Welcome to New York City, InterNoise 2012
Floor Plan

4th Floor

5th Floor
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Welcome

Colleagues:

Welcome to a historic InterNoise - the first held in our country’s largest city, New York, and the largest InterNoise ever, with over 1050 technical papers. The record-breaking conference turnout is thanks to our many hard-working session organizers, who scoured the globe to bring in papers from the best and brightest, including many authors who are attending an InterNoise for the first time.

Some of this year’s attendees are from the American Society of Mechanical Engineers (ASME) Noise Control and Acoustics Division (NCAD, Brent Paul), who are co-sponsoring InterNoise 2012 with INCE-USA. INCE-USA is also grateful to the Society of Automotive Engineers (SAE, Jim Thompson) and the Acoustical Society of America (ASA, Mardi Hastings and Dean Capone) for contributing to this year’s conference.

InterNoises are diverse affairs; this one especially so. This year includes several ‘mini-conferences’ which span two or three days, including:

- Community/Environmental Noise
- Architectural Noise and Building Acoustics
- Active and Passive Noise and Vibration Control
- Measurement and Signal Processing Techniques
- Motor Vehicle Noise
- Noise and Health

Of course, we also have technical presentations in many other areas, including many in our conference theme area: Quieting the World’s Cities.

Along with our record attendance, we are also pleased to present our largest vendor exposition ever, with over 64 exhibitors showing their software, measurement systems, and noise and vibration control products.

Student volunteers support most InterNoise conferences, and we’re thankful to Kim Riegel for coordinating this year’s group, who have stuffed your conference bags, will help staff the registration desk, and will support our audio-visual team in the meeting rooms. Please take a moment to thank our students when you can, and chat with them about their post-graduation plans. Many of them are looking for jobs.

We hope you and your families will also take advantage of the nearly limitless activities available in New York City. Time Square is the perfect home base for visits to landmarks, theatres, museums, and some of the world’s best restaurants.

Welcome again, thank you for attending, and enjoy the conference and New York City!
I-INCE

The International Institute of Noise Control Engineering (I-INCE) was founded in 1974. It is a worldwide consortium of organizations concerned with noise control, acoustics and vibration. The primary focus of the Institute is on unwanted sounds and on vibrations producing such sounds when transduced. I-INCE is the sponsor of the INTER-NOISE Series of International Congresses on Noise Control Engineering held annually in leading cities of the world. I-INCE also co-sponsors symposia on specialized topics within the I-INCE field of interest. The quarterly magazine Noise/News International is jointly published by I-INCE and the Institute of Noise Control Engineering of the USA (INCE/USA). I-INCE instituted a program to undertake technical initiatives on critically-important issues of international concern within the I-INCE field of interest. This initiative has resulted in several reports and a number of active Technical Study Groups.

I-INCE actively promotes participation by young noise control professionals. I-INCE has allocated funds to support between ten and twelve Young Scientists Conference Attendance Grants (YS Grants) to assist young scientists/engineers in attending the I-INCE sponsored International Congresses on Noise Control Engineering. The notification of this prestigious YS Grant may be used to obtain additional funding from other sources. In order to meet the expanding needs of the field of noise control engineering, I-INCE has now also established a Symposium Series. Finally, I-INCE is assuming leadership role in formulating global noise policies; this includes an ongoing collaboration with CAETS (International Council of Academies of Engineering and Technological Sciences).

Gilles Daigle, President, I-INCE

INCE-USA

http://www.inceusa.org/

Welcome to InterNoise 2012 and enjoy your time here in New York City together with your colleagues and friends. InterNoise 2012, the 41st International Congress, is being held in conjunction with the American Society of Mechanical Engineers Noise Control and Acoustics Division annual meeting, is sponsored by the International Institute of Noise Control Engineering (I-INCE), and is being organized by The Institute of Noise Control Engineering of the United States of America (INCE/USA). The Acoustical Society of America and SAE International are also co-sponsoring the event. The theme of this Congress is Quieting the World’s Cities.

The outstanding success of this Congress is due to those of us that attend and contribute as well as our hardworking and dedicated organizing committee that includes President Steve Hambric, Technical Program Chair Steve Conlon, Exposition Manager Rich Peppin, ASME NCAD Chair Brent Paul, Proceedings Editors Courtney Burroughs and Steve Conlon, and Student Coordinator Kimberly Riegel. We are also grateful to our INCE Business Office (IBO) staff for their hard work supporting this congress.

INCE/USA is an organizer of InterNoise international congresses on noise control engineering when they are held in North America. The next time INCE/USA will be hosting InterNoise will be in 2015. During other years we will sponsor the NoiseCon national conferences on noise control engineering.

INCE/USA is a non-profit professional organization founded in 1971 with a primary purpose to promote engineering solutions to environmental, product, machinery, industrial, building and other noise problems. Membership in INCE/USA is open to qualified specialists in acoustical and noise control engineering. Associates and students are welcomed. Todd Rook is our Vice President of Membership. The membership form can be downloaded from: http://www.inceusa.org/about/join

We offer Board Certification with multiple approaches offered for complying with the requirements. Rich Peppin is our Vice President for Board Certification. Details are located at: http://www.inceusa.org/about/boardcert

We have Distinguished International Members residing in 17 countries outside the U.S.A. each who have personally made extraordinarily significant contributions to the theory and/or practice of noise control engineering. Information about nominating Distinguished International Members can be requested by email sent to: vp_membership@inceusa.org
Our members receive two technical publications, the Noise Control Engineering Journal (NCEJ) and Noise/News International (NNI). NCEJ is published bi-monthly, and contains refereed journal articles on all aspects of Noise Control Engineering. NNI, published quarterly by INCE/USA and I-INCE, includes news on noise control activities around the world, along with general articles on noise issues and policies.

