with varying speed prior to Operational Modal Analysis
Coats, Michael David; Randall, Robert Bond

15:00 A detailed experimental modal analysis of a clamped circular plate
Matthews, David; Sun, Hongmei; Saltmarsh, Kyle; Wilkes, Daniel Ryan; Munyard, Andrew; Pan, Jie

Tuesday 13:40-15:40 Room 211 N6c Noise in lightweight structures

Chair: Jeffrey Mahn, Jean-Luc Kouyoumji

13:40 A new building acoustical concept for lightweight timber frame constructions
De Geetere, Lieven; Ingelaere, Bart

14:00 The Optimization of a Wooden Floor Design Based on Validated Finite Element Models
Mahn, Jeffrey; Hopkins, Carl; Filippoupolitis, Marios; Schanda, Ulrich; Völtl, Raphael; Krajči, Luboš

14:20 Approximate formulae for the average one sided specific radiation wave impedance of a finite rectangular panel
Davy, John Laurence; Larner, David James; Wareing, Robin R; Pearse, John R

14:40 Prediction of Acoustic Performance of Composite Steel Floors
Ballagh, Keith Orsbourn; Chung, Hyuck

15:00 Measurements of junction vibration level differences of timber framed constructions
Homb, Anders

15:20 Flanking sound transmission in an innovative lightweight clay block building system with an integrated insulation used at multifamily houses
Buchegger, Blasius; Ferk, Heinz; Meissnitzer, Marlon

Tuesday 13:40-15:40 Room 210 N8e Room acoustics

Chair: Toru Otsuru, Noriko Okamoto

13:40 Generalized alternative image theory to estimating sound field for complex shapes of indoor spaces
Kong, Byunghak; Lee, Kyuho; Jang, Seokjong; Park, Seo-Ryong; Lee, Soogab

14:00 Theory and three-dimensional numerical simulation of sound propagation along a long enclosure with side opening
Chu, S H K; Tang, Shiu Keung

14:20 Reducing Noise and Optimizing Sound within Working Spaces
Probst, Fabian

14:40 Parameters design of a nonlinear membrane absorber applied to an acoustic cavity
Shao, Jianwang; Wu, Xian

15:00 Withdrawn3
Withdrawn3,

15:20 Finite element sound field analysis for correction of absorption coefficient in reverberation room
Tomiku, Reiji; Otsuru, Toru; Okamoto, Noriko; Okuzono, Takeshi; Azechi, Yoshiki; Yoshida, Tsuyoshi

Tuesday 13:40-15:40 Room 209 D3a Electric / hybrid vehicles

Chair: Dong Chul Park, David Quinn

13:40 Vibration Control of In-Wheel SRM for Electric Vehicle Applications
Sun, Wei; Li, Yinong; Xu, Guangzhong; Zhang, Nong

14:00 Measurement and analysis of the interior noise and the transfer path of acoustic phenomena into the driver cabin of a battery electric vehicle
Fischer, Jan; Behrendt, Matthias; Lieske, Dirk; Albers, Albert

14:20 Study of high frequency noise from electric machines in hybrid and electric vehicles
Bassett, Timothy Whitehead; Tate, Simon; Maunder, Matt

14:40 Vibro-acoustic measurements and techniques for electric automotive applications
Sarrazin, Mathieu; Gillijns, Steven; Janssens, Karl; Van Der Auweraer, Herman; Verhaeghe, Kevin

15:00 Comprehensive Automotive Active Sound Design part 1: electric and combustion vehicles
Bodden, Markus; Belschner, Torsten

15:20 Comprehensive Automotive Active Sound Design part 2: Operational Sounds and Brand Sound
Belschner, Torsten; Bodden, Markus

Tuesday 13:40-15:20 Room 208 D5 Ultralow noise surfaces

Chair: Truls Berge, Luc Goubert

13:40 Results from first Danish full scale test section with poroelastic road surface
Bendtsen, Hans; Stahlfest Holck Skov, Rasmus; Andersen, Bent

14:00 Tyre/road noise reduction by a poroelastic road surface
Ejsmont, Jerzy; Swieczko-Zurek, Beata; Sandberg, Ulf; Mioduszewski, Piotr

14:20 Developing a durable and ultra low noise poroelastic pavement
Goubert, Luc

14:40 Innovative low noise surfaces – comparison of damping and absorption
Freitas, Elisabete Fraga; Dias Rodrigues, José; Araújo, Jorge; Silva, Hugo

15:00 The best porous asphalt pavement in Sweden so far
Sandberg, Ulf; Mioduszewski, Piotr

Tuesday 13:40-15:40 Room 207 R6a Underwater noise from pile driving

Chair: Marten Nijhof

13:40 Analytical model for the sound pressure waveform radiated underwater when an offshore steel pipe pile is driven with an impact hammer
Hall, Marshall V

14:00 A comparison of numerical methods for the time domain modelling of pile driving noise in the near field
Wilkes, Daniel Ryan; Gourlay, Tim; Gavrilov, Alexander N

14:20 Overview of existing Noise Mitigation Systems for reducing Pile-Driving Noise
Bellmann, Michael

14:40 Caltrans compendium of underwater sound data from pile driving – 2014 update
Rodkin, Richard; Pommerenck, Keith

15:00 The new noise mitigation system 'Hydro Sound Dampers': history of development with several hydro sound and vibration measurements
Bruns, Benedikt; Kuhn, Christian; Stein, Philipp; Gattermann, Jörg; Elmer, Karl-Heinz

15:20 New achievements in underwater noise modelling for offshore pile driving
Trimoreau, Benjamin; Smidt Lützen, René; Vindahl Kringelum, Jon; Shajarati, Amir; Skjellerup, Peter

Tuesday 13:40-15:00 Room 206 S4b Soundscape and methods of evaluation

Chair: Brigitte Schulte-Fortkamp, Paul Schomer

13:40 Aures – The Advanced Environment Noise Monitoring System – Leq(A) or new measurement technology?
Leskinen, Antti; Hjort, Roy; Saine, Kari; Gao, Zengxin

14:00 WYSAHIWYG (What You See And Hear Is What You Get): Learning from photocartography in mapping the cross-modal features of the soundscape
Carter, J Parkman; Braasch, Jonas

14:20 QUADMAP, three pilots and a methodology
Wolfert, Henk

14:40 Determining noise effects from industrial development on Aboriginal soundscapes: insight into best practices
Muir, Bruce R

Tuesday 15:40-18:00 Room 220 T6a Psycho-acoustics in noise evaluation

Chair: Hugo Fastl, Joachim Scheuren

15:40 ISO 532 – Living and working with alternative loudness standards
Scheuren, Joachim

16:00 Continuous judgment of sound quality of electric home appliances
Kuwano, Sonoko; Namba, Seiichiro; Fastl, Hugo; Putner, Jakob

16:20 Psychoacoustic experiments on some unwanted interior car sounds
Fastl, Hugo; Beidenhauser, Georg

16:40 Measurement of air-conducted and bone-conducted dental drilling sounds
Yamada, Tomomi; Kuwano, Sonoko; Yasuno, Yoshinobu; Kaku, Jiro; Ebisu, Shigeyuki; Hayashi, Mikako

17:00 The comparison of psychological evaluation between military aircraft noise and civil aircraft noise
Morinaga, Makoto; Yamamoto, Ippei; Tsukioka, Hidebumi; Makino, Koichi; Kuwano, Sonoko; Matsumoto, Mitsuo

17:20 Ground-borne vibrations, sounds and secondary airborne sounds from tramways: a psychoacoustic evaluation including health aspects
Cik, Michael; Lercher, Peter

17:40 Overall loudness of short time-varying sounds
Schlittenlacher, Josef; Hashimoto, Takeo; Kuwano, Sonoko; Namba, Seiichiro

Tuesday 15:40-18:00 Room 219 T2 Reaction to traffic noise

Chair: Truls Gjestland, Hans Bendtsen

15:40 Subjective experiment on auditory localization for traffic alarm sounds in a heavy truck
Yokoyama, Sakae; Tachibana, Hideki; Makinouchi, Hideo

16:00 Experimental study of traffic noise and human response in an urban area: deviations from standard annoyance predictions
Salomons, Erik M; Janssen, Sabine A; Verhagen, Henk L M; Wessels, Peter W

16:20 The influence of location of the privileged vehicle siren on the vehicle traffic safety
Gorski, Pawel; Zawieska, Wiktor M

16:40 Noise annoyance for a motorway compared to urban roads
Bendtsen, Hans; Pedersen, Torben Holm; Le Ray, Guillaume; Kragh, Jørgen

17:00 Using mathematical models to predict annoyance from combined noise sources in the city of Dubai
Elmedhi, Hussein

17:20 Structural equation model of road traffic noise annoyance in Vietnam
Nguyen, Thu Lan; Yano, Takashi; Yokoshima, Shigenori; Morihara, Takashi

17:40 Social surveys on community response to road traffic in five cities in Vietnam
Shimoyama, Koji; Nguyen, Thu Lan; Yano, Takashi; Morihara, Takashi

Tuesday 16:00-18:00 Room 218 L3b Applications and systems for active control

Chair: Xiaojun Qiu, Woon Seng Gan

16:00 A new structure for nonlinear narrowband active noise control using Volterra filter
Liu, Jian; Xiao, Yegui; Chen, Hui; Liu, Wenbo

16:20 Basic study on active acoustic shielding: phase 6 improving the method to enlarge AAS window-2
Murao, Tatsuya; Nishimura, Masaharu; Sakurama, Kazunori; Nishida, Shinichiro

16:40 Active noise control in practice: transformer station
Buikema, Edwin; Van Der Ploeg, Fokke D; Granneman, Jan H

17:00 An integrated passive and active control system for reducing haul
Lin, Zhibin; Zhang, Limin; Qiu, Xiaojun; Pan, Jie

17:20 Applying an active noise barrier on a 110 KV power transformer in Hunan
Zou, Haishan; Huang, Xiaofan; Hu, Sheng; Qiu, Xiaojun
17:40 Virtual sound barrier for indoor transformers
Tao, Jiancheng; Wang, Shuping; Qiu, Xiaojun; Han, Ning; Zhang, Linke

Tuesday 16:00-17:40 Room 217 G4 Measurement - Infrasound, LFN, Tonality

Chair: Mark Bastasch

16:00 Infrasound and blade pass frequency levels in areas adjacent to wind farms
Lenchine, Valeri V; Song, Jonathan
16:20 Investigation of the time dependent nature of infrasound measured near a wind farm
Zajamsek, Branko; Hansen, Kristy; Hansen, Colin
16:40 Propagation thresholds and measurement of infrasound to establish separation distances from wind farm turbines to residences
Thorne, Bob
17:00 Analysis of wind turbine low frequency noise prediction accuracy
Evans, Tom; Cooper, Jonathan; Alamshah, Vahid
17:20 Comparison of the noise levels measured in the vicinity of a wind farm for shutdown and operational conditions
Hansen, Kristy; Zajamsek, Branko; Hansen, Colin

Tuesday 16:00-17:40 Room 216 C4b New experimental techniques

Chair: Vincent Valeau, Carsten Spehr

16:00 On the effect of mean flow profile, wavelength and array length on focal-resolution of a quadrupole source using aeroacoustic time-reversal
Mimani, Akhilesh; Doolan, Con J; Medwell, Paul R
16:20 Aeroacoustic time-reversal in the presence of a reflecting surface
Mimani, Akhilesh; Doolan, Con J; Medwell, Paul R
16:40 Detection and quantification of building air infiltration using remote acoustic methods
Raman, Ganesh; Chelliah, Kanthasamy; Prakash, Manisha; Muehleisen, Ralph T
17:00 Identification of acoustic event of selected noise sources in a long-term environmental monitoring systems
Klaczynski, Maciej; Wszolek, Tadeusz; Cioch, Witold; Wszolek, Wieslaw; Pawlik, Pawel; Mleczko, Dominik; Grzeczka, Anna
17:20 Sound source localisation using a single acoustic vector sensor and multichannel microphone phased arrays
Jing, Wen-Qian; Fernandez Comesaña, Daniel; Perez Cabo, David

Tuesday 15:40-16:40 Room 215 U2 Noise management in challenging industries

Chair: Pam Gunn, Emma Shanks

15:40 Development of an Occupational Noise Exposure Reduction Project for Defence in Australia
Teague, Peter; Conomos, James; Alexandrou, Vasos; Jennings, Martin
16:00 Defending workers against hearing loss: Why aren't workers hearing our message?
Elsey, Benjamin; Jennings, Martin
16:20 Noise in the United Kingdom printing industry: then and now
Shanks, Emma

Tuesday 16:40-17:40 Room 215 B5 Buy quiet

Chair: John Macpherson, Pam Gunn

16:40 Sound pressure level and sound power level declarations: navigating the maze
Shanks, Emma
17:00 Is the airborne sound power level of a source unambiguous?
Kurtz, Patrick
17:20 New York City's New Noise Code and NYU's Citygram-Sound Project
Shamoon, Charles; Park, Tae Hong

Tuesday 16:00-17:40 Room 214 H4b Airport noise modelling and measurement

Chair: Ichiro Yamada, Chris Middleton

16:00 Practical method of considering effects of terrain and building structures on sound propagation
Yamada, Ichiro

16:20 Experimental study of meteorological and ground effects on outdoor sound propagation for developing aircraft noise prediction model
Yokota, Takatoshi; Makino, Koichi; Matsumoto, Toshio; Yamamoto, Kohei; Ishii, Hirokazu
16:40 Including atmospheric propagation effects in aircraft take-off noise modeling
Arntzen, Michael; Hordijk, Martijn; Simons, Dick G
17:00 Influence of the atmospheric stratification on the sound propagation of single flights
Zellmann, Christoph; Wunderli, Jean Marc
17:20 Assessing all noise sources in one model. Implementation of INM and ECAC 3rd Edition in Noise Mapping Software
Notario, Antonio

Tuesday 15:40-17:00 Room 213 Q3b Vibro-acoustic methods for noise control treatments
Chair: Nourredine Atalla, Stephen Hambric

15:40 Modeling and experimental validation of cellular porous material with large resonant inclusions
Doutres, Olivier; Atalla, Noureddine; Osman, Haisam
16:00 Prediction of Sound Transmission through Elastomeric Bulb Seals
Atamer, Serkan; Çaliskan, Mehmet; Özgen, Gökhan O
16:20 Applying dynamic mechanical analysis to research & development for viscoelastic damping materials
Rasa, Alexander
16:40 Optimization design method for Constrained Damping layer's noise reduction based on the Hoff sandwich plate theory
Shi, Dongyan; Wang, Qingshan; Shi, Xianjie

Tuesday 17:00-18:00 Room 213 Q4a Vibration and vibro-acoustic experiments
Chair: Stephen Conlon, Stephen Hambric

17:00 Analysis of seismic response on the excitation of support structures
Ziaran, Stanislav; Cekan, Michal; Chlebo, Ondrej; Musil, Milos
17:20 Assessment of Vibrations from a Seismic Test Facility
Lee, Yong Keat; Mackenzie, Neil
17:40 An approach to optimal sensor placement for vibration tests on large structures
Yuan, Chunhui; Zhang, Junjie

Tuesday 15:40-17:40 Room 212 B3 Machinary N&V - Computations
Chair: Xia Pan

15:40 Acoustic radiation response prediction of thin-walled box with particle dampers using multiphase flow theory of gas-particle
Wu, Chengjun; Wang, Dongqiang; Yang, Ruichao; Lei, Xiaofei
16:00 Sound radiation from a water-loaded cylinder due to machine noise
Pan, Xia; Tso, Yan; Forrest, James; Peters, Herwig
16:20 A Rayleigh-Ritz method based on improved Fourier series for vibration analysis of cylindrical shell coupled with elastic beams
Zhang, Runze; Cao, Yipeng; Li, Liaoyuan
16:40 Vibration Input Identification using Dynamic Strain Measurement
Itofuji, Takumi; Yoshimura, Takuya
17:00 Analytical model for the airborne sound pressure waveform radiated when an offshore steel pipe pile is driven with an impact hammer
Hall, Marshall V
17:20 The new method for focusing properties of the acoustical steady field in room
Liu, Song; Li, Sheng

Tuesday 16:00-18:00 Room 211 N6d Noise in lightweight structures
Chair: Rikard Öqvist, Heinz Ferk

16:00 Vibration reduction in lightweight floor/ceiling systems with a sand-sawdust damping layer
Chung, Hyuck; Emms, Grant
16:20 Noise control by design: A tool intended for architectural use
Sentop, Ayca; Tamer Bayazit, Nurgun; Altun, M Cem
16:40 Design of a standalone, modular test facility for measuring sound transmitted through a common ceiling plenum
Barclay, Edward A; Wareing, Robin R; Pearse, John R
17:00 Research on sound insulation of multiple-layer structure with porous material and air-layer
Bai, Guofeng; Zhan, Pei; Sui, Fusheng; Yang, Jun

17:20 The equivalent translational compliance of steel studs and resilient channel bars
Hirakawa, Susumu; Davy, John Laurence
17:40 Sound insulation of application for composite wood panel
Chou, Chuan-Wen; Chen, Chen Yu; Lai, Rong Ping; Sun, Philip

Tuesday 16:00-18:00 Room 210 N5 Propagation and generation of low frequency noise in buildings

Chair: Delphine Bard, Klas Hagberg

16:00 Comparison of the results of a laboratory experiment and a field study with regard to acoustic quality in wooden buildings and recommendations for classification of acoustic quality
Liebl, Andreas; Späh, Moritz; Bartlomé, Olin; Kittel, Maria
16:20 Low frequency sound transmission in multifamily wooden houses
Hagberg, Klas; Bard, Delphine
16:40 Acoustic Solutions for Wooden Intermediate Floors
Bartlomé, Olin; Liebl, Andreas
17:00 Challenges for acoustic calculation models in "Silent Timber Build", Part 1- FEM
Bard, Delphine; Negreira, Juan; Kouyoumji, Jean-Luc; Borello, Gérard; Guigou, Catherine
17:20 Cost benefit analysis of acoustic treatments for inner-city residential premises near entertainment venues
Borgeaud, David
17:40 Improvement effect of the infrasound and vibration due to repair of the bridge
Fukada, Saiji; Kaneishi, Yoshimune; Hama, Hirokazu; Okada, Hiroyuki

Tuesday 16:00-18:00 Room 209 D3b Electric / hybrid vehicles

Chair: Dong Chul Park, David Quinn

16:00 Subjective evaluation of additive sound designed to reinforce acoustic feedback of electric vehicle
Gwak, Doo Young; Yoon, Kiseop; Seong, Yeolwan; Lee, Soogab
16:20 Sound design of electric vehicles - Challenges and risks
Genuit, Klaus; Fiebig, André
16:40 Urban environment audio simulation for contextual evaluation of Quiet Vehicles' sound design
Misdariis, Nicolas; Gerber, Julien; Aleonard, Julien
17:00 Designing and delivering the right sound for quiet vehicles
Allman-Ward, Mark; Williams, Roger; Heinz, Thorsten; Demontis, Maurizio
17:20 Detectability and hearing impression of additional warning sounds for electric or hybrid vehicles
Yamauchi, Katsuya; Sano, Takaichi; Hasegawa, Shin; Tamura, Fumio; Takeda, Yuichiro
17:40 Development of a next-generation audible pedestrian alert system for EVs having minimal impact on environmental noise levels project eVADER
Quinn, David C.

Tuesday 15:40-17:20 Room 208 D7 Modelling and mapping traffic noise

Chair: Ben Hinze, Kym Burgemeister

15:40 Road traffic noise prediction model "ASJ RTN-Model 2013" proposed by the Acoustical Society of Japan – Part 1: Outline of the calculation model
Sakamoto, Shinichi; Matsumoto, Toshio; Tajika, Terutoshi; Fukushima, Akinori
16:00 Road traffic noise prediction model "ASJ RTN-Model 2013" proposed by the Acoustical Society of Japan – Part 2: Study on sound emission of road vehicles
Okada, Yasuaki; Tajika, Terutoshi; Sakamoto, Shinichi
16:20 The effects of vegetation on road traffic noise
Peng, Jeffrey; Bullen, Robert; Kean, Simon
16:40 Noise modelling of road intersections
Lau, Akil; Lee, Yong Keat; Dawson, Bill; Name, Neil
17:00 Effects upon the urban noise of prioritizing bicycle traffic at intersections
Cueto, Jose Luis; Hernandez, Ricardo; Fernandez, Francisco; Sales, Diego; Priego, Javier Cristino

Tuesday 16:00-17:40 Room 207 R6b Underwater noise from pile driving

Chair: Joe Cuschieri

16:00 An efficient model for prediction of underwater noise due to pile driving at large ranges
Nijhof, Marten J J; Binnerts, Bas; De Jong, Christ A F; Ainsle, Michael A
16:20 New Hydro Sound Dampers to reduce piling underwater noise
Elmer, Karl-Heinz; Savery, John
16:40 Hydro sound measurements during the installation of large diameter offshore piles using combinations of independent noise mitigation systems
Bruns, Benedikt; Stein, Philipp; Stein, Philipp; Kuhn, Christian; Gattermann, Jörg

17:00 Dynamic measurements of pile deflections as a source of underwater sound emissions during impact driving of offshore pile foundations
Kuhn, Christian; Sychla, Hauke; Stein, Philipp; Bruns, Benedikt; Gattermann, Jörg; Degenhardt, Jan
17:20 On the estimation of prediction accuracy in numerical offshore pile driving noise modelling
Lippert, Tristan; Heitmann, Kristof; Ruhnau, Marcel; Lippert, Stephan; Von Estorff, Otto

Tuesday 16:00-18:00 Room 206 S3 Soundscape and noise control

Chair: Brigitte Schulte-Fortkamp, Paul Schomer

16:00 The measurement of soundscapes – Is it standardizable?
Genuit, Klaus; Fiebig, André
16:20 On seeking methodology to "measure" a soundscape
Schomer, Paul D
16:40 How do ordinary people evaluate noise pollution in the context of environmental issues?
Nagahata, Koji
17:00 Sharing ideas about noise management and community design
Dubbink, David
17:20 Soundscape Identification in Noise Annoyance Evaluation
Yu, Lei; Kang, Jian; Liang, Hong; Xie, Charles
17:40 Soundscape mapping in urban contexts using GIS techniques
Hong, Joo Young; Jeon, Jin Yong

Wednesday 08:20-10:40 Room 220 T6b Psycho-acoustics in noise evaluation

Chair: Hugo Fastl, Sonoko Kuwano

08:20 A Study on sound quality evaluation index of car door latch and improving sound quality by modifying door latch assembly design
Jo, Hyeonho; Seong, Weonchan; Lee, Hyeongrae; Kim, Seonghyeon; Park, Dongchul; Kang, Yeon June
08:40 Evaluation of Diesel powertrain noise -Difference between Professional and Non-professional-
Hashimoto, Takeo; Hatano, Shigeko; Shin, Sung-Hwan
09:00 Simulation of gear rattle to aid in the development of sound quality metrics for diesel engine component specification
Sobecki, Brandon; Davies, Patricia; Bolton, J. Stuart
09:20 In-service measurement of heavy vehicle engine brake noise
Kean, Simon; Bullen, Robert; Arredondo, Jose
09:40 Influence of low SPL and bird twittering sounds on the loudness for road traffic noise
Kuwano, Kazuki; Yoshida, Junji
10:00 Influences of Vehicle Exterior Images on Sound Quality Ratings: German vs. Japanese Drivers
Yoshida, Junji; Volk, Florian; Fastl, Hugo; Rigoll, Gerhard
10:20 A psychoacoustic assessment of road traffic noise for indoor aural comfort in high-rise built environment
Sheikh, Mahbub Alam; Lee, Siew Eang

Wednesday 08:20-10:20 Room 219 V2b Sound visualization and manipulation

Chair: Yang-Hann Kim, Jung-Woo Choi

08:20 Wideband acoustical holography
Hald, Jorgen
08:40 Development of the Double NAH method
Nagamatsu, Masao
09:00 Multi-spectral acoustical imaging
Nakamura, Kentaro; Guo, Xinhua
09:20 A microphone position calibration method in a reverberant environment for a randomly distributed array
Teng, Pengxiao; Xiao, Ying; Yang, Yichun
09:40 Virtual in-ear microphone for in-vehicle noise control based on array technology and modified zero point attraction LMS algorithms
Adnadjevic, Mirjana; Botteldooren, Dick
10:00 Creation of a single sound field for multiple listeners
Poletti, Mark Alister; Betlehem, Terence

Wednesday 08:20-10:40 Room 218 L4a Active vibration control and active structural acoustic control

Chair: Li Cheng, Youngjin Park

08:20 Analysis of frequency-domain active noise control algorithm with parallel structure
Lee, Nokhaeng; Park, Youngjin

08:40 Active Noise Control Experiments for an Acoustic-Structural Coupled Enclosure using Structural-Based Virtual Sensors
Halim, Dunant; Cheng, Li

09:00 On synchrophasing control of vibration for a floating raft vibration isolation system
Yang, Tiejun; Zhou, Liubin; Brennan, Michael J; Zhu, Minggang; Liu, Zhigang

09:20 Semi-active noise suppression based on SSD technique using piezoelectric elements
Ji, Hongli; Cheng, Li; Qiu, Jinhao; Nie, Hong

09:40 Active vibration control using compliant-based actuators
Mareta, Sannia; Halim, Dunant; Popov, Atanas

10:00 Combined force-moment actuator for ASAC
Jiricek, Ondrej; Jandak, Vojtech; Brothanek, Marek

10:20 A study on the influence of model uncertainties on the performance of a feedback control based ASAC system
Bagha, Ashok K; Modak, S V

Wednesday 08:20-10:20 Room 217 G5 Evaluation of wind turbine noise source mechanisms

Chair: Lars Sondergaard

08:20 Application of stochastic wind model to investigate swishing characteristics of infrasound and low frequency noise from wind turbine
Lee, Gwang-Se; Cheong, Cheolung

08:40 Cyclic pitch for the control of wind turbine noise amplitude modulation
Bertagnolio, Franck; Madsen, Helge Aagaard; Fischer, Andreas; Bak, Christian

09:00 Tonal characteristics of wind turbine drive trains
Dawson, Bill; Mackenzie, Neil

09:20 Wind Turbine Tower Resonance
Sjöström, Anders; Novak, Colin; Ule, Helen; Bard, Delphine; Persson, Kent; Sandberg, Göran

09:40 Numerical simulation and aeroacoustic noise modelling of a wind turbine using a blade section in an annulus
Wasala, Sahan Hasaranga; Norris, Stuart Edward; Cater, John Edward

10:00 Classification of damage for planetary gear of wind turbine simulator
Seo, Yun-Ho; Kim, Sang-Ryul; Kim, Bong-Ki; Lee, Seong-Hyun; Kim, Jae-Seung

Wednesday 08:20-09:40 Room 216 C5 Aircraft engine noise

Chair: Michael Bauer, Luís Campos

08:20 Aeroacoustic source localization on open rotor aircraft model in wind tunnel tests
Chiariotti, Paolo; Martarelli, Milena; Tomasini, Enrico Primo; Castellini, Paolo

08:40 Adapting a propeller noise model for aircraft at cruising altitudes
Blunt, David M; Jones, Adrian; Mewett, David

09:00 Lattice Boltzmann Study of the Geometric Effect of a Perforated Orifice on Its Damping Performance
Ji, Chenzhen JI; Zhao, Dan; Li, Shihuai; Li, Xinyan

09:20 A Coherence Approach to Characterizing Broadband Sound Fields in Ducts
Joseph, Phillip

Wednesday 09:40-11:00 Room 216 C6 Jet noise

Chair: John Cater

09:40 Challenges associated with studying nonlinear distortion of acoustic waveforms emitted by high-speed jets
Baars, Woutijn J; Tinney, Charles E; Hamilton, Mark F

10:00 Using Post analysis of a noise sample stream in place of noise monitor based thresholds in the detection of aircraft noise
Harding Ferrier, Myles; Ferrier, Douglas

10:20 Acoustic characteristics of annular jets
Bellidega, Krishna Chaitanya; Dhamanekar, Abhijit; Srinivasan, K

10:40 Severity assessment of circular orifice synthetic jet based on sound pressure level
Kanase, Mahesh; Mangate, Laxmikant; Chaudhari, Mangesh

Wednesday 08:40-10:20 Room 215 W1 Instrumentation

Chair: Sebastian Oberst

08:40 Controlling Cyanobacteria with ultrasound
Leclercq, Damien J J; Howard, Carl; Hobson, P; Dickson, S; Zander, Anthony C; Burch, M

09:00 Report of low power noise monitoring system using solar panel
Sato, Naru; Kazama, Ryosuke; Ohya, Masaharu

09:20 An innovative signal processing technique for the extraction of ants' walking signals
Oberst, Sebastian; Enrique, Nava Baro; Lai, Joseph C S; Evans, Theodore A