Courtney Burroughs, Editor of the Noise Control Engineering Journal, has put NoiseCon and InterNoise proceedings on-line that are available as a part of the membership fee and are available to non-members for a nominal fee. This digital library containing more than 15,000 entries can be accessed at: http://www.inceusa.org/publications/ncej

Teik Lim is our Vice President of Technical Activities for INCE/USA and chairs the Technical Activities Board where he oversees his Committee Chairs who help to produce special sessions at our conferences and contribute to special theme issues of NCEJ. Information about the technical activities is available at: http://www.inceusa.org/about/technical

Paul Burge is our Vice President of Honors and Awards for INCE/USA where he oversees our recognition of Outstanding Educators, Distinguished Noise Control Engineers, Excellence in Noise Control Engineering, and Hirschorn IAC Prizes.

We recently established the Leo Beranek Student Medal to recognize excellence in the study of noise-control by undergraduate and graduate students at academic institutions in North America that have courses in, or related to, noise-control engineering including practical applications. We also offer Student Paper Awards during NoiseCon and InterNoise conferences. Steve Sorenson is our Vice President of Student Affairs. Award information and history, as well as a list of our Fellows, can be found at: http://www.inceusa.org/about/awards

Funding for the above awards is provided by the INCE Foundation established in 1993 to support, promote, and advance scientific and educational activities directed toward the theory and practice of noise control engineering. To learn more about the INCE Foundation visit: http://www.inceusa.org/about/foundation

For further information, contact the INCE Business Office, 9100 Purdue Road, Ste. 200, Indianapolis, IN 46268.

Ph: +1 317 735 4063; FAX: +1 317 280 8527; E-mail: ibo@inceusa.org; Web: http://www.inceusa.org/.

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**SOCIAL EVENTS**

**Opening Ceremony and Plenary Lecture: New York City Noise Regulations, Erich Thalheimer and Charles Shamoon**
Sunday, 2012 August 19
4-6 p.m.
Broadway Ballroom, 6th Floor

**Welcome Reception**
Sunday, 2012 August 19
6-8 p.m.
Broadway Lounge, 8th Floor

**Exposition Opening and Reception**
Monday, 2012 August 20
5:30 - 7 p.m.
Westside Ballroom, 5th Floor

**Banquet - Ticket Required**
Tuesday, 2012 August 21
7-10 p.m.
Broadway Ballroom, 6th Floor

**Closing Reception**
Wednesday, 2012 August 22
5:30-7 p.m.
Outside Broadway Ballroom
The Noise Control and Acoustics Division (NCAD) of ASME (American Society of Mechanical Engineers) originated at the ASME Winter Annual Meeting on March 16, 1980. On November 19, 1981, less than two years later at Washington, D.C., NCAD attained full Division status in the ASME technical family. NCAD is the 32nd Technical Division of the ASME and is part of the Council of Engineering’s Environment and Transportation Technical Group. Other Divisions in the Group include Aerospace, Rail Transportation, Environmental Engineering, and Materials and Energy Recovery.

The general objective of NCAD is to establish a program within ASME that will encourage, focus and further the development and application of noise control and acoustics principles to mechanical engineering. The Division intends to serve its members who represent various disciplines within ASME as well as other organizations. The program will also provide a balance between the theoretical studies of acoustics and its applications in terms of noise control engineering. At the present time there are almost 500 primary members in Division.

NCAD routinely participates in ASME's International Mechanical Engineering Conference and Exhibit (IMECE). Every few years the Annual Conference for NCAD is held in conjunction with other acoustic societies, which for this year is Internoise 2012. There are several awards that are presented at the annual conference. The Rayleigh Lecture award is given to an individual who has made pioneering contributions to the sciences as well as application to industry. A significant monetary award is also given to the best student-authored technical paper presented at the conference.

The Division also awards the Per Bruel Gold Medal for Noise Control and Acoustics in recognition of eminent achievement and extraordinary merit in the field of noise control and acoustics. The achievement includes useful applications of the principles of noise control and acoustics to the art and science of mechanical engineering. This medal, established in 1987, honors Dr. Per Bruel who pioneered the development of sophisticated noise and vibration measuring and processing equipment. A monetary award of $1000 is given with the award.

NCAD is managed by an Executive and Technical committee. The Executive Committee is maintained by five members that serve a five year term. The technical committees represent the many interests of mechanical engineers in the field of noise control and acoustics, and are crucial to the long range success of the Division. The three branches of the technical committees are Active and Passive Control, Structural Acoustics, and, Aero/Hydro Acoustics. The objective of the Active and Passive Noise Control Committee is to increase and disseminate theoretical and practical methodologies aimed at reducing noise. All aspects of the noise control process are of interest, from noise source identification techniques to final installation and placement procedures of treatments. The Structural Acoustics Technical Committee provides a special forum for the free exchange of stimulating ideas and to disseminate the state-of-the-art technology of structural acoustics and related topics. The focus of this committee is on development and studies of new methodologies on both transient and steady-state acoustic radiation from vibrating structures, acoustic scattering, wave propagation, sound transmission, attenuation, and absorption, the effects of fluid-loading, mean flow, turbulence, etc., on dynamic and acoustic responses of structures, as well as the applications of computer software to solve a variety of engineering noise control and reduction problems. The goal of the Aero/Hydro Acoustics Committee is to increase the understanding of mechanisms related to both sound and vibrations that are produced and propagated, in air, water, or both (e.g. multi-phase flows). This covers a wide range of sources and applications that are of interest to the academic community as well as industry. For more information about NCAD please see: http://divisions.asme.org/ncad/.
Sound Level Meter
Class1 NL-62/52
Class2 NL-42
Extremely User Friendly
- Optional program functions available
  (Octave 8 1/3 octave analysis, FFT analysis, Waveform recording)
- Wide range measurement from 1 to 20,000 Hz (NL-62 only)
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## Society and Committee Meetings

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<thead>
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<th>Organization</th>
<th>Morning</th>
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<td><strong>Saturday, 2012 August 18</strong></td>
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<td>I - INCE</td>
<td>Congress Selection Committee</td>
<td>Board of Directors</td>
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<td></td>
<td>8 - 9 a.m. - Breakfast</td>
<td>12 - 1 p.m. - Lunch</td>
<td>7 - 9 p.m. - Dinner</td>
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<td>9 a.m. - 12 p.m. - Meeting</td>
<td>1 - 7 p.m. - Meeting</td>
<td>Marriott View restaurant</td>
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<td>Brecht - 4th floor</td>
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<tr>
<td>INCE - USA</td>
<td>Committee Meetings</td>
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<td>Board of Directors Reception (invitation only)</td>
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<td>Board of Directors</td>
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<td>5 - 7 p.m. - Ziegfield - 4th floor</td>
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<td>Gilbert, Odets, Wilder - 4th floor</td>
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<td>ISO</td>
<td>TC43/SC1/WG28 - Sound power/sound pressure standards</td>
<td>TC43/SC1/WG28 - Sound power/sound pressure standards</td>
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<td>9 a.m. - 12 p.m.</td>
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<td>Juilliard - 5th floor</td>
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<td><strong>Sunday, 2012 August 19</strong></td>
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<td>I - INCE</td>
<td>Pre FCTP meeting</td>
<td>General Assembly</td>
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<td>8 - 10 a.m.</td>
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<td>TSG 9 meeting</td>
<td>Ziegfield - 4th floor</td>
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<td>Hart - 4th floor</td>
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<td>I - INCE</td>
<td>TSG General</td>
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<td>TSG 10, part 1</td>
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<td>CAETS Noise Control Technology</td>
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<td>Committee Panel</td>
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<td>TSG 10, part 2</td>
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<td>Ziegfield - 4th floor</td>
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<td>INCE - USA</td>
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<td>Wilder - 4th floor</td>
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<td>INCE - USA</td>
<td>Fundamentals Course</td>
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<td>Gilbert - 4th floor</td>
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<td>INCE - USA</td>
<td>INCE Board Certification Exam</td>
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<td>Liberty - 8th floor</td>
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<td>Eurocities</td>
<td>Working Group Noise Meeting</td>
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<td>Juilliard - 5th floor</td>
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<td>Monday, 2012 August 20</td>
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<td>INCE - USA</td>
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<td>Technical Activities Dinner (invitation only)</td>
<td>7 - 9 p.m. &lt;br&gt; O’Neill, 4th floor</td>
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<tr>
<th>Tuesday, 2012, August 21</th>
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<tr>
<td>ASME NCAD</td>
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| Technical Meeting 12 - 1 p.m.  
General Meeting 1 - 1:50 p.m.  
Workshop on Noise Control Materials 1:50 - 3:20 p.m. <br>Hart, 4th floor |  |
| I - INCE                 |  |
| Young Professionals Workshop 1 - 3 p.m. <br>Alvin/Edison, 5th floor |  |
| INCE - USA               |  |
| Industrial Noise Technical Activity Meeting 5 - 6 p.m. <br>Brecht, 4th floor |  |

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<tr>
<th>Wednesday, 2012, August 22</th>
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<tr>
<td>Towards a Quieter America</td>
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<tr>
<td>Community Noise Public Outreach Workshop 8:30 a.m. - 1:45 p.m. &lt;br&gt;Salon 3, 5th floor</td>
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<td>ASME NCAD</td>
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<td>Rayleigh Lecture: Jet Noise Prediction, by Phil Morris 2 - 3:20 p.m. &lt;br&gt;Salon 3, 5th floor</td>
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<td>I - INCE</td>
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<td>Future Conference Technical Planning 1:20 - 3:20 p.m. &lt;br&gt;Alvin/Edison, 5th floor</td>
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<td>INCE - USA, NCAC, and ASME NCAD</td>
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<tr>
<td>INCE - USA, NCAC, and ASME NCAD Awards Ceremony 2:20 - 3:20 p.m. &lt;br&gt;Salon 4, 5th floor</td>
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<td>I - INCE</td>
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<tr>
<td>Board of Directors 6 - 9 p.m. &lt;br&gt;Brecht, 4th floor</td>
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<th>Thursday, 2012, August 23</th>
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<tr>
<td>INCE - USA</td>
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<tr>
<td>Sub-committee on Information Technology Equipment 8 a.m. - 12 p.m. &lt;br&gt;Cantor, 9th floor</td>
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<td>ISO</td>
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<tr>
<td>TC 43/SC 2/WG 26 Measurement of sound absorption in a reverberation room 8 a.m. - 12 p.m. &lt;br&gt;Gilbert, 4th floor</td>
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<tr>
<td>Sub-committee on Information Technology Equipment 1 - 6 p.m. &lt;br&gt;Cantor, 9th floor</td>
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<tr>
<td>TC 43/SC 2/WG 26 Measurement of sound absorption in a reverberation room 1 - 5 p.m. &lt;br&gt;Gilbert, 4th floor</td>
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## CONGRESS AT A GLANCE