09:40 Measurement Examples of a New Wireless Measuring System
Yonemoto, Yuichi; Kurosawa, Yu; Nakajima, Yasutaka; Ohya, Masaharu

10:00 Infrasound sensors and their calibration at low frequency
Larsonnier, Franck; Uszakiewicz, Hans-Günter; Mende, Michael

Wednesday 08:20-10:40 Room 214 H5 Numerical methods for predicting outdoor sound propagation

Chair: Maarten Hornikx

08:20 Effect of input data in the impact studies of road traffic noise in a time-domain model
Guillaume, Gwenaël; Gauvreau, Benoit

08:40 Incorporating directivity in the Pseudospectral time-domain method by using spherical harmonics
Georgiou, Fotis; Hornikx, Maarten

09:00 Three-dimensional wave-based simulation of outdoor sound propagation using the constrained interpolation profile method with a variable-grid technique
Ishizuka, Takashi; Okubo, Kan

09:20 Noise propagation simulation in and around buildings using improved integral energy equations
Masuda, Kiyoshi

09:40 Calculation of Acoustic Green's Function using BEM and Dirichlet-to-Neumann-type boundary conditions
Harwood, Adrian R G; Dupère, Iain D J

10:00 Acoustic Green's functions using the Sinc-Galerkin method
Harwood, Adrian R G; Dupère, Iain D J

10:20 Comparison of the results of numerical and geometrical outdoor acoustic simulations in a real-life area
Hoshi, Kazuma; Oshima, Takuya; Hiraguri, Yasuhiro

Wednesday 08:20-10:20 Room 213 Q4b Vibration and vibro-acoustic experiments

Chair: Stephen Conlon, Nourredine Atalla

08:20 Experimental study on sound transmission in condenser
Kong, Weitao; Xu, Wang; Ming, Pingjian; Liu, Gongmin

08:40 Vibration analysis based on time-frequency analysis with a digital filter: Application to nonlinear system identification
Itoh, Yoshiaki; Imazu, Taku; Nakamura, Hiroki; Yamazaki, Toru

09:00 The actuality of acousto-mechanical resonances for noise control
Vinokur, Roman

09:20 A new high-frequency impedance tube for measuring sound absorption coefficient and sound transmission loss
Kimura, Masateru; Kunio, Jason; Schuhmacher, Andreas; Ryu, Yunseon

09:40 Broadband dynamic parameters measurement by longitudinal vibration testing using pulse wave
Hou, Hong; Wei, Zhengyu; Dai, Yang; Yang, Jianhua

10:00 Improving the sound insulation of construction boards with a high damping glue
Kinnari, Lasse

Wednesday 08:40-10:40 Room 212 Q5 Vibro-acoustics of lightweight composite panels

Chair: Stephen Hambric, Steffen Marburg

08:40 Sound radiation from the waveguide double plate regarding air cavity between the upper and lower plates
Kim, H; Ryue, J

09:00 Quieting a rib-framed honeycomb core sandwich panel for a rotorcraft roof
Hambric, Stephen; Shepherd, Micah; Snider, Royce; May, Carl

09:20 Patterned fibre constrained layer damping for composite materials
Verstappen, Andre P; Pearse, John R

09:40 Dynamic Laminate Model for Broadband Frequency Prediction
Borello, Gérard; Duval, Arnaud

10:00 Global sensitivity analysis of acoustic transmission models
Christen, Jean-Loup; Ichchou, Mohamed; Troclet, Bernard; Ouisse, Morvan
10:20 Numerical modelling and experimental determination of the dynamic behaviour of composite structures
Cohen, Brandon; Dylejko, Paul; Moore, Stephen; Phillips, Andrew

Wednesday 08:20-10:20 Room 211 K1a Noise barriers

Chair: Jean Piere Clairbois, Crina Oltean-Dumbrava

08:20 Sustainability Criteria for standardisation of noise reducing devices
Oltean-Dumbrava, Crina; Clairbois, Jean-Pierre
08:40 The frequency and angular dependence of the absorption coefficient of common types of living plants
Prisutova, Jevgenija; Horoshenkov, Kirill; Groby, Jean-Philippe; Brouard, Bruno
09:00 Lightweight noise barrier
Ho, Wilson; Wong, Wylog; Naveed, Yasir
09:20 A study on sound insulation using rectangular plenum chamber arrays
Lee, Seong-Hyun; Kim, Sang-Hoon
09:40 Three dimensional quasi-periodic noise barriers
M B Fard, Samaneh; Peters, Herwig; Kessissoglou, Nicole; Marburg, Steffen
10:00 Transformation of sound by a phononic crystal
Côté, Nicolas; Vasseur, Jérôme; Souron, Quentin; Hladky-Hennion, Anne-Christine

Wednesday 08:40-10:20 Room 210 N9a Impact noise in buildings

Chair: Berndt Zeitler, Atsuo Hiramitsu

08:40 Subjective evaluation of floor impact sound of wood-frame construction dwellings in different living situation
Sato, Hiroshi; Hirota, Tomohito; Hiramitsu, Atsuo; Tanaka, Manabu
09:00 Uncertainties and validation procedures for the Compact Measurement Setup
Schmidt, Jan-Henning; Wittstock, Volker; Langer, Sabine C
09:20 Field Floor Impact Noise South-East Queensland (Australia)
Huang, Eric Hsin-Cheng
09:40 Floor impact sound insulation of timber three-story school building for final full-scale fire test
Hiramitsu, Atsuo; Hasemi, Yuji; Kaku, Teruhiko
10:00 Comparison of Resiliently Suspended Floating Slab Constructions
Downey, Paul; Byrick, Wilson; Bonnycastle, William

Wednesday 08:40-10:20 Room 209 D9a Mufflers and silencers

Chair: Yatsze Choy, James McIntosh

08:40 Performance of multiple micro-perforated panels in a duct
Liu, Y; Choy, Yat Sze; Chiang, Yan Kei
09:00 Improving muffler performance using simulation-based design
Cui, Fangsen; Wang, Ying; Cai, Richard Chao
09:20 Acoustic performance of a plate with varying perforations
Wang, Xiaonan; Zhang, Weichen; Ying, Lechun
09:40 Adaptive quarter wavelength tube tuned by varying air temperature
Doherty, Kieran; Larizza, Francesco; Tripodi, Matthew; Howard, Carl
10:00 Potential of fibre-reinforced components for lightweight construction machines with low noise emission
Kolbe, Frank; Dannemann, Martin; John, Sebastian; Modler, Niels

Wednesday 08:40-10:00 Room 208 F1a Noise events from transportation noise

Chair: Lex Brown, Bert de Coensel

08:40 An overview of concepts and past findings on noise events and human response to surface transport noise
Brown, Alan Lex
09:00 The role of noise events in noise research, policy and practice (peaks, events or both...)
Van Kamp, Irene; Van Poll, Ric
09:20 Are noise events from surface transport predictable? Insights from a wide measurement campaign
Can, Arnaud; Guillaume, Gwenaël; Gauvreau, Benoit
09:40 A concept on predicting road network scale noise event probability by road function
Naish, Daniel A

Wednesday 08:20-10:40 Room 207 R7 Numerical methods in underwater acoustics - Transmission

Chair: Doug Cato

08:20 The influence of finely layered seabeds on acoustic propagation in shallow water
Duncan, Alec J; Gavrilov, Alexander N; Koessler, Matthew W

08:40 Tidal effects on acoustic propagation off eastern Australia
Robertson, Robin; Hartlipp, Paul

09:00 Acoustic ray propagation in the waters off eastern Australia using ocean glider data
Clements, Jacqueline; Robertson, Robin

09:20 Further Considerations for Approximating a Physics-Based Model of Surface Reflection Loss
Jones, Adrian; Zinoviev, Alex; Bartel, David Wayne

09:40 The spatial structure of an acoustic wave propagating through a layer with high sound speed gradient
Zinoviev, Alex; Bartel, David Wayne

10:00 A forecasting method for near-field scattering characteristics of underwater complex shells
Zhao, Anbang; Zhao, Zhishan; Zhou, Bin

10:20 Results of the ray-tracing based solver BEAM for the approximate determination of acoustic backscattering from thin-walled objects
Burgschweiger, Ralf; Schäfer, Ingo; Ochmann, Martin; Nolte, Bodo

Wednesday 08:20-10:00 Room 206 S5 Soundscapes and health related quality of life

Chair: Peter Lercher, Daniel Shepherd

08:20 Health in the noise context: the relativity of absolute health
Shepherd, Daniel; Dirks, Kim N; McBride, David Iain; Welch, David

08:40 Aviation-related noise-induced annoyance and health-related quality of life
Dirks, Kim N; Shepherd, Daniel; Welch, David; McBride, David

09:00 Assessing the relationship between perceived disturbances from traffic, restorative qualities of the living environment, and health
Von Lindern, Eike; Hartig, Terry; Lercher, Peter

09:20 Influence of soundscape and interior design on anxiety and perceived tranquillity of patients in a healthcare setting
Watts, Greg; Khan, Amir; Pheasant, Rob

09:40 Sound Source Study in Shenzhen China
Liang, Hong; Yu, Lei; Zhao, Kang Sai; Zhang, Ming Di

Wednesday 11:00-13:00 Room 220 T6c Psycho-acoustics in noise evaluation

Chair: Sonoko Kuwano, Peter Lercher

11:00 Train noise - A psychoacoustic investigation for indoor aural comfort in high-rise urban environment in the tropics
Sheikh, Mahbub Alam; Lee, Siew Eang

11:20 Progress in calculating tonality of technical sounds
Sottek, Roland

11:40 Signal repetition rates and their relationship to the pleasantness of multi-tone sounds
Toepken, Stephan; Scheel, Henning; Weber, Reinhard

12:00 Unsupervised feature learning on monaural DOA estimation using convolutional deep belief networks
Yan, Chen; Mengyao, Zhu; Nicolas, Epain; Craig, Jin

12:20 Effects of active noise control on subjective annoyance and cortical neural activities for car engine noise
Ito, Tomoki; Ishimitsu, Shunsuke; Nakagawa, Seiji

12:40 Effect of Visual Stimulus on Subjective Impression of Indoor Sound Fields with Various Reverberation Times
Ishikawa, Ayumi; Terashima, Takane; Tokunaga, Yasunobu

Wednesday 11:00-13:00 Room 219 V2c Sound visualization and manipulation

Chair: Jung-Woo Choi, William Martens

11:00 Enhanced sound field reproduction within prioritized control region
Chen, Hanchi; Abhayapala, Thushara D; Zhang, Wen

11:20 Standardization of Korean head-related transfer function based on tensor-singular value decomposition
Son, Daehyuk; Park, Youngjin; Jang, Sei-jin

11:40 Linear optimal source distribution mapping for binaural sound reproduction
Zheng, Jianwen; Lu, Jing; Qiu, Xiaojun

12:00 Discovering a physical parameter associated with a near-field sound control: comparing HRTFs of nine loudspeakers in a non-anechoic room
Kim, Sungyoung; Gosselin, Philip; Okumura, Hiraku

12:20 Distance perception of a nearby virtual sound source reproduced by a linear loudspeaker array
Kang, Dong-Soo; Choi, Jung-Woo; Kim, Yang-Hann; Martens, William Leigh

12:40 Manipulation of source width based on sound field reproduction
Lee, Jung-Min; Choi, Jung-Woo; Kim, Yang-Hann

Wednesday 11:00-13:00 Room 218 L4b Active vibration control and active structural acoustic control

Chair: Li Cheng, Youngjin Park

11:00 Using a psychoacoustic criterion for the actuator placement in an active structural acoustic control system
Papantoni, Veatriki; Hesse, Christian; Rose, Michael; Monner, Hans Peter

11:20 A novel semi-active quasi-zero stiffness vibration isolation system using a constant-force magnetic spring and an electromagnetic linear motor
Leav, Orddom Y; Eriksson, Carolina; Cazzolato, Benjamin S; Robertson, William S; Ding, Boyin

11:40 Source identification of a vibrating plate using phase conjugation and interior boundary element method
Liu, Song; Li, Sheng

12:00 Design of natural frequency adjustable electromagnetic actuator and active vibration control test
Liu, Xueguang; Han, Chao; Wang, Ye; Yang, Tiejun; Du, Jingtao; Zhu, Minggang

12:20 An experimental investigation on the acoustic performance of a flapping wing Micro-Air-Vehicle
Lu, Zhenbo; Marco, Debiasi; Nguyen, Quoc Viet; Chan, Woei-Leong

12:40 Development of a noise reduction system with piezoelectric material to transmitted noise (Structure for improvement of the noise reduction effect)
Yamamoto, Katsuya; Ishimori, Akiyoshi; Sato, Hiroyuki; Asahina, Mineyuki

Wednesday 10:40-11:40 Room 217 G6 Measurement - Modeling and propagation

Chair: Kristy Hansen, Renzo Tonin

10:40 Influence of non-standard atmospheric conditions on turbine noise levels near wind farms
Cooper, Jonathan; Evans, Tom; Alamshah, Vahid

11:00 Assessing the Validity of Wind Farm Noise Monitoring Data for Periods of Partial Wind Farm Operation
Mitchell, Andrew

11:20 Noise Propagation from a Vertical Axis Wind Turbine
Möllerström, Erik; Larsson, Sebastian; Ottermo, Fredric; Hylander, Jonny; Bååth, Lars

Wednesday 11:00-13:00 Room 216 C7 Computational aeroacoustics

Chair: Akhilesh Mimani , Paul Croaker

11:00 Boundary Condition for the Implementation of Arbitrary Acoustical Modes
Witthaus, Sina; Seume, Joerg R

11:20 The nonlinear inhomogeneous Galbrun-Equation: Derivation and possible Ways to solve numerically
Guettler, Marcus; Marburg, Steffen

11:40 Calculation of Duct Flow Noise Using CE/SE Method
Chan, Horus Y H; Lam, Garret C Y; Leung, Randolph Chi-kin

12:00 A particle accelerated CFD-BEM technique applied to aeroacoustic scattering
Croaker, P; Kessissoglou, Nicole; Marburg, Steffen

12:20 Numerical investigation of the refraction effects by jet flows in anechoic wind tunnels
Redonnet, Stéphane; Bulte, Jean

12:40 Self-noise prediction of a flat plate using a hybrid RANS-BEM technique
Croaker, Paul; Kessissoglou, Nicole; Karimi, Mahmoud; Doolan, Con J; Chen, Li

Wednesday 11:00-12:20 Room 215 U3 Personal hearing protectors and headsets

Chair: Pam Gunn, Ben Elsey

11:00 Earmuff Comfort Evaluation
Gerges, Rafael; Gerges, Samir N Y

11:20 Comparison of speech intelligibility between normal headsets and bone conduction hearing devices at call center
Maeda, Setsuo; Kobayashi, Koji; Nakatani, Hidenori; Nakatani, Akiko

11:40 Anthropometry of External Auditory Canal by Non-contactable Measurement
Tu, Tsung-Hsien; Yu, Jen-Fang; Wang, Ren-Hung; Chen, Yen-Sheng
12:00 Construction Apprentices, Work and Noise
Kosny, Agnieszka; Benke, Geza; Allen, Amy; Dimitriadis, Christina; Ewan, MacFarlane; Sim, Malcolm

Wednesday 11:00-12:40 Room 213 Q4c Vibration and vibro-acoustic experiments
Chair: Steve Conlon

11:00 Low frequency sound transmission of stiffened panels
Kim, Hyun-Sil; Kim, Jae-Seung; Lee, Seong-Hyun; Seo, Yun-Ho
11:20 Vibrational Energy Flow in Carbon Composite Structures
Jaber, Mariam; Schneeweiss, Helmut; Bös, Joachim; Melz, Tobias
11:40 Measurement of Structural Intensity Using an Angular Rate Sensor
Omata, Nobuaki; Nakamura, Hiroki; Waki, Yoshiyuki; Kitahara, Atsushi; Yamazaki, Toru
12:00 Influence of background noise on non-contact vibration measurements using particle velocity sensors
Fernandez Comesaña, Daniel; Yang, Fan; Tijs, Emiel
12:20 Experimental and numerical tools for the characterization of ultrasonic propagation for nuclear reactor application
Van De Wyer, Nicolas; Schram, Christophe; Van Dyck, Dries; Dierckx, Marc

Wednesday 11:00-13:00 Room 212 P2 Vibrations in bridges, foot bridges and similar structures
Chair: Len Koss, Vincent Rouillard

11:00 Mini-trampoline vibration exciter- Force measurements
Koss, Leonard Louis; Rouillard, Vincent
11:20 A review of impact dampers to control cross wind vibration of structures due to vortex shedding
Koss, Leonard Louis; Melbourne, William H
11:40 Research activities on INCE/J RTV (Road Traffic Vibration)-Model Part: 1 Prediction of road traffic vibration for elevated roads
Shimura, Masayuki; Kamiakito, Noboru; Fukada, Saiji; Sabo, Yasuyuki; Matsumoto, Yasunao; Osafune, Toshikazu; Iwabuki, Hiroshi; Yabe, Akito; Hama, Hirokazu
12:00 Research activities on INCE/J RTV (Road Traffic Vibration)-Model - Part: 2 Prediction of ground-borne vibration induced by traffic from cutting- and banking-structure roads -
Kunimatsu, Sunao; Kitamura, Yasutoshi; Yokota, Akinori; Uchida, Hidenobu; Shimura, Masayuki; Sano, Yasuyuki; Osafune, Toshikazu; Iwabuki, Hiroshi; Ishida, Riei; Hirao, Yoshihiro
12:20 Modal floor parameters and their correlation with footfall vibration
Duschlbauer, Dominik; Miller, Aaron
12:40 Vibration insulation of footbridges so as to reduce human discomfort
Sjöström, Anders; Clausén, Christin; Ingemansson, Victor; Austrel, Per-Erik; Persson, Kent; Sandberg, Göran; Bard, Delphine; Novak, Colin; Ule, Helen

Wednesday 10:40-12:00 Room 211 K1b Noise barriers
Chair: Jean Piere Clairbois, Crina Oltean-Dumbrava

10:40 The effectiveness of particle damping for use on vertical surfaces
Ott, Mark; Weisbeck, Jeffrey; Gerges, Samir N Y; Bustamante, Marcelo
11:00 On enhanced sound absorption by non-uniform liners
Campos, L M B C; Oliveira, J M G S
11:20 On the effect of shear and bias flow on the performance of acoustic liners
Campos, L M B C; Legendre, C; Sambuc, C
11:40 An experimental investigation of cavity noise control using mistuned Helmholtz resonators
Chintapalli, V Surya Narayana Reddi; Padmanabhan, Chandramouli

Wednesday 10:40-13:00 Room 210 N9b Impact noise in buildings
Chair: Berndt Zeitler, Atsuo Hiramitsu

10:40 Design and Acoustic Performance of a Spring Isolated Outdoor Rooftop Basketball Court
Campbell, Alex; Cosstick, Lloyd; Murray, Timothy; Yates, David
11:00 Directimpactsound insulation of cross laminate timber floors with and without toppings
Zeitler, Berndt; Schoenwald, Stefan; Sabourin, Ivan
11:20 Flanking transmission in three different lightweight wooden building types
Sjöström, Anders; Negreira, Juan; Bard, Delphine; Sandberg, Göran; Novak, Colin; Ule, Helen
11:40 Comparing low frequency impact noise using a tapping machine and heavy/hard impact source on various fitness floor assemblies
Gartenburg, Paul

12:00 Measuring Ln without using a tapping machine?
Dodd, George; Yen, Benjamin
12:20 Accuracy of prediction methods for impact sound pressure levels
Griffin, Daniel
12:40 Effect of modulation on perceived annoyance of floor impact noise
Lee, Sinyeob; Hwang, Dukyoung; Park, Junhong

Wednesday 10:40-12:00 Room 209 D9b Mufflers and silencers

Chair: Yatsze Choy, James McIntosh

10:40 Sound attenuation using duct silencers with micro-perforated panel absorbers
Yu, Xiang; Cheng, Li; Tong, Yuhui; Pan, Jie
11:00 Performance analysis of a suction muffler in a hermetic reciprocating compressor using CAA techniques based on Lattice Boltzmann Method
Lee, Songjune; Cheong, Cheolung; Lee, Hyo Jae; Kim, Haeseung
11:20 Acoustic two-port simulation model for the particle oxidation catalyst (POC®)
Hynninen, Antti; Åbom, Mats
11:40 Hybrid coupling method to nonlinear acoustic source and linear duct system in compressor
Oh, Seungjae; Wang, Semyung

Wednesday 10:40-12:20 Room 208 F1b Noise events from transportation noise

Chair: Lex Brown, Bert de Coensel

10:40 Smart sound monitoring for sound event detection and characterization
De Coensel, Bert; Botteldooren, Dick
11:00 Influence of loudness of noise events on perceived sound quality in urban context
Delaitre, Pauline; Lavandier, Catherine; Ribeiro, Carlos; Quoy, Mathias; D'Hondt, Ellie; Gonzalez Boix, Elisa; Kambona, Kennedy
11:20 Sound Exposure Levels from Trains and Sleep Disturbance
Jabben, Jan; Potma, Charlos
11:40 Mobility and life quality relationships – Measurement and perception of noise in urban context
Misdariis, Nicolas; Marchiano, Regis; Susini, Patrick; Ollivier, Francois; Leiba, Raphael; Marchal, Jacques
12:00 Towards new less noisy mobility patterns in cities
Wolfert, Henk

Wednesday 11:00-13:00 Room 207 R3 Numerical methods - Interaction with submerged structures

Chair: Adrian Jones

11:00 Moving boundary similarity method and its application on ship structural borne noise prediction
Pang, Fu-zhen; Miao, Xu-hong; Tang, Dong; Song, Hong-bao
11:20 An Analytical Substructure Method for the Analysis of Vibration Characteristics on Conical-Cylindrical-Spherical Combined Shells in Vacuum
Chen, Meixia; Xie, Kun; Wei, Jianhui; Deng, Naiqi
11:40 Wave based method for vibration and acoustic characteristics analysis of underwater cylindrical shell with bulkheads
Xie, Kun; Chen, Meixia; Deng, Naiqi; Xu, Kun
12:00 The study on sound radiation of semi-submerged cylindrical with antisymmetric velocity distribution
Zhang, Junjie
12:20 Sound radiation from nested cylindrical shells
Wu, Hongjian; Peters, Herwig; Kessissoglou, Nicole
12:40 Lattice-Boltzmann simulation of circular column coupled with square column in cross flow
Shi, Dongyan; Li, Hongqun; Wang, Zhikai; Jiao, Han

Wednesday 10:20-11:20 Room 206 K3 Noise control within offshore facilities and maritime vessels

Chair: Greg Stewart

10:20 Verification of a Duct Resonator Array for Larger Pipe Diameters
Newman, Michael James; Garrido, Maria; Liu, Zheji; Ryliskis, Andre-Pierre; Colette, Julien; Eugui, Inigo; Haaheim, Ole Georg
10:40 A method for demonstration of ALARP for noise control
Keswick, Paul; McLoughlin, James; Stewart, Greg
11:00 Isolator Internal Resonance and Radiated Noise from Ships
Paul, Dylejko; MacGillivray, Ian; Skvortsov, Alex

Wednesday 11:40-13:00 Room 206 Q2g Numerical methods in vibro-acoustics

Chair: Weikang Jiang, James Forrest

11:40 Research on vibration and acoustic radiation of planetary gearbox housing
Zhang, Tianmu; Shi, Dongyan; Zhuang, Zhong

12:00 Analysis of acoustic radiation of a ring-stiffened cylindrical shell in underwater based on precise integration transfer matrix method
Pang, Fu-zhen; Wu, Chuang; Wang, Qingshan; Song, Hong-bao

12:20 Free vibration analysis of orthotropic rectangular Mindlin plates with general elastic boundary conditions
Shi, Dongyan; Zhuang, Zhong; Zhang, Tianmu

12:40 The Numerical Prediction and Features Analysis of Cylindrical Shell Acoustic Radiation Noise
Cao, Hongli; Fang, Shiliang; An, Liang

Wednesday 14:00-15:00 Room Plenary Plenary 2

Chair: Norman Broner

14:00 Soundscape planning as a complement to environmental noise management
Brown, Alan Lex

Monday 09:20-Tuesday 18:00 Foyer Posters

The numbers in this session indicate the location of the poster on the poster boards. Authors are asked to be at their posters to answer questions from 13:20 to 13:40 on Monday 17 and Tuesday 18 November 2014.

1 Management Policy on Community Noise to Improve the Quality of Life – Focused on Apartment Noise
Park, Young Min; Kim, Kyoung Min

2 The Influence of the Load Condition upon the Radial Distribution of Electromagnetic Vibration and Noise in a Three-Phase Squirrel-Cage Induction Motor
Sato, Yuta; Hirotsuka, Isao; Nakamura, Masanori; Iguchi, Akihiko; Hayashi, Daisuke; Takahashi, Yousuke

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EXHIBITOR INFORMATION AND MAP OF EXHIBITION AREA

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For more than 25 years, 01dB has been dedicated to the design and development of the very best in noise and vibration monitoring products and services. The 01dB range of environmental and industrial products offers solutions for noise and vibration measurements for transportation, construction, industry and entertainment. As a family of products, FUSION, DUO and CUBE all benefit from 01dB's easy-to-use interface and powerful suite of analysis software. This offers our clients the chance to improve productivity through reducing training costs, leaving users free to focus on effective analysis and decision making. The 01dB range of embedded systems for online monitoring and standalone systems for offline monitoring concentrate on robust and presentable data acquisition, aimed at reducing the risk of: Failing to comply with applicable legislation; Noise & vibration pollution affecting neighbours; Vibration leading to structural damage.

Website: www.acoemgroup.com

Acoustic Research Labs was formed in 1990 to develop, service and maintain a long term structural vibration and environmental noise monitoring system for use during the construction of the Governor Macquarie and Phillip towers in the Sydney CBD. A two year monitoring plan was implemented as the principal means to protect the structural integrity of fragile heritage listed buildings situated around the construction site. During the construction program, involving extensive rock excavation and the complete demolition of a 43 storey building, multiple channels of continuous vibration and noise data were recorded and telemetered to the offices of the structural consultant and the developer's project manager. The success of this initial project led to further research and development of standalone monitoring solutions for noise, vibration and other environmental parameters. We ensure that all of our in-house manufactured instruments conform to the strict requirements of both Australian and International Standards, with their sales, hire and associated services forming the basis of the company's ongoing operations. Consulting engineers form a major section of our client base, and as a result, our main service activities include providing monitoring services, and advice on methods to reliably collect and handle data for short and long-term installations. ARL is also proud to be the exclusive Australian distributor for Rion instruments. Their extensive product range compliments our products and services, in many cases leading to a complete turnkey solution for noise and vibration monitoring. ARL is a NATA accredited test facility in the area of testing and calibration.

Website: www.acousticresearch.com.au

Acoustic Vision® is a supplier of high performance and unique acoustic treatments including diffusion products from across the globe. Our aim is to offer a new exciting range of products to Australian acoustic consultants, engineers and architects. We specialise in custom solutions providing architectural linings and industrial absorption. Come and have a chat about our latest products: Quietstone®, AcoustiCLEAR™, AcoustiBLINDS™ and TopAkustik®

Website: www.acousticvision.com.au

Acoustica manufactures and supplies products for the control of noise in commercial and apartment buildings, entertainment, educational, broadcast, hospitality and health care facilities, marine, transport and general industry. At Internoise Acoustica will be featuring additions to their ***BioFoam*** noise barrier range, a new flooring underlay product, the latest model ***Aeropac*** ventilator and will be introducing ***Descor*** which is a further addition to their art and architectural fabric acoustic products.

Website: http://acoustica.com.au

Amber Technology Ltd is the exclusive Australian Distributor for Nti Audio AG. NTi Audio AG is a leading manufacturer of test and measurement solutions for acoustics, audio and vibration applications. The main product lines are the handheld EXEL line and the desktop/rack-mount FLEXUS line, which combines the modular FX100 Audio Analyzer together with microphones, acoustical sources and fixtures for complete turnkey solutions based on PureSound – a unique defects analysis technology. Berno Nigsch – Product Manager at Nti Audio for the EXEL line will be attending Internoise to demonstrate the Outdoor Noise Monitoring Solution, Data Explorer Software and provide a preview of the upcoming web monitoring solution.

Website: http://www.ambertech.com.au/

Antysound was founded in 2011 by 3 graduates from the Institute of Acoustics of Nanjing University, Nanjing, China, and has been growing into a world's leading supplier of active noise control solutions. The products provided by Antysound include: various ANC Controllers (Low cost AntANC, 16 channelTigerANC-II, 4 channel TigerANC-II Lite, Customized controllers for headphone, transformer, ship and train noise etc.), ANC Signal Conditioning Hardware, Filters and Amplifiers (Signal conditioners MC02, MC08, MC16, Reconstruction filters FC16, Power Amplifier module PA1010s, PA3002) and ANC Sound Sources and Sensors (Loudspeaker L18-1, Microphones M1212 series, Accelerometer A11, Tachometer EC08). Antysound has integrated research, design, and development capabilities, and has close relationship with world class research laboratories in the field. It can provide customers with one-stop solutions, including the integrated acoustics, signal processing and electronic design, in the following areas: ANC System Design and Implementation, Noise Control Design, Noise Suppression in Communication and Sound Field Control and Reproduction.