### Sunday, 2012, August 19

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<th>Morning</th>
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<td><strong>Industrial noise calculations with CadnaA</strong>&lt;br&gt;8 a.m. - 12 p.m.&lt;br&gt;<em>O’Neill, 4th floor</em></td>
<td><strong>Scanning measurement techniques applied to noise source localization</strong>&lt;br&gt;1 - 5 p.m.&lt;br&gt;<em>O’Neill, 4th floor</em></td>
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<tr>
<td><strong>Acoustics in HVAC applications</strong>&lt;br&gt;8 a.m. - 12 p.m.&lt;br&gt;<em>Odets, 4th floor</em></td>
<td><strong>Acoustic design of mufflers</strong>&lt;br&gt;1 - 5 p.m.&lt;br&gt;<em>Odets, 4th floor</em></td>
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<tr>
<td><strong>Statistical Energy Analysis</strong>&lt;br&gt;8 a.m. - 12 p.m.&lt;br&gt;<em>Imperial, 5th floor</em></td>
<td><strong>Statistical Energy Analysis</strong>&lt;br&gt;1 - 5 p.m.&lt;br&gt;<em>Imperial, 5th floor</em></td>
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<tr>
<td><strong>Registration</strong>&lt;br&gt;12 - 6 p.m.&lt;br&gt;<em>5th floor</em></td>
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<td><strong>Presentation Upload</strong>&lt;br&gt;12 - 6 p.m.&lt;br&gt;<em>Shubert 6th floor</em></td>
<td><strong>Opening Ceremony and Plenary Lecture: New York City Noise Regulations, Erich Thalheimer and Charles Shamoon</strong>&lt;br&gt;4 - 6 p.m.&lt;br&gt;<em>Broadway Ballroom 6th floor</em></td>
<td><strong>Welcome Reception</strong>&lt;br&gt;6 - 8 p.m.&lt;br&gt;<em>Broadway Lounge 8th floor</em>&lt;br&gt;<strong>Chairpersons Dinner</strong>&lt;br&gt;(invitation only)&lt;br&gt;8 - 10 p.m.&lt;br&gt;<em>Astor Ballroom 7th floor</em></td>
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### Monday, 2012, August 20

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<td><strong>Registration</strong>&lt;br&gt;7 a.m. - 5 p.m.</td>
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<td><strong>Presentation Upload</strong>&lt;br&gt;7 a.m. - 5 p.m.&lt;br&gt;<em>Shubert 6th floor</em></td>
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<td><strong>Plenary Lecture: Transportation Noise Effects on Children, Charlotte Clark</strong>&lt;br&gt;8:15 - 9:30 a.m.&lt;br&gt;<em>Broadway Ballroom North 6th floor</em></td>
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<td><strong>Technical Sessions</strong>&lt;br&gt;10 a.m. - 12 p.m.&lt;br&gt;<em>4th, 5th, 6th, 7th floors</em></td>
<td><strong>Technical Sessions</strong>&lt;br&gt;1:20 - 5 p.m.&lt;br&gt;<em>4th, 5th, 6th, 7th floors</em></td>
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### Tuesday, 2012, August 21

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>7 a.m. - 5 p.m.</td>
<td>Registration</td>
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<td>7 a.m. - 5 p.m.</td>
<td>Presentation Upload</td>
<td>Shubert, 6th floor</td>
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<tr>
<td>8 a.m. - 12 p.m.</td>
<td>Technical Sessions</td>
<td>4th, 5th, 6th, 7th floors</td>
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<tr>
<td>9 - 11 a.m.</td>
<td>Posters</td>
<td>Registration area, 5th floor</td>
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<tr>
<td>8 a.m. - 12 p.m.</td>
<td>Exposition - Coffee/Tea</td>
<td>Westside Ballroom, 5th floor</td>
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<td>12 - 5 p.m.</td>
<td>Exposition - Coffee/Tea</td>
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<tr>
<td>3:40 - 4:40 p.m.</td>
<td>Plenary Lecture: Airport Noise in Japan, Ichiro Yamada</td>
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<tr>
<td>4:40 - 5:20 p.m.</td>
<td>Closing Ceremony</td>
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<tr>
<td>5:30 - 7 p.m.</td>
<td>Banquet</td>
<td>Broadway Ballroom 6th floor</td>
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### Wednesday, 2012, August 22

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<tr>
<th>Time</th>
<th>Event</th>
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<tr>
<td>7 a.m. - 3 p.m.</td>
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<tr>
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<td>Closing Ceremony</td>
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<td>5:30 - 7 p.m.</td>
<td>Closing Reception, hosted by Intermoise 2013 committee - Innsbruck, Austria</td>
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<tr>
<td>8 a.m. - 12 p.m.</td>
<td>Sound propagation - an impedance based approach</td>
<td>Brecht, 4th floor</td>
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<tr>
<td>1 - 5 p.m.</td>
<td>Sound propagation - an impedance based approach</td>
<td>Brecht, 4th floor</td>
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<tr>
<td>8 a.m. - 12 p.m.</td>
<td>Management and planning strategies for the development of noise models</td>
<td>Hart, 4th floor</td>
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<tr>
<td>1 - 5 p.m.</td>
<td>Buy-Quiet Procurement Strategies</td>
<td>Hart, 4th floor</td>
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<tr>
<td>8 a.m. - 12 p.m.</td>
<td>Wind power noise and vibration</td>
<td>O’Neill, 4th floor</td>
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<td>1 - 5 p.m.</td>
<td>Sound quality</td>
<td>O’Neill, 4th floor</td>
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<tr>
<td>8 a.m. - 12 p.m.</td>
<td>Acoustic Camera - practical workflow and sound source localization</td>
<td>Odets, 4th floor</td>
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<tr>
<td>1 - 5 p.m.</td>
<td>Acoustic Camera - practical workflow and sound source localization</td>
<td>Odets, 4th floor</td>
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<tr>
<td>8 a.m. - 12 p.m.</td>
<td>Acoustic simulation using ACTRAN</td>
<td>Wilder, 4th floor</td>
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<td>Acoustic simulation using ACTRAN</td>
<td>Wilder, 4th floor</td>
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<tr>
<td>8 a.m. - 12 p.m.</td>
<td>Room acoustic modeling with ODEON</td>
<td>Ziegfield, 4th floor</td>
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<tr>
<td>1 - 5 p.m.</td>
<td>Room acoustic modeling with ODEON</td>
<td>Ziegfield, 4th floor</td>
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Please note meetings may be cancelled or added so please check the bulletin boards outside the registration area for the most up to date information.
PLENARY LECTURES

Sunday, August 19
4-6 p.m.
Room - Broadway Ballroom

Understanding and Complying with the New York City Construction Noise Regulation
Erich Thalheimer, Parsons Brinckerhoff
Charles Shamoon, New York Department of Environmental Protection

Abstract: In 2003, Mayor Michael Bloomberg initiated the first overhaul of the New York City Noise Code in 30 years. After an inclusive process involving the public, advocates and industry representatives, an equitable new Noise Code was passed effective 1 July 2007. The City’s Department of Environmental Protection (NYC DEP) assembled a team of construction noise experts to assist in researching currently available noise control methods, establishing meaningful noise criteria, setting requirements for contractors to follow, imposing the concept of “cure” periods, and reasonable fines for non-compliance. The new regulations emphasize proactive avoidance of construction noise by requiring contractors to develop Noise Control Plans and by establishing equipment noise emission limits. Guidelines are also provided for mitigating particularly loud construction devices such as pile drivers and jackhammers. The NYC DEP Noise Rules have been covered in print and Internet news media world-wide, were recently cited as a noteworthy example in the new book Technology for a Quieter America by the National Academy of Engineering, and have won several independent awards including the 2009 ACEC Silver Award and the 2010 NHCA Safe-In-Sound Award.

Erich Thalheimer is a Senior Acoustical Engineer with Parsons Brinckerhoff and has been a practitioner of noise measurement, modeling, analysis and control for over 25 years. He is Board Certified by the Institute of Noise Control Engineering. Most notably he managed the noise control program at the country’s largest infrastructure project, the Central Artery/Tunnel Project, also known as the Big Dig in Boston. The lessons learned there were put to immediate use as he then developed FHWA’s Roadway Construction Noise Model (RCNM) and associated handbook. NYC DEP retained Mr. Thalheimer’s services in 2004 to assist them in developing the New York City Construction Noise Rules which went into effect in July 2007.

Charles Shamoon is an Assistant Counsel with the New York City Department of Environmental Protection. Mr. Shamoon holds a degree in engineering as well as a post-graduate degree in law. He has been litigating and assisting in prosecutions for community noise violations for over 20 years in administrative as well as higher courts. He was primarily responsible for formulating and organizing NYC DEP’s efforts to create the new New York City Construction Noise Rules which went into effect in July 2007.
Transportation Noise Effects on Children’s Cognition and Health
Dr. Charlotte Clark, Wolfson Institute of Preventative Medicine

Abstract: Increasing pollution from transport in the urban environment, has led to a policy need to advance and synthesise knowledge about the impact of aircraft and road traffic noise exposure on children’s cognitive development, health, and well-being. Overall, evidence for effects of environmental noise on children’s cognition has strengthened, demonstrating relationships between chronic noise exposure at school and poorer reading ability and memory. Research has also related classroom acoustic conditions to children’s learning outcomes focusing upon noise interference with verbal communication as the mechanism for the effect. Such evidence informs guidelines for external environmental noise exposure and the planning of school environments; and informs the design of the internal acoustic environment and potential interventions, although little is currently known about the effectiveness of interventions. There is convincing evidence that aircraft and road traffic noise are associated with increased levels of annoyance in children: aircraft noise may also be associated with raised blood pressure and hyperactivity. Gaps in knowledge remain about effects of environmental noise exposure during infancy; on children’s social behaviour; and about effects of co-exposure to air pollution. Environmental noise could have public health implications for children’s development and health, given the chronic nature of exposure and the number of children potentially exposed.

Charlotte Clark is a Senior Lecturer in Environmental and Mental Health Epidemiology at Barts & the London School of Medicine, Queen Mary University of London. Her research focuses on how the environment can influence performance and cognition, mental health, well-being, quality of life, and behaviour. She has worked in the field of noise effects on health and cognition for ten years. She co-managed the European RANCH project, which examined the effect of aircraft and road traffic noise exposure on children’s health and cognition and is currently co-director of the European Network on Noise and Health - a network of over 30 partners across Europe tasked with identifying future research needs and priorities for noise and health research.