Website: www.antysound.com

Autex is an Australasian based manufacturing and product development company with plants in Australia, New Zealand and the UK. Autex supply a diverse range of specialty acoustic products to markets all over the world. Established in 1967, Autex is founded on principles of innovation and outstanding customer service. We are committed to environmental best practice in everything we do. Our ranges include Greenstuf® polyester thermal and acoustic insulation used for noise control in partition walls and ceilings including HVAC, industrial and our high performance Interior acoustic linings range; Quietspace®. The Quietspace® range has been engineered to provide excellent reverberation control with outstanding durability and environmental credentials. All Autex products are manufactured under our Integrated ISO9001 and ISO14001 quality and environmental management systems insuring reliable and consistent performance. All our products are made from 100% polyester fibre, making them safe, non-toxic, non-irritating and non-allergenic. They contain none of the chemical binders commonly found in fibreglass insulation materials. Quietspace® is an innovative and expanding range of high-performance acoustic products made from recyclable 100% polyester. Using advanced fibre technology and processes, Autex has created a durable, good-looking product range that allows designers creative freedom and still delivers highly effective noise reduction. Sound absorption ratings range from 20% to 100% including Class A rated products across the Quietspace collection; provide an extensive choice of noise reduction options. Products Include Acoustic Fabric™, Cube and QS Panels to our latest series 5 3D tiles™ and lattice™ Baffles. Visit us booth 36 for further information and to learn more about these products.

Website: www.autex.com.au

Cloud Based Vibration Monitoring System: Resonate Acoustics can offer the Australian market the innovative and cost effective AVA Monitoring System for long term and unattended vibration monitoring. AVA System was launched 1999 as the first cloud based vibration monitoring system in the world. With a 5 month battery life and remote control of the field instrument by any web browser you can reduce your project costs substantially. We can offer this well proven monitoring system competitively over a range of purchase scenarios, including trade-in of your existing equipment and no upfront capital cost. We also offer free demos to try-before-you-buy! The AVA Monitoring System can also be used to integrate your existing Sound Level Meter for cloud based remote monitoring! Please visit us in booth No 30 where we can show you a demonstration of the AVA Monitoring System and how this system could improve your business and minimize your project costs.

Website: www.avamonitoring.com

Ayres Composite Panels is a Global Leader in Lightweight Panel Systems & Solutions. Strong customer focus and continual product development has put Ayres Composite Panels at the forefront of lightweight panel technology. Ayres Composite Panels believes in innovation as the key driver for success and this is therefore one of the main elements of its business strategy. Improving products and services, as well as developing new products, supports Ayres Composite Panels in its leading position for Lightweight Panel Systems. As a result of this focus we can now offer a revolutionary FIBRE-FREE, LIGHTWEIGHT, STIFF, NON-COMBUSTIBLE, EASY TO FABRICATE and RECYCABLE sound absorbing panel – SONIUM. The all-aluminium SONIUM panel can either be faced on one side with a flat micro-perforated aluminium sheet (for relatively narrowband absorption) or with a corrugated micro- perforated aluminium sheet (for relatively wideband absorption). SONIUM has outstanding sound absorption at low frequencies, remarkable for such a low weight material. It achieves high sound absorption without using combustible materials, or conventional fibrous sound absorption materials. Peak absorption frequency can be tailored to the frequency range required, simply by selecting an appropriate SONIUM panel thickness. Standard panel thickness is 40mm, for which a range of Profiles & Assembly Accessories are available. Being all-aluminium, SONIUM panels have excellent fire performance as well as good health and safety features due to no loose fibres within the panel. Be part of an ACOUSTIC revolution.

Website: www.ayrescom.com | www.sonium.com.au

BARRISOL®
Microperforated Acoustic Stretch Ceilings

Modern building ceilings often need to perform multiple functions in addition to their acoustic properties: sound absorptive & light emitting, acoustic projection walls, acoustic sculptural shapes and feature ceilings without obvious acoustic treatment. Barrisol ceilings with invisible microperforations provide exceptional acoustic performance, easily incorporating acoustic function and design objectives. Each perforation is between 0.1mm & 0.3mm diameter, with up to 500,000 microperforations per square meter. Ceiling panels are not restricted to fixed panel sizes or shapes, with single custom ceiling panels of 40 square meters utilizing Barrisol's proprietary concealed fixing system. The sound absorption mechanism converts sound energy into thermal energy through friction with the microperforations. The friction is increased by the resonance of air within the cavity between the microperforated membrane and ceiling. The membrane alone can achieve broad-band sound absorption with NRCs of 0.60 and up to 0.95 in combination with porous materials. The theory of microperforated introduced by D.Y.Maa in 1975 has been extensively applied to Barrisol's 45-year range of stretch membranes and used in the Oslo Opera House, London Aquatic Centre and in Australia at the Star City Casino Sydney, University of Melbourne, RMIT, Brisbane City Hall, Perth Convention Centre and Federation Square Melbourne. Barrisol microperforated systems offer an aesthetically pleasing acoustic solution across the entire Barrisol range of 230 colours and 18 finishes, including gloss, satin, matt, translucent, clear, printed and mirror. Barrisol can supply sound absorption coefficients of various set-ups with microperforated stretch membranes materials, alone and in combination with porous materials.

Website: www.barrisol.com.au

Bradford™
for smarter environments

Improving living and working environments through greater thermal and acoustic comfort. Celebrating 80 years, CSR Bradford has been helping Australians live comfortable, more energy efficient lives through our knowledge, experience and innovative, energy-saving products. We're also backed by CSR, founded in 1864 and the name behind some of Australia's most trusted and recognised building product brands. CSR Bradford is a leading manufacturer of premium energy saving insulation products. Our highly trained and experienced team has world class engineering knowledge, research and development, technical and customer service skills, providing support to a vast manufacturing and distribution network across Australia and New Zealand. Bradford Insulation provides thermal and acoustic solutions for residential, commercial and industrial applications including glasswool, rockwool, foil insulation and specialty products designed for commercial buildings. We provide the best building science solutions for your home, commercial or industrial project: Acoustigard Acoustic Insulation; Partitioning and wall systems; Silencers; Acoustic absorbers; Under slab Insulation; Enviroduct HVAC Ducting Insulation; Anticon Roofing Blanket; Ashgrid and Safebridge Roofing Systems; Moisture Control; Thermoseal Commercial Sarking; Thermofoil Facing; Fireseal Passive Fire Protection; Pipe Insulation; Industrial Ventilation. So for expert advice on greater thermal and acoustic comfort, speak to our team at this year's Internoise Conference.

Website: www.bradfordinsulation.com.au

Brüel & Kjær

BEYOND MEASURE

For over 70 years, Brüel & Kjær has been a world leader in measuring and managing sound and vibration. Brüel & Kjær has become synonymous with accuracy and reliability by providing the highest quality equipment for measuring and testing sound and vibration. In recent years, all our resources and knowledge have been refocused to support our customers in addressing their challenges. Now, we help at every stage of the product lifecycle by applying our in-depth knowledge and experience to support design and development, continuing right through to deployment and operation. Today we are a genuine single-source product and service provider, from transducers and analysis to expert support. We are trusted by top companies to deliver complete sound and vibration solutions, helping them in countless ways by applying our comprehensive knowledge and resources. We measure, analyze, test and optimize sound and vibration to accelerate business growth; whether this helps ensure product quality, enhance product performance or improve the environment. Our equipment and knowledge are behind thousands of achievements, from high performance cars and smartphones to quieter airports, higher performance satellites and beyond. Around the world, many of our research and development people are recognized experts, aiding the scientific community and teaching at renowned centres of excellence. By combining such expertise with a holistic product portfolio, Brüel & Kjær has become a partner for all sound and vibration needs, providing day-to-day support, access to application engineers, software and hardware maintenance, product calibration, staff training and more.

Website: www.bksv.com

BSWA TECH

Established in 1998, BSWA Technology Co., Ltd. is an acoustical company covering the business of: Manufacturing the world class measurement microphones; Developing acoustical measurement systems and devices; Designing and building anechoic chambers; and Acoustical consulting for environmental and noise control projects. BSWA will exhibit the following products: microphones and preamplifiers; microphone conditionings; sound calibrators; microphone array; material testing system-impedance tube system; real time analyzers; sound level meters; and sound intensity system.

Website: www.bswa-tech.com

Calibre Technology provides world class third party accredited calibrations and equipment for sale and rental in the fields of air quality and acoustics. A wholly owned subsidiary of Air Noise Environment Pty Ltd, Calibre Technology holds third party NATA accreditation for the full range of International and Australian Acoustic standards. Our standard service includes supply of detailed calibration reports including all calibration test data. Our service includes free return delivery and two working day turn around times are generally available for pre-booked calibrations. Calibre Technology and also offers NIST traceable vibration calibration services. Our rental team provides same day despatch of an extensive range of acoustic and vibration equipment for short or long term rental. All instruments are supplied with current calibration certificates and a range of accessories are available. A range of weather stations and air quality monitoring instruments are also available for rent. Calibre Technology is the sole distributor in the Asia-Pacific region for the innovative range of Magus sound and vibration instruments, and the Surewave range of micro-seismic monitors. The micro-seismic monitoring system provides unique capabilities in a range of engineering, structural, mining and security applications. These include locating trapped miners underground, detection and warn of potential collapse of mines and structures, detection of moving water underground including progression of fraccing. The Surewave range includes a security model specifically designed to monitor breaches in perimeter security and to detect underground tunnelling activity.

Website: www.calibretechnology.com.au

Cirrus will be presenting the Optimus Sound Level Meters and the doseBadge Noise Dosimeter at Internoise 2014, alongside the Invictus noise monitor from Cirrus Environmental. The Optimus sound level meters carry Type Approval to IEC 61672-1:2002 from the PTB in Germany, the LNE in France and APplus+ in Spain and feature a wide range of innovative technology including the Acoustic Fingerprint triggering and audio recording system. Founded in 1970 and based in Hunmanby, North Yorkshire, Cirrus specialises in the design, manufacture and distribution of noise measurement instruments that are designed to help users meet the requirements of standards and legislation throughout the world. Our instruments are innovative and simple to operate whilst being supported by an industry-leading 15 year warranty. With over 40 years of experience we can offer our products with knowledge, backup, support and confidence alongside our ISO 9001:2008 and ISO 14001:2004 Quality & Environmental management systems. Our products are available worldwide and are available through a range of Cirrus Research plc offices, carefully selected distributors and service centres. We also offer our existing and prospective customers advice and information to help them determine which instrument is best suited to their application. Our commitment is to provide a high quality product at a competitive price in our core market areas, supporting our customer and distributors with noise measurement instruments that meet the latest and highest standards.

Website: www.cirrusresearch.co.uk

DataKustik GmbH is a software company known for its software products CadnaA, CadnaR and Bastian. The strength of the software is its accuracy and usability. Additionally to the software development, DataKustik GmbH undertakes intensive research projects in the field of immission protection and sound propagation. CadnaA is the powerful software for calculation, assessment, prediction and presentation of environmental noise. CadnaR is the state-of-the-art software tool for those dealing with the acoustic planning and the noise mitigation at workplaces and combines intuitive modeling techniques with efficient calculation procedures. Bastian is the software to calculate the airborne and impact sound transmission between rooms in buildings and the airborne sound transmission from the exterior.

Website: www.datakustik.com

Echo Barrier is the new quick and easy solution in temporary noise control using innovative technology to maximize acoustic performance with a proven field reduction of 10-20dB(A). Previously made difficult with hoardings or bespoke designs, Echo Barrier provides a ready-made lightweight solution that does not need to be cut or built, to create a noise wall. The Echo Barrier system balances maximum acoustic performance yet requires minimal installation/removal; a combination designed by acoustic consultants and civil engineers working together. A reusable noise wall like Echo Barrier offers projects and companies new opportunities to provide an effective temporary noise control solution for any issues that may arise in a project. Multiple applications, including perimeter control of a noisy work site to spot correction of activities using noisy machinery, are possible with Echo Barrier. Bespoke applications include mobilising areas for overnight works, and easily removed for the following day; moving noise walls as work progresses, such as trenching (horizontal), or high rise building works (vertical). Clients range from the largest contractors working on major civil projects (Rail, Roads, Bridges ect.) to small sites with air conditioners affecting local residents. Local projects include Regional Rail Link (Melbourne), Macquarie Shopping Centre (Westfields, Sydney), Sydney Track Maintenance (RailCorp/John Holland); as well as globally the World Trade Centre (USA), London Underground (Balfour Beatty/London Underground), and CrossRail (Europe's largest civil project).

Website: www.echobarrier.com.au

Embelton is a leader in the design and provision of engineered solutions for isolation of structure-borne noise in buildings. Products include spring mounting systems, rubber isolators, resilient pads and hanger systems, including options for equipment that require seismic restraint. Embelton's engineering group is involved with the isolation of noise in critical structures including television studios, theatres, hotels, hospitals and other institutional buildings where a range of environmental controls are paramount.

Website: www.embelton.com/vibration-isolation

Engineering Dynamics provides lazer vibrometry, dynamic and static load testing, shaker / multi-shaker testing, modal analysis, advanced measurement and analysis of noise and vibration. High performance rubber, spring and air isolation systems are manufactured and supplied from our facility in Boronia. Our products are installed in high profile projects which demand long lifetimes and high levels of performance in the reduction of structure- borne noise and vibration. Our team consists of Professional Registered Engineers, Technicians, and qualified Tradesmen who can assist in product design, selection, manufacture, test and installation if required. As a market leader in the development of high performance isolators, gym floor isolation, tuned mass dampers, along with modelling of structures (structural dynamics), Engineering Dynamics is recognised as a specialist provider in the field of vibration isolation worldwide.