Wednesday, August 22
3:40-4:40 p.m.
Room: Broadway Ballroom, 6th Floor

Continuing Efforts and Challenges to Reduce the Impact of Airport Noise in Japan
Dr. Ichiro Yamada, Japan Aviation Environment Research Center, Airport Environment Improvement Foundation

Abstract: Aircraft noise is a crucial public nuisance, which the Japanese Government once tackled by trying every possible means in pursuit of effective measures for mitigation of severe noise impact in the vicinity of city airports over several decades. Owing to those efforts, together with the introduction of low-noise aircraft, noise damage around airports was drastically reduced. However, a rapid increase in air traffic has brought an enlargement of gray zone instead of red. Aircraft noise still remains to be a challenging issue toward a further harmonized growth of air transportation and cities, especially for the quality of life in cities. This paper reviews a brief history of noise policies such as land use control, airport construction on the sea surface and environmental communication with the local community for the partnership. This paper also reviews the recent revision of noise guidelines and laws, issues of noise impact due to airport ground activities and issues of incessant fly-over events due to constraints in departure and approach route-designs over a densely populated city area. Finally, this paper describes recent advances in technologies for noise modeling, sound source identification for unattended noise monitoring, and technologies for controlling noise impact by a more precise method of aircraft navigation.

Dr. Ichiro Yamada is Head of Aviation Environment Research Center at Airport Environment Improvement Foundation since 2001 as well as an auditor of Kobayasi Institute of Physical Research (KIPR) since 2010. He now serves as the President of INCE/J for fiscal 2010-2011. Ichiro Yamada graduated from school of engineering at University of Tokyo in 1971 and got a doctoral degree in engineering at University of Tokyo in 1991. He worked as a researcher at Institute of Space and Aeronautical Science, University of Tokyo (1971-1980) and at KIPR (1980-2001). Ichiro Yamada has been engaged in research work on signal processing techniques applied to outdoor sound propagation and on noise evaluation applied to noise around civil airports and military facilities. He has also studied noise modeling and unattended monitoring of aircraft noise and artillery sound.
Jet Noise Prediction - A Historical Perspective and Future Directions
Dr. Philip Morris, Penn State University, Department of Aerospace Engineering

Abstract: The prediction of jet noise has challenged engineers and scientists for more than sixty years. Methods that have been developed have ranged from empirical correlations, to semi-analytical methods, to large scale numerical computations. Reliable jet noise predictions based on a given nozzle geometry and jet operating conditions alone remain an unanswered problem, expect in relatively simple situations. This paper reviews the steps that have been taken, in analysis, computation and experiment to understand and solve this problem. The earliest analytical approaches were based on acoustic analogies. These have developed to include additional flow and acoustic phenomena, but are still unable to make reliable predictions in many situations. The availability of large scale computational resources has opened new opportunities in jet noise prediction, but even these simulations still have limitations. The successes and shortcomings of available prediction methods are described. Experimental observations and the differences in current opinions concerning the mechanisms of jet noise generation are discussed. Important current problems are highlighted and opportunities for future research directions are indicated.

Philip Morris is the Boeing/A. D. Welliver Professor of Aerospace Engineering at the Pennsylvania State University. He received his M.S. and Ph.D. degrees in Advanced Acoustics and Aeronautics and Astronautics from the University of Southampton, England. Following graduation he was a post-doctoral research associate at the University of Toronto Institute for Aerospace Studies. He then joined the Lockheed Georgia Company in Marietta as a research engineer. In 1977 he joined the Department of Aerospace Engineering at Penn State. His research interests include computational aeroacoustics, acoustic and electromagnetic scattering, thermoacoustics, and jet noise reduction. Dr. Morris has authored 100 papers in refereed journals, over 200 conference publications, several book and encyclopedia chapters and numerous sponsor/contractor reports. Dr. Morris is a Fellow of both the American Physical Society and the American Institute of Aeronautics and Astronautics. He was the recipient of the 1999 AIAA Aeroacoustics Award.
WORKSHOPS

Community Noise Public Outreach
Wednesday, 2012 August 22
8:45 – 1:45
Room: Salon 3
Chaired by Larry Finegold and David Sykes

Managing community noise at the local level
Lawrence Finegold

How did the NYC DEP develop the NYC code?
Charles Shamoorn, Esq. & Gerry Kelpin, DEP/BEC Director of Enforcement

Elkhart IN: a new and successful approach for implementing noise codes
Bradley Vite, adviser to the mayor and lead developer of Elkhart’s self-funding noise ordinance

In pursuit of silence

Professionals, public officials and citizens join together to stop the noise
Arline Bronzaft PhD, Mayor’s council on the environment of NYC and co-author of the book, Why Noise Matters (Routledge, 2011)

The National Academy of Engineering report “Technology for a Quieter America”
George Maling, lead author

What I learned listening to noise
Garret Keizer, author of the book The Unwanted Sound of Everything We Want (Public Affairs 2010)

Proposed ANSI Standard: guidance for developing state noise regulations and local noise ordinances
Bennett Brooks, co-chair, ANSI S12 WG41

The shot heard...managing the impacts of noise on an iconic Revolutionary War town
Douglas Adams AIA, Chair (retired) planning commission, Lincoln MA

The turning point was 2011: the next decade has begun
David Sykes, co-chair ANSI S12 WG44, editor of Sound & Vibration...2.0 (Springer 2012)

Organized by Towards a Quieter America, a project of ARC (The Acoustics Research Council), and the Michiko So Finegold Memorial Trust.

I-INCE Young Professionals Workshop
Tuesday, 2012 August 21
1:00 – 3:00 p.m.
Room: Alvin/Edison
Chaired by Raj Singh

Goals

• Case studies and professional issues presented by world renowned experts
• Informal discussions between young professionals and I-INCE leaders and senior noise control engineers

Audience

• Young Professionals (by invitation only)
• All I-INCE ‘young scientist’ applicants will be invited plus many students who would be attending Inter-Noise 2012
• All participants must be formally registered (Please contact Caterina Runyon-Spears at runyon-spears.1@osu.edu)
Program

• Presentation of the I-INCE Young Scientists Grant certificates
• How to Formulate Research Problems?
• How to Publish Journal Papers?
• How to Network?
• Informal Discussions

Contact
Professor R. Singh
VP, I-INCE Technical Activities
E-mail: runyon-spears.1@osu.edu

Future Conference Technical Planners (FCTP)
Wednesday, 2012 August 22
1:20 – 3:20
Room: Alvin/Edison
Technical Programs for:

INTER-NOISE 2013
Innsbruck, Austria,
2013 September 15-18
www.internoise2013.org

INTER-NOISE 2014
Melbourne, Australia
2014 November 16-19

Agenda

Overview and introduction of participants
INTER-NOISE 2012 experience

INTER-NOISE 2013 technical program, current plans and needs Q & A session, suggestions from the floor,
and open discussion

Summary of the discussion and action items INTER-NOISE 2014 technical program, current plans and
needs

Suggestions from the floor, and open discussion

Closing remarks and adjourn

Off-line and informal discussions

Attendees will be asked to provide their contact information (email addresses) and suggestions for technical sessions for IN 2013,
IN 2014 and beyond.

Key Contacts for INTER-NOISE Congresses

INTER-NOISE 2012
Stephen A. Hambric, General_chair@internoise2012.com
Stephen Conlon, technical_chair@internoise2012.com

INTER-NOISE 2013
Werner Talasch, Werner.talasch@oal.at
Christian Kirisits, Christian.kirisits@internoise2013.com

INTER-NOISE 2014
Norm Broner, NBroner@globalskm.com
Charles Don, charlesd@virginbroadband.com.au

INTER-NOISE 2015
Paul Donavan, pdonavan@illingworthrodkin.com

I-INCE
Raj Singh, singh.3@osu.edu
Young Scientist Conference Attendance Grant Winners for INTER-NOISE 2012

The Board of the International Institute of Noise Control Engineering (I-INCE) actively promotes participation by young noise control professionals. Accordingly, I-INCE has allocated funds (since 2010) to support 12 to 18 Young Scientists (YS) Conference Attendance Grants to assist young scientists/engineers in attending the I-INCE sponsored International Congresses on Noise Control Engineering. Candidates must be relatively early in their professional careers (typically less than 10 years of active career). They can be either undergraduate or postgraduate students, postdoctoral, or young acousticians or noise control engineers working in industry. Preference is usually given to students. I-INCE provides €500 per recipient to pay for congress registration and some travel expenses. The notification of this prestigious YS Grant may be used to obtain additional funding from other sources. Rules and application procedures are described on the I-INCE site: http://www.i-ince.org.

Applications are carefully assessed by the I-INCE YS Grants Subcommittee (chaired by Professor R Singh). After two rounds of evaluations, eighteen young scientists/engineers (out of 47 applicants) have been chosen to receive the 2012 grants, as listed below. All grant winners will be recognized during the Young Professionals Workshop (Tuesday, 2012 August 21, 13:00 to 15:00 in Alvin/Edison) by senior I-INCE leaders.

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<th>Country of Origin</th>
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ASME NCAD ACTIVITIES

Please note the following activities arranged by the American Society of Mechanical Engineer's (ASME) Noise, Control, and Acoustics Division during Internoise 2012.

Tuesday

12:00 – 1:00 pm, NCAD Technical Committee Meeting, Hart. All are welcome to attend a meeting of the three NCAD technical committees: Active and Passive Noise Control, Structural Acoustics, and Aero/Hydro Acoustics. Items of interest to members will be discussed as well as planning for the next year.

1:00 – 1:50 pm, NCAD General Meeting, Hart. This meeting will discuss the direction of NCAD for the next few years, including conferences to attend.

1:50 – 3:20 pm, Hart, Workshop on Noise Control Materials: Characterization and Modeling, Raymond Panneton and Noureddine Atalla, University of Sherbrooke. Noise control materials are widely used in a wide variety of products (cars, planes, buildings, household appliances). For industry, the production cost is often the number one criterion in selecting manufacturing methods and materials. However, today’s consumers are becoming more demanding about sound quality. Their choices are more than ever guided by a sound quality/price ratio. In this context, design engineers must reinvent or rethink their methods of design and production. More importantly, acoustic engineers must be part of the design process. These engineers must have an excellent knowledge of the materials they can use for noise reduction, and how to predict their impact on the acoustic behavior of the end product. This workshop will address this issue in two parts. Part 1 (Professor Atalla) is Modeling of noise control materials and Part 2 (Professor Panneton) is Characterization of materials using experimental methods.

Wednesday

2:00 – 3:20 pm, Salon 3, ASME Rayleigh Lecture by Dr. Phil Morris, “Jet noise prediction – a historical perspective and future directions”. This year's Rayleigh Lecture will be on the difficult prediction of jet noise. Methods that have been developed have ranged from empirical correlations, to semi-analytical methods, to large scale numerical computations. Reliable jet noise predictions based on a given nozzle geometry and jet operating conditions alone remain an unanswered problem, except in relatively simple situations. This paper reviews the steps that have been taken, in analysis, computation and experiment to understand and solve this problem. The availability of large scale computational resources has opened new opportunities in jet noise prediction, but even these simulations still have limitations. Important current problems are highlighted and opportunities for future research directions are indicated.
CONGRESS TOPIC ORGANIZERS

Active and Passive Noise & Vibration Control
Topic Organizers: Li Cheng, Xiaojun Qiu, Jie Duan
Sessions: 1.01 Passive Noise and Vibration Control (joint INCE / ASME NCAD)
1.02 Algorithms and Systems for Active Control and Acoustic Echo Cancellation
1.04 Applications of Active Noise and Vibration Control (joint INCE / ASME NCAD)
1.05 Adaptive Structures for Noise / Vibration Control