Website: http://www.engineeringdynamics.com.au

ENVIROSPRAY 300 is a premium spray applied acoustic / thermal coating used to obtain excellent reverberation control in internal spaces, high performance transmission loss assemblies and thermal barriers. Manufactured in Australia from 80% recycled cellulose fibres, and treated with additives for compliance with Building Code fire resistance requirements, ENVIROSPRAY 300 can be contour spray applied up to 100mm thick to a range of surfaces such as metal, concrete, timber or plasterboard. After curing, ENVIROSPRAY 300 permanently bonds to the substrate surface and has a pleasing visual finish that has a textured carpet like appearance. ENVIROSPRAY 300 is available in two natural colours – “Steel Grey” & “Off White” or may be overspray tinted to any colour to suit architectural themes. ENVIROSPRAY 300 is spray applied as a final visual finish to sound reflective surfaces to obtain superb noise absorption coefficients (NRC) in all frequencies. Standing wave generation is minimised and reverberation times can be tailored to obtain an optimum Rt60. ENVIROSPRAY 300 is sprayed directly to the underside of metal roofs or metal wall cladding, to offer a monolithic noise transmission barrier incorporating extreme rain noise control. Typically ENVIROSPRAY 300 is installed in theatres, factories, night clubs, loading docks, multi function halls, basketball courts, music studios, plantrooms, call centres, auditoriums, cinema halls, restaurants and almost anywhere – where a reduction in ambient or transmitted noise levels and / or thermal coatings are required.

Website: www.envirospray300.com.au

ETMC Technologies is your exclusive G.R.A.S. Sound & Vibration representative in Australia. We are committed to providing high quality and competent advice to make sure that you get the best input when making decisions that will affect your operations and capabilities. ETMC Technologies is your obvious choice of partner for providing technical knowledge and the right solutions for your application when it comes to sound level meters, acoustic cameras, high performance data acquisition, signal processing, heavy equipment condition monitoring, tactical and industrial grade gyroscopes (+ navigation, control and measurement grade accelerometers) as well as rugged data capture, flight rated avionics systems, crash protected flight data recorders and a whole lot more.

Website: www.etmc.com.au

Flexshield is the leading manufacturer, supplier and installer of noise control and soundproofing products such as acoustic enclosures, attenuators, baffle silencers, modular acoustic panel, flexible acoustic barriers and much more! We have been servicing the Australian Industry since 2003 and continually reap great reputation borne out of our high quality customer service, support ethics, innovative products and knowledge of all noise issues. We are also able to back up our products with comprehensive National Association of Testing Authorities (NATA) accredited test results, that puts us ahead of the competition. We also offer high level consultancy and design service, by visiting the target site and assessing your requirements while taking Noise Level readings, thorough measurements and details. This data is then used against product test results to achieve a well thought out solution to your noise problems. Flexshield manufactures the world's strongest welding screen WELDFLEX and the quality of our DURAFLEX strip and swing doors are second to none. All of Flexshield's products are available immediately, supplied in a kit-form fashion and are very easy to install. Alternatively, we are happy to provide a complete measure and quote right through our supply and install service representatives.

Website: www.flexshield.com.au

G.R.A.S. Sound & Vibration is well known for supply of *standard*, *special* and *customized* microphones. No matter if your need is 'ordinary', a little out of the way or at the extreme edges, we will be able to advise you of the best G.R.A.S. product for your needs.

Website: www.gras.dk

gfai tech's acoustic camera was the first commercially viable system using beamforming to visually localise acoustic emissions. Brought to the market in 2001 as a pioneer technology, the acoustic camera has become a metaphor for beamforming systems. In its basic configuration, the unit consists of a microphone array with implemented camera, a data recorder for the acoustic and optical data as well as a notebook with the NoiseImage software that calculates a sound map and combines the acoustic and optical images. gfai tech acoustic cameras are lightweight, modular and very flexible systems that are rapidly set up and ready to use. After a few minutes, the first acoustic images appear on the computer screen. The software allows a clear, exact and fast analysis of noise sources. The benefits of acoustic cameras are straightforward: Noise sources are visualized, quality problems are detected and development times are reduced. The fields of application are as various as the world of sound and range from measurements in the open field, acoustic labs to the use in automation engineering. The cameras have been successfully used for: noise reduction; sound analysis and monitoring; quality control; service and maintenance. Visit the gfai tech website, where you can view more information about their extensive product range.

Website: www.acoustic-camera.com

Hangzhou Aihua Instruments Co., Ltd is a China leading company specializing in acoustic and vibration measurement instruments. The company is the main researcher and manufacturer of sound measuring instrument in China. We have a complete line of products tested by the national authoritative organizations and comply with international standards. Our exhibit items include Sound level meters, Real-time signal analyzers, Noise dosimeters, Sound calibrators, Multi-channel analyzers, Vibration meters, Ear (mouth) simulators, Measurement microphones, Microphone preamplifiers.

Website: www.hzaihua.com

HEAD acoustics has developed into one of the world's leading suppliers of products and solutions for sound and vibration analyses since its foundation in 1986. Today, not only the company's technical reproduction of human hearing sets international standards, but also the pursued holistic approach which includes all aspects of human perception of sound and vibration occurrences. HEAD acoustics develops high-performance measurement and analysis systems for multi-channel sound and vibration analyses, binaural sound investigations and communication quality analyses. To meet virtually any requirement for sound, vibration and communication analyses, we offer a variety of standard hardware and software systems as well as user-specific solutions. The business activities of HEAD acoustics range from real time identification of sound sources, artificial head measurement technology, aurally-accurate playback and multi-channel record technology, to jury testing, virtual engineering and procedures for automatic noise detection as well as automatically equalized background noise simulation. Consulting, training and support complement the product offering. Furthermore, HEAD acoustics offers comprehensive services for sound and voice quality optimization. Our company benefits from state-of-the-art measurement technology combined with a longtime experience in industrial practice as well as decades of significant involvement with standardization bodies and industry organizations. HEAD acoustics pushes a strong focus on innovation. Thus, in addition to our own research and development activities we are also involved in numerous national and international research projects, e.g. dealing with virtual reality or next-generation telecom devices and networks.

Website: www.head-acoustics.de

The VibroLaser ScanSet simply upgrades an existing single-point laser vibrometer to a fully equipped scanning laser vibrometer system. It is shipped with a Data Acquisition with 4 analog input channels to measuser-friendly measurement and analysis software quickly processes thevibrations data, graphical display and animations. It has next to the high precision laser deflection unit a CCD-Camera for photo realistic capture of the measurement object: Works with all available SinglePoint Laser; Existing/Old SinglePoint Laser can be reused; Pricing is typically half of an available scanning systems on the market; Hightech Innovation Made in Germany.

Website: www.hwtechnologies.com.au

KINGDOM PTY LTD
Phone 02 9975 3272

KINGDOM Pty Ltd, an importer of Dynamic Signal Analysis product and accessories including Vibration & Acoustic Analysers and Controllers provided toMining, Defence, Universities, Research Institutes, Manufacturing and Consulting Industries.
VIBRATION & ACOUSTIC Analysers
Data Physics ACE-QUATTRO 4 channel +2+2, Hi Performance 24 bit portable
Data Physics Mobilyzer-ABACUS 32 channel +8+8, 24 bit 130-150+ dB
Data Physics SAVANT multi channel analyser and data acquisition platform with up to 2014 ++ channels
VIBRATION CONTROLLERS
Data Physics SCALAR Low Cost for factory and simple laboratory application.
Data Physics VECTOR Ethernet for factory and full laboratory application.
Data Physics MATRIX multi shaker, multi Axis for open frame and more complete control.
Spectra-Dresden APS high frequency controller
MODAL & ACOUSTIC ANALYSIS & SENSORS
Operating Deflection Shapes, Modal Analysis and structural Modifications analysers.
Vibrant Technology MEscope Visual Engineering & Acoustics, Modal Analysis & Structural Animation
BSWA VA-LAB acoustic laboratory
Imperial College MODENT structural analysis package and system
ACOUSTICS
BSWA Measuring & Studio Microphones, Sound Intensity Probes, DAQ cards, Calibrators, Impedance Tubes, Tapping Machines & Accessories
SENSORS
DYTRAN Accelerometers, Velocity, Force, Pressure, Impulse, Acoustics and Magnetic Flux sensors and Impact Hammers
SHAKERS
Data Physics SignalForce, Electrodynamic, Inertial and Acoustic.
Spektra-Dresden ELECTRO-SEIS Long stroke for excitation to zero Hz and calibration.
ANCO Power driven.
RADIO FREQUENCY
Dynamic Sciences International, Wide Band Receivers, EMC & EMI analysers and TEMPEST and surveillance receivers.

Website: www.kingdom.com.au

AMF
PERFORMANCE CEILINGS
More scope for innovation

The Knauf range of ceiling linings for residential and commercial applications includes standard sag resistant plasterboard and technical plasterboards, perforated boards, and mineral fibre ceiling panels. These products offer a range of applications from acoustic to aesthetic, to sag and fire resistance. All plasterboard produced in Australia by Knauf are manufactured under a quality system certified as complying with AS/NZS ISO 9001:2008 by an accredited certification body.

Website: www.knaufamf.com.au

KRAIBURG RELASTEC GmbH & Co. KG is an independent enterprise in the KRAIBURG-Holding. We supply the international market with ready-to-install products for acoustic and vibration insulation (DAMTEC®), impact protection (EUROFLEX®), structural protection and transport protection (KRAITEC®), sports floor coverings and elastic layers (SPORTEC®) as well as elastic flooring systems for horse farms and riding facilities (KOMFORTEX®). Modern technology and constant product development recommend us as a qualified partner for architects, planning engineers and system providers. KRAIBURG Relastec is one of the most important rubber recycling companies worldwide and uses recycled rubber to manufacture new products for the building industry, playgrounds and sporting facilities, taking an active part in protecting the environment and conserving natural resources. DAMTEC® is the product line of KRAIBURG Relastec especially developed for impact sound insulation and vibration absorption. Quietness is a primary basic need and of great importance in our time. An effective impact and footfall sound reduction helps improving quality of life, an efficient vibration isolation provides living comfort and good working atmosphere. Under the brand name DAMTEC® our customers find a wide range of products for acoustic insulation as well as for vibration deadening for different requirements and application areas:

Impact sound reduction: Acoustic underlays for impact, airborn and drum sound improvement
Vibration control on building sites: Solutions for vibration damping and solid-born sound insulation in construction and civil engineering
Vibration control on railway tracks: Solutions for vibration damping and reduction of structure born sound transmission and sound / vibration emission in railway track construction.

Website: www.kraiburg-relastec.com/damtec/en/

Magnetite will assess, design and deliver solutions for glazing in existing buildings with a specific focus on acoustic insulation. Offering a range of retrofit systems we are able to maximize the air cavity between the existing window and our secondary glazing to provide maximum sound attenuation through the window. Magnetite's magnetic seals ensure an air tight air cavity which will bolster the acoustic results but still allow the windows to open for ventilation and maintenance as required. Ideal for: infrastructure noise abatement projects; construction site noise mitigation; Green Star projects; heritage building glazing upgrades; hotel refurbishments and office fit outs. With 16 years' experience in the Australian market we have expanded our product range to allow us to customise solutions in order to achieve the best results for our clients. We have recently finished a fit out of the Rendezvous Hotel -Sydney, 140 William St restoration - Perth, Legacy Way Noise abatement project – Brisbane as well as landmark noise abatement projects for M7 Motorway, Lane Cove Tunnel and Roads & Maritime Services NSW. Currently we are working on a Green Star project at 5 Martin Place in Sydney. As members of the Australian Window Association our products are independently tested and our operation audited on a regular basis for quality control. Our commitment to excellence leads us to employ teams of trained and licensed installers ensuring the highest quality and efficient installations.

Website. www.magnetite.com.au

Established in 1987, Marshall Day Acoustics is highly respected globally for its acoustics expertise. The company provides architectural acoustics and vibration consulting services, environmental noise assessments and acoustics design software. We have more than 80 acoustic engineers in 16 offices around the world with an unmatched depth and breadth of expertise across the whole spectrum of acoustic projects. Our strength in acoustic design comes from the diversity of our team members who have been drawn from engineering, architectural, musical and academic backgrounds with one common focus - to provide innovative acoustic designs of the highest standard. Our projects represent our proud history as an innovative, creative and specialist acoustic consultancy at an international and local level. Our experience encompasses performing arts design, building acoustics, planning & resource consents, environmental noise, industrial & marine noise control, sound system design and structural dynamics & vibration analysis. In 2007, we developed a specialist theatre consulting division, Marshall Day Entertech, enabling us to provide a complete suite of venue consulting services. Marshall Day Acoustics distributes and develops a number of high quality acoustical design tools that are in use by acoustics professionals on every continent including dBSea, Insul, Iris, and Zorba, and are agents for SoundPLAN and joint distributors for 01dB.

Website: www.marshallday.com

CSR Martini is a market leader in the development and manufacture of high performance acoustic and thermal insulation products. CSR Martini polyester insulation is specifically engineered for residential and commercial applications. Our specific blend of thermally bonded fibre is optimised for acoustic performance at both high and low frequency noise levels. Made from 100% polyester fibre, with up to 80% recycled fibre content, it's recognised as one of the most sustainable insulation products available. We take an innovative approach to deliver market-leading solutions and have a strong commitment to product development and testing. Our wide product range is engineered to meet the growing demand for high-performance acoustic and thermal solutions. Our product range includes: dECO Series – designer acoustic insulation for interior applications; Martini Absorb – high performance acoustic absorptive insulation; Martini Prime – high performance acoustic partition & ceiling insulation; Martini MAB – multi-purpose acoustic wall & ceilings; Martini MSB – acoustic partition walls & suspended ceilings; Martini Easy Baffle – acoustic baffles for suspended ceiling voids. Applications include: Multi-residential walls & ceilings; Commercial walls & ceilings; Sound absorption specialised projects; Mechanical HVAC and industrial; Commercial ceiling baffle; Low-rise residential floors, walls & ceilings.

Website: www.csrmartini.com.au

materialised

Entering the acoustic arena from a textile perspective allows *Materialised* to deliver high quality acoustic solutions in an elegant and attractive way. As furnishing textile suppliers, we are able to bridge the gap between functionality and aesthetics_in a way that calms the tension between designer and acoustician. Our WhisperWall®, WhisperArt® and WhisperCeiling® products satisfy both decorative and acoustic needs through the use of a patented framing system, the most sustainable acoustic medium available and a virtually unlimited choice of fabric, colour and design. Using this system we are able to offer complete solutions that will transform the acoustics of any commercial space, while also creating beautiful artworks at the same time. The options available to you are only limited by your imagination. We have custom designed solutions for a range of spaces and businesses including restaurants, cafes, theatres, aged care facilities, hotels, universities, schools, office building foyers and conference rooms. Contact us to see how we can bring both decorative form and acoustic function to your project!

Website: www.materialised.com

Microflown Technologies
Charting sound fields

Microflown Mission statement: Based upon its unique MEMS technology based acoustic particle velocity sensor, Microflown Technologies develops and markets highly innovative products and testing services in the field of sound and vibration.
The Microflown: The Microflown is the world's first and only MEMS technology based sensor that can measure the acoustic particle velocity. By measuring the temperature difference in the cross section of two extremely thin platinum wires placed in parallel, this extremely fast mass flow sensor is capable of monitoring the movement of air particles. Any sound field is described completely by both the (scalar) value sound pressure and the (vector) value acoustic particle velocity. Understandably, acoustic testing becomes much easier if both acoustic quantities can be measured.
Applications: Microflown Technologies offers superior applications in the field of sound and vibration testing for: sound source localisation; airborne transfer path analysis and panel contribution analysis; in situ determination of materials acoustic properties; non contact vibration measurements / modal analysis; micropore leaktesting
Markets: Microflown Technologies develops and markets innovative (acoustic) testing techniques to a wide range of market segments such as aerospace, automotive, appliances, environmental noise, manufacturing industries and defense industry. Within the industry, Microflown based testing methods are used from the development of new prototypes till the end of line acoustic quality testing during manufacturing.
For more information visit us at the exhibition hall, booths: 25 & 26

Website: www.microflown.com

Nippon Steel & Sumikin Metal Products Co.,Ltd.

Nippon Steel & Sumikin Metal Products Co.,Ltd., as the core member of Nippon Steel & Sumitomo Metal Corp. Group, is the leading manufacturer in the field of cold roll formed Steel products. We have developed a high degree of expertise in the application of these products in the construction and civil engineering fields. Through 40 years of experience and achievement, our company has developed various kinds of noise barriers of both sound absorption and sound insulation types of the highest quality and design. We are proud to present to you our acoustic products, which aim to reduce noise created by traffic, because at Nippon Steel & Sumikin Metal Products CO., Ltd., we recognise the importance of a serene, quieter environment.

Website: https://www.ns-kenzai.co.jp/english/index.html

noiselab

Noiselab has developed and are commercializing a new technology that let's you know as an engineer how noise is being transmitted between 2 rooms where before you couldn't. This technology makes our clients be more efficient analyzing and predicting acoustic insulation between rooms. This is an advantage as now they can optimize for their clients constructive solutions that solve acoustic insulation problems without wasting money on unnecessary materials while gaining security on the project expected results. The technology is comprised of a Vibration Probe and a Web app called Noiselab.

Website: www.noiselab.net

Norsonic

Noise affects all our lives.....but the problems can be solved only if we accurately measure the noise: Starting with an order to the Anglo-French supersonic Concorde project, we have for more than 40 years used our technical expertise to develop sound instrumentation of high precision and quality. Combining advanced technology and user-friendliness, we focus on the user and applications rather than on the complexity of the instrument. Our close relationship with our main clients and distributors in more than 20 countries throughout the world ensures contact with users and the development of products in parallel with the emerging needs for them. Based on our "all-in-one" philosophy, we develop complete solutions which can be compared to portable laboratories. This means that the user can make measurements, analyze the data and print out the results on-site. Our retrofit policy is a fundamental part of our business concept. Most of our instruments are of modular design. If new standards or new technology call for an update of the instrument this can easily be carried out by the factory or one of our local service centers. Hence, early customers have an instrument as modern as our newest customers.

Website: http://www.norsonic.com

ODEON A/S is developing and distributing the ODEON Room Acoustics Software. ODEON is used for acoustic simulations and measurements in all kinds of environments: auditoria for music or speech, industrial environments, atriums, canteens, restaurants, offices, schools, railway stations, stadiums etc. 3D models can be created in Trimble SketchUp, imported from other CAD software in the .dxf or .3ds formats or created using ODEON's own modelling tools. Materials, sources, receivers etc. are handled smoothly in a user friendly interface. Results are room acoustical parameters presented in graphs and color maps, miscellaneous graphs, e.g. decay curves, 3D Reflection Paths and reflectograms and finally state of the art auralisation, allowing realistic presentations of what the room acoustics of a project sounds like to clients and laymen. Since ODEON 12 an impulse response measuring system allows capturing of impulse responses in a room, so that comparison with simulated results can be made inside the same software.

Website: www.odeon.dk

Ortech Industries, an Australian owned company incorporated in 1985, manufactures Durra Panel, Durra Steel Sections and Durra Panelised Building Systems at its production facility located in Bendigo Victoria. Durra Panel is a unique rigid building product that combines the desirable properties of low embodied energy, strength, acoustic and thermal insulation together with a high degree of impact and fire resistance. Durra Panel is a highly effective material for noise control, in particular, the low frequency sound energy associated with; aircraft, pumps, heavy industry, music theatres and the like. Durra Panel and Durra Panel Building Systems have a highly successful track record in reliable, cost effective noise control applications. Manufactured using innovative Australian developed technology, Durra Panel is produced using a unique dry extrusion process that converts a natural and renewable resource; wheat or rice straw fibres (biomass) into durable construction panels. Durra Panel and Durra Steel Sections may be used separately as general purpose construction materials or be combined together to form a wide range of panelised roof, ceiling, wall and flooring systems – Commercial, Industrial and Residential applications.

Website: www.ortech.com.au

PCB Piezotronics and Larson Davis will display a variety of microphones, preamplifiers, sound level meters and outdoor noise monitoring equipment. New products from PCB® include a high temperature probe microphone which can be operated in temperatures up to 800 degrees Celsius; a low profile surface microphone for use in windy environments; a side vented ¼ inch microphone for high frequency and amplitude measurements where the microphone is flush mounted or within a cavity; and a high amplitude array microphone that fills the gap between value-priced array microphone and professional grade condenser microphones. New products from Larson Davis include an outdoor preamplifier, PRM2103, which features calibration check at five frequencies and can operate outdoors with needing desiccants along with a new universal outdoor protection, EPS2116, which has a built-in rain hat and supports a wide variety of ½ inch microphone and preamplifier combinations. There will be a live demonstration showing microphones from the top three manufacturers with a side by side comparison of the output.

Website: www.pcb.com

Since the company's foundation in 1956, Pyrotek has worked to offer our customers a diversified selection of products. We serve the industrial, construction, residential, automotive and marine markets and are always ready and willing to explore new challenges or solve new noise or vibration problems. Pyrotek's Noise Control division, previously known as Soundguard, was established in Australia 40 years ago in 1972 to develop and manufacture a complete range of soundproofing products. Our dynamic product range, combined with customised in-plant engineering services, is aimed at helping customers continually achieve higher quality standards and improved operating efficiencies at lower total costs. Our team of product specialists and scientists helps us refine existing products and create new materials to meet changing customer needs. This effort is supported by strategic alliances with our suppliers and backed by ISO Quality Assurance Standards in our major facilities. Our customers demand the luxury of silence. Our aim is to meet their expectations by providing them with the best noise control solutions available. Reducing unwanted noise is a science. We do this by continuously improving our extensive range of specialised products and applications knowledge.

Website: www.pyroteknc.com

Regupol (Australia) Pty Ltd is the Australasian office and distribution network for BSW's Regupol® and Regufoam® Impact Sound Insulation and Vibration Isolation product ranges. Both Regupol® and Regufoam® are globally recognised brands, delivering on quality, performance and sustainability. Underpinning the proven performance of Regupol® and Regufoam® is a highly trained and global network of technical advisers and engineers. Experienced in working with all levels of the construction supply chain, Regupol (Australia) Pty Ltd is expert at meeting the specific needs of architects, acoustic consultants, developers and contractors. With more than 40 products available, the company has a product solution for soundproofing floors and isolating vibration of machines and buildings. Regupol's Head Office and showroom is conveniently located at Smeaton Grange, NSW, offering Nationwide distribution and service. Regupol offers a website dedicated to the Regupol® and Regufoam® brands. The website offers free member login for Acoustic Engineers offering technical support and a free product finder calculation software.

Website: www.regupol-vibration technology.com.au

Established in 1982, Renzo Tonin & Associates is a leading engineering consulting firm, dedicated to providing a full range of acoustic services including noise, sound quality, vibration and structural dynamics. A member of the Australian Association of Acoustical Consultants, with offices in Sydney, Melbourne, Brisbane and Kuwait, our award winning consultancy assists architects, engineers, planners, developers and builders, and services government and private enterprise across a diverse range of projects. The name Renzo Tonin & Associates is synonymous with large infrastructure projects, prestigious residential buildings and complex commercial and institutional developments. Renzo Tonin & Associates has developed a close synergy with some of the world's largest and most successful companies. Understanding that high profile projects demand expert attention and coordination, Renzo Tonin & Associates becomes the obvious choice for this level of development. Renzo Tonin & Associates is the authorised Australian distributor of Datakustik noise prediction software, including CadnaA, CadnaR and Bastian.

Website: www.renzotonin.com.au

We, Rion, provide sound and vibration measuring instruments. This October we launched a new product; RIONOTE, portable frequency analyzer! This product has great features. Its compact and light body is convenient when you go measure outside. Its large color touch screen allows you to operate like iPad. Its easy and intuitive operation can remove instruction manual on site. Especially, wireless connections would develop new situation, world of measurement. Long cables and Installing wirings are no longer necessary! And its software construction is flexible. We can develop many kinds of application to match your needs. RIONOTE is the next generation measuring instrument! Please come and take a look at RIONOTE at our booth. We also display the latest sound level meters and vibration meters. Our products are developed based on Japan-Quality. Most measuring instruments will be used for long years. Quality is our top priority. And our products also have many groundbreaking functions, for striking example, compact design with high performance and long life battery. Please take them in your hand and check out their special features! At this exhibition booth, we are cooperating with our distributor in Australia, Acoustic Research Labs Pty Ltd. You can talk with our engineer about technical issues; and with sales rep about concrete business issues. Please don't hesitate to come to our booth. We are confident our products and solutions are helpful to your everyday works!

Website: www.rion.co.jp

As a world class leading supplier in sound and vibration business, we cover a wide range of business solutions in acoustic field of environmental noise monitoring, electro acoustic measurement and digital speech level analysis. Our highly qualified professional teams have proven records of providing high-quality products and services in sound and vibration solution business; supplying the world class measurement microphones and measurement analyzers. RSTech Limited offers series of electro acoustic measurement analyzers catering to individual customer's needs, as well as being compatible, conforming to domestic and global standards.

Website: www.rstech.com.cn

SIEMENS

LMS Test and Simulation solutions help companies manage the complexities of product development with advanced Testing Solutions and Model-Based Mechatronic Simulation (1D and 3D). LMS products and services address mission-critical engineering attributes – ranging from system dynamics, structural integrity and sound quality to durability, safety and power consumption. The solution and service includes Testing Solutions which provide hardware and processing software concerning rotating machinery, structural dynamics, acoustics, durability, environmental testing and vibration control. Further to this, LMS provides a complete set of simulation tools for the prediction of noise and vibration performance, helping to avoid noise or vibration problems, optimise sound for branding or performance and check if the design adheres to certain regulations. The solution supports, acoustics, vibration, vibro-acoustics, aero-acoustics, environmental noise and more. Extending classical testing and 3D simulation methods is our modern offering for system simulation to handle inherently complex multi-domain dynamic behaviour. This can go as far as calculating induced forces that may lead to noise, vibration and acoustic problems. Systems supported include Hydraulic Systems, Pneumatics, Gas Mixtures, Thermal-Hydraulics, Two-phase Flow Systems, Hydraulic Actuation, Thermofluids Systems, Electromechanical Components, Electrical Systems and Electric Storage Systems. Customer may invest in any one or combination of these product lines or alternatively utilise LMS Engineering services which is a global team of technical consultants available to help optimise complex product design and address tough engineering challenges. Our teams have over 30 years' experience helping companies solve engineering challenges. Using the LMS off-the-shelf solutions above our engineering consultants can help achieve complex product design, refinement and troubleshooting goals. Broad multi-disciplinary engineering experience ranges from noise, vibration and durability to system dynamics, vehicle handling, performance, emissions and safety.

Web: http://www.plm.automation.siemens.com/en_us/products/lms

Softnoise GmbH is a joint venture between the Dutch company DGMR Software B.V. and the German company Stapelfeldt Ingenieurgesellschaft mbH. For over 30 years Stapelfeldt and DGMR have been involved in the development of software for environmental and occupational noise calculation and mapping. The aim of Softnoise is to provide the noise related software products and services of both companies and other partners to the international market. The software of Sofnoise and its partners include: Predictor-LimA: Powerful and intuitive environmental noise; calculation and mapping distributed by Brüel & Kjær. NoiseAtWork: Mapping and reporting of occupational noise in workspaces distributed by selected resellers. MapAtWork: Visulaization and reporting of any measured indicator in workspaces distributed by selected resellers. LimAarc: Noise Calculation with LimA under ArcGIS. Distributed by IVU. Oden: Turnkey on-line noise mapping platform distributed by NGIS. Predictor-LimA is the complete solution for prediction and management of environmental noise. The new version 10 of the Predictor-LimA software has a state of the art 64 bit platform including WMS support (on-line topographical maps), high performance and an exciting and intuitive GUI experience. NoiseAtWork is an extremely easy to use software for visualization and reporting of measured occupational noise. Can be learned within minutes. It will significantly reduce the time you normally spend on getting your measurement maps done. Optional add-ons are Noise dose and Noise prediction. We are looking forward meeting you at our Softnoise booth!

Website: www.softnoise.com

Sontext is a manufacturer and distributor of an extensive range of decorative lining materials for sound control in building interiors. Many of the company's product brands have proven performance in controlling reverberation and optimising sound quality on all types of projects, large and small, throughout Australia, including: Melbourne Airport, Australian Film & Television School, Monash University, Numerous Education Facilities and Schools, Australian Navy, Numerous Company Boardrooms, ABC and numerous Radio Stations . In fact, Sontext's wall & ceiling lining products like SERENITY™ Fabric Faced Acoustic Panels, SONOFONIC™ Painted Panels & Clouds, and MURANO® Perforated & Slotted Timber Panels are now well-known internationally, following successful installations throughout the Middle East, Asia and the USA. Sontext's mission is to provide the most effective combination of products to achieve optimum sound quality in any interior space, and at the same time comply with the requirements of the specifiers on any given project – the acoustic engineer, the interior designer and the building occupants. Sontext maintains close associations with raw material suppliers around the world, such as fabric, insulation and timber processors or manufacturers, as well as fitout contractors and installers. This ensures a high level of quality, technical support and service is available wherever and whenever it is needed.

Website: www.sontext.com.au.

SoundPLAN is software for researchers and engineers responsible for developing and testing noise and air pollution reduction strategies for road, rail, airport and industry projects around the globe. SoundPLAN is recognized as the world leader in noise planning and mapping software with cutting edge noise control innovations. It is known for its speed and accuracy, for its graphic presentations and for its one of kind data organization and recall system. Come to booth #12 to see unique features that save you time and money, like cost/benefit analysis tools, built-in spreadsheets and user defined templates, and for a demo of modules like Wall Design and Indoor Factory Noise that have more advantages than any other on the market. SoundPLAN has expert representatives worldwide to serve you in your local time frame and language, with knowledge of the noise and air pollution laws that concern you. SoundPLAN is proven software setting the standard in noise control and air pollution evaluation for 29 years.

Website: www.soundplan.de

The world is full of publishers. Some move forward, some go backward, and some even seem to go nowhere at all. But at Springer we move in our own unique way. With more than 200 Nobel Prize winners among the authors of our books and journal articles, it is safe to say that Springer has earned its place among the world's foremost STM publishers. As an e-first company our editors discover the best authors and help to disseminate their research, while our developers deliver the next big thing in scholarly communications. Our dedicated teams crisscross the globe to get journal articles, books, protocols and other products into the hands of the researchers, librarians and practitioners who need them most.

Website: www.springer.com

SVANTEK is a Polish company established in 1990. We design and manufacture professional instrumentation for sound & vibration measurement and analysis. Our instruments are well known around the globe for their accuracy and reliability. But it is continuous usage of the latest technological achievements that makes us the leading innovative sound & vibration manufacturer. Latest products from Svantek such as SV 104 noise dosimeter or SV 106 8-channel vibration meter changed the sound & vibration market forever, bringing completely new quality in the pocket size instruments. Every sound or vibration instrument offered by Svantek can be delivered with an ISO/IEC 17025 calibration certificate. Our accredited laboratory uses state-of-the-art calibration technology and instrumentation and offers the highest levels of knowledge and competence with all its services.

Website: www.svantek.com

EXHIBITOR LIST

Booth No.	Organisation	Booth No.	Organisation
1	Softnoise GmbH	**33**	Hangzhou Aihua Instruments Co Ltd
2	Bruel & Kjaer	**34**	Acoustic Vision
3	Bruel & Kjaer	**36**	Autex Pty Limited
4	Pyrotek Noise Control	**37**	Envirospray 300
5	Rion	**38**	Sontext
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18	Svantek	**51**	Amber Technology
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21	Nippon Steel & Sumikin Metal Products Co Ltd	**53**	Engineering Dynamics
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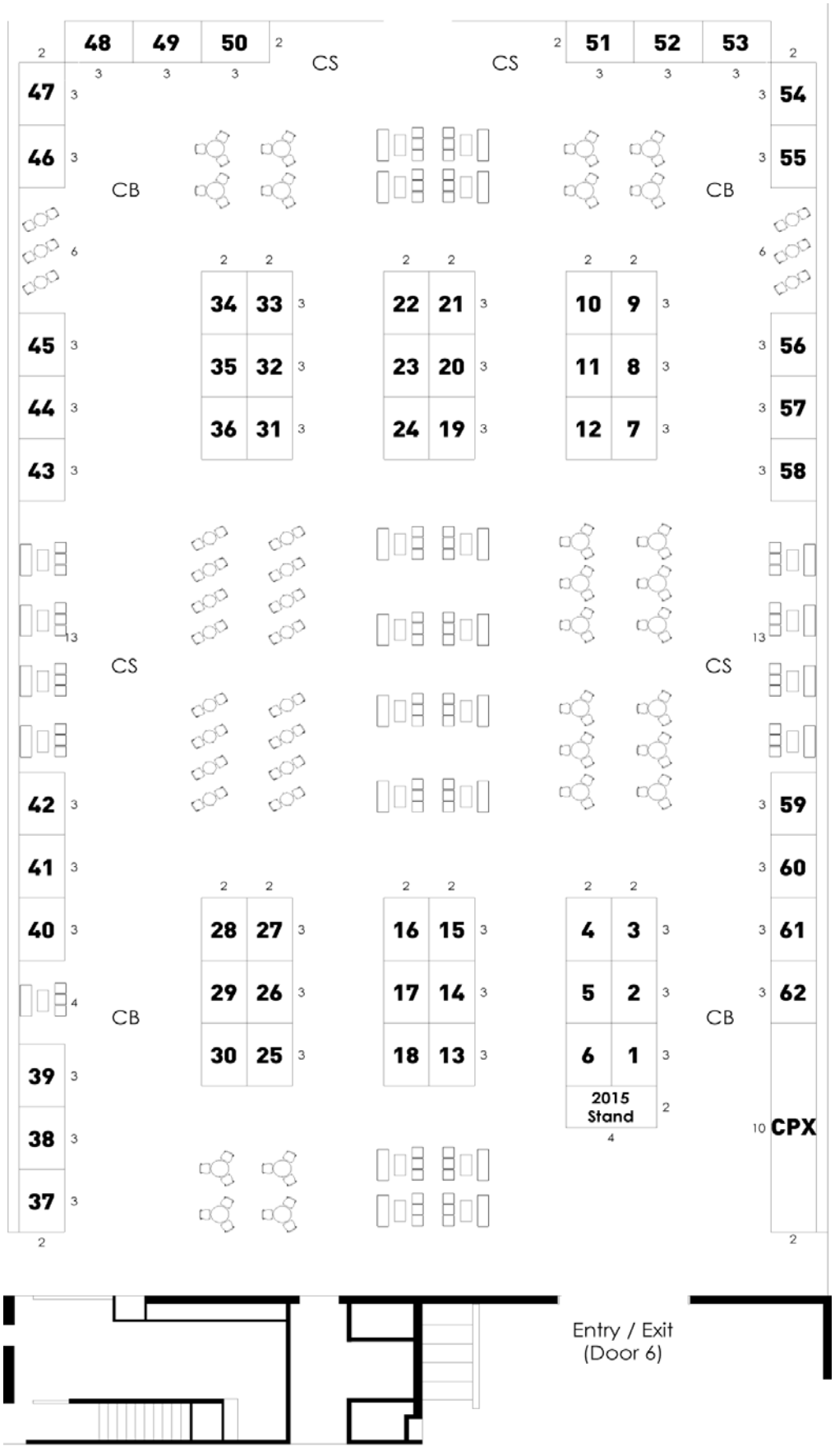
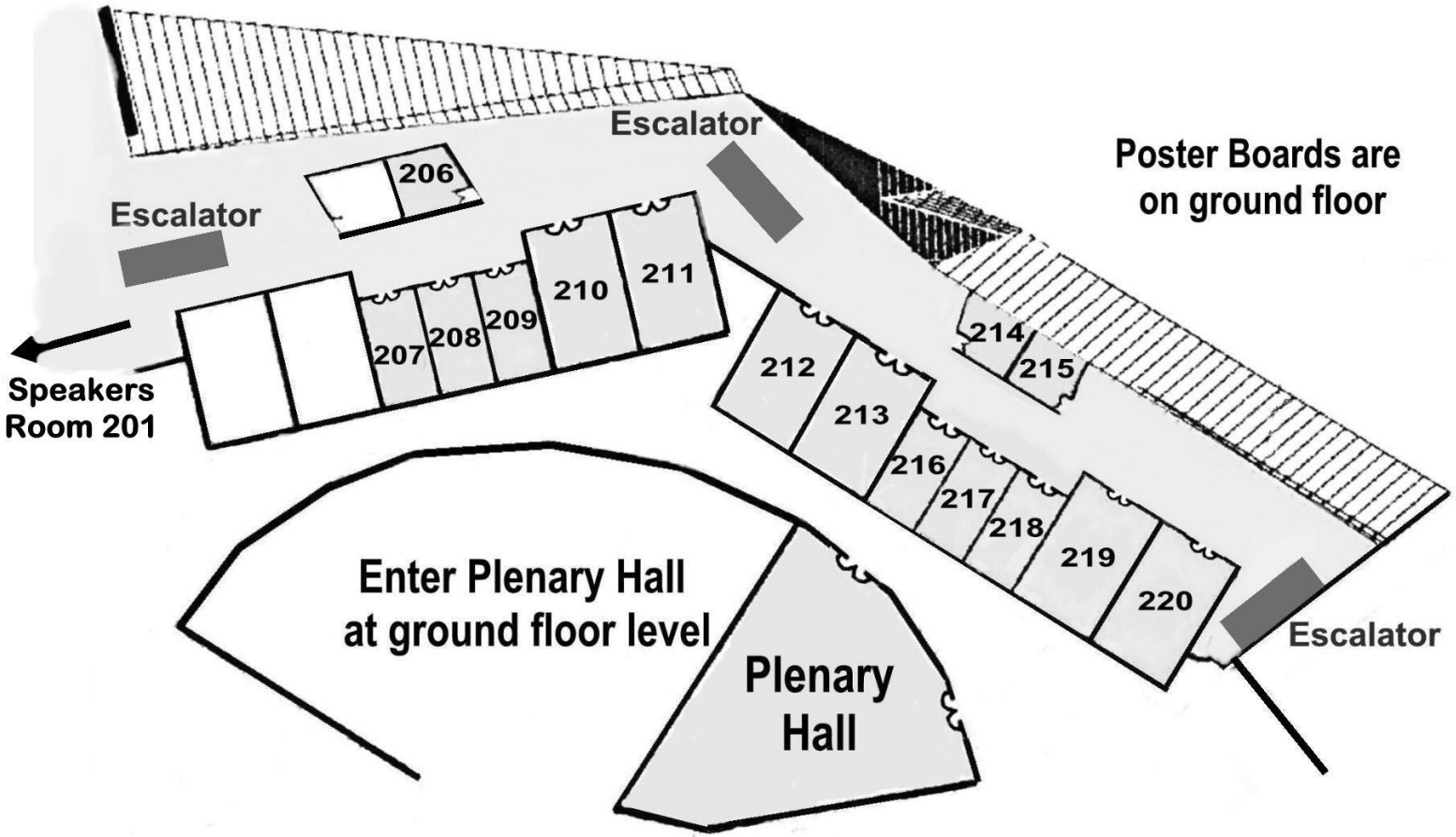
25	Microflown Technologies	**57**	Topsonic
26	Microflown Technologies	**58**	Norsonic AS/Belcur
27	Datakustik GMBH	**59**	Bradford Insulation
28	Datakustik GMBH	**60**	Martini Industries
29	RSTECH (Beijing) Co Ltd	**61**	HW Technologies
30	AVA Monitoring & Resonate Acoustics	**62**	gfai tech GmbH
31	Regupol (Australia) Pty Ltd	**CPX**	Renzo Tonin & Associates (NSW) Pty Ltd
32	Regupol (Australia) Pty Ltd	**2015 Stand**	**INTERNOISE 2015**

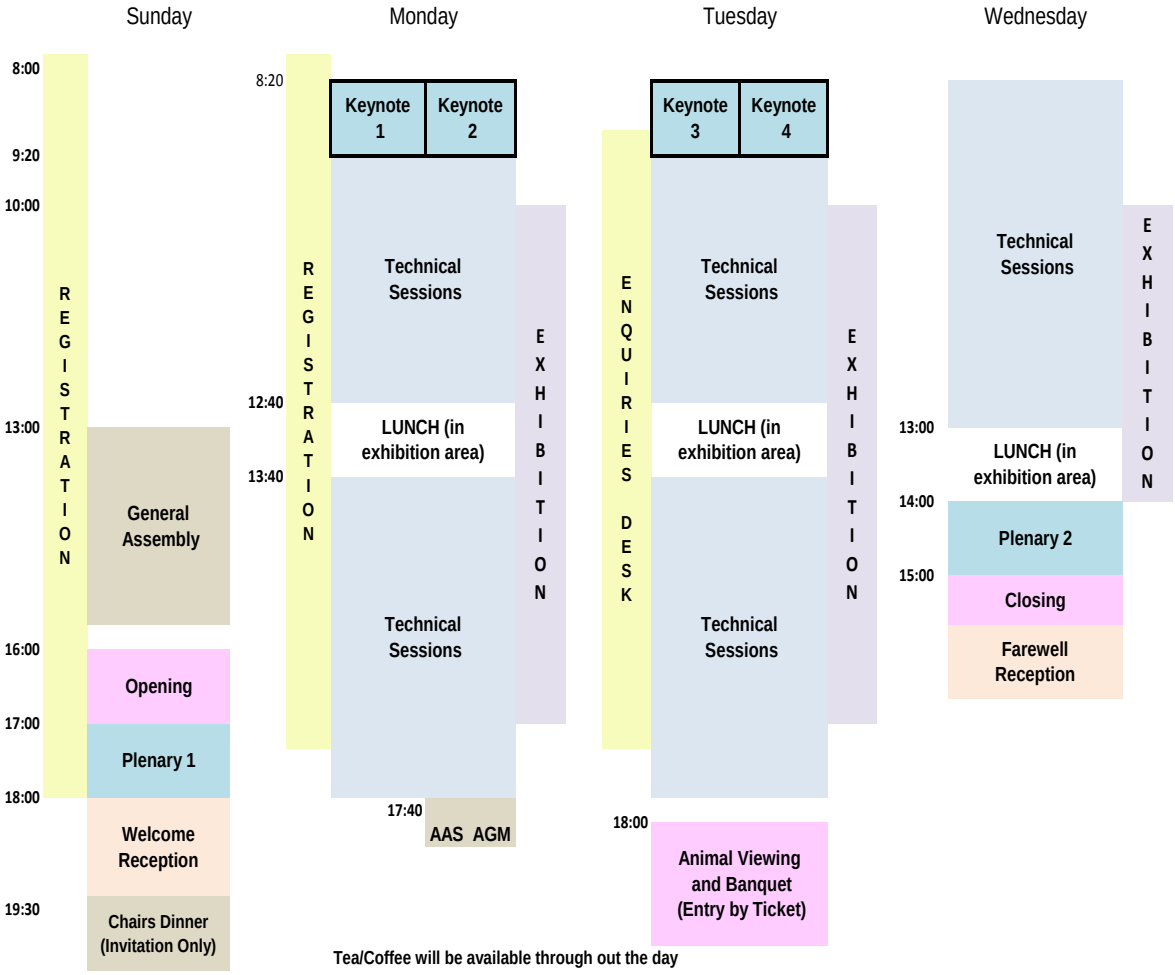
EXHIBITOR FLOOR PLAN



LECTURE ROOMS ON SECOND FLOOR



INTER.NOISE 2014 PROGRAM OVERVIEW



Tea/Coffee will be available through out the day
Refreshments available in exhibition area
Monday, Tuesday : 10:40 - 11:10 and 15:20 - 15:50
Wednesday: 10:20 - 11:00

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