Aircraft and Space System Noise & Vibration
Topic Organizers: Pascale Neple, Mark Downing
Sessions: 2.03 Aeroacoustics and Jet Noise - Measurement and control
2.05 Aircraft Interior Noise: applications, strategies and test
2.06 Noise Source Characterization in Aircraft
2.09 Launch and Space Vehicle Noise and Vibration

Architectural Noise / Building Acoustics
Topic Organizer: Kenric Van Wyk
Sessions: 3.01 Classroom noise, criteria and standards
3.02 Healthcare noise
3.03 Noise in Performing Arts spaces (both indoor / outdoor venues)
3.04 Noise in Green / Sustainable Buildings
3.05 Impact noise - Building Acoustics
3.06 Acoustics of Lightweight Constructions
3.08 Sound Propagation in Buildings
3.09 Speech Privacy
3.10 Measurements in Rooms and Building Acoustics
3.11 Computational Techniques in Room and Building Acoustics
3.12 Indoor acoustic comfort and building acoustics assessment and classification
3.13 Room acoustics: Fundamental research and practical applications
3.14 Vertical transmission of noise and vibration
3.16 Acoustic-Thermal Interactions

Motor Vehicle Noise, Interior and Exterior
Topic Organizers: Steve Sorenson, Ulf Sandberg
Sessions: 4.01 Automotive NVH - general vehicle, subsystem and component topics
4.03 Noise control requirements for vehicles and tires
4.05 Noise and sound from electric and hybrid vehicles
4.06 Vehicle Noise, Vibration, and Harshness - Noise control methods and materials
4.07 Vehicle NVH modeling and simulation
4.08 Vehicle noise measurement
4.09 Enclosures, mufflers and silencers
4.10 Brake noise - using engine and/or wheel brakes
4.12 Pavement influence on noise
4.13 Longevity, costs and sacrifices related to quiet pavements
4.14 Tire-Pavement Noise Sources, Modeling and Simulation
4.15 Tire-pavement noise measurement methods
4.16 Sound Quality work for Automotive Applications
Consumer Product Noise
Topic Organizer: Matt Nobile
Sessions:
5.01 General Topics
5.04 Buy Quiet Policies: Encouraging Demand for Low-Noise Products

Information Technology Equipment Noise
Topic Organizer: Marco Beltman
Session:
6.01 IT Equipment: General Noise Issues, Noise Standards, Noise Control & Perception

Community / Environmental Noise
Topic Organizers: Larry Finegold & Truls Gjestland
Sessions:
7.02 Recreational / Entertainment Noise
7.03 Environmental Noise Management and Mapping
7.05 National Park Noise / Quiet Parks
7.06 Public outreach workshop on community noise
7.07 Outdoor sound propagation
7.08 Community response to noise
7.10 Sonic Boom Noise (joint INCE / ASME NCAD)
7.11 Airport and Community Noise modeling and monitoring

City Noise
Topic Organizers: Maurice Kwok-Leung, Charles Shamoon, Erich Thalheimer
Sessions:
8.01 Construction noise
8.03 Urban noise & policy
8.04 Mitigating noise in urban areas through building envelop design
8.06 Quiet zones in cities

Industrial Noise
Topic Organizers: Karl Washburn, Jenae Lowe
Sessions:
9.01 Power Plant Noise
9.02 Noise Control for Petrochemical and Process Plants
9.04 Fan Noise and Aeroacoustics (joint INCE / ASME NCAD)
9.06 Application of noise controls in the mining industry (joint INCE / ASME NCAD)

Low Frequency Noise, Vibration and Shock
Topic Organizer: Jeff Vipperman
Sessions:
10.01 Low frequency noise: airborne, structure-borne, and ground (joint INCE / ASME NCAD)
10.02 Low Frequency Human Perception and Measurement
10.03 Indoor Response to Sonic Boom and Low Frequency Noise Sources (joint INCE / ASME NCAD)

Marine Vehicles, Structures and Underwater Noise
Topic Organizers: Joe Cushieri, Nicole Kessissoglou
Session:
11.04 Underwater and Marine Structure Noise / Vibration (joint INCE / ASME NCAD)

Measurement and Signal Processing Techniques
Topic Organizers: Finn Jacobsen, Andrew Barnard
Sessions:
12.01 Vibration and Acoustic Measurement Techniques and Facilities
12.02 Sound Power / Intensity Determination for Noise Sources
12.03 Signal processing and analysis
12.07 Source-Path Contribution / Transfer Path Analysis
12.08 Acoustic metrology, measurement techniques and case studies
Inverse Approaches in Vibro-Acoustics
Topic Organizers: Jeong-Guon Ih, Antonio Concilio
Sessions:
13.01 Acoustical holography
13.02 Beamforming
13.03 Source tracking and control
13.04 Visualization of the source and field
13.05 3D sound reproduction and sound field control
13.07 Identification methods for vibroacoustics

Noise Control Products
Topic Organizers: Noureddine Atalla, Stuart Bolton
Sessions:
14.01 Acoustic Wave Propagation in Porous Media (joint INCE / ASME NCAD)
14.02 Phononic Crystals and Acoustic Metamaterials / Nano Materials (joint INCE / ASME NCAD)
14.04 Manufacturer Noise Control Materials and Case Studies
14.06 Noise Barriers and associated devices – absorptive claddings/added devices, new materials, microperforated
14.08 Innovative lightweight materials for noise control and abatements (joint INCE / ASME NCAD)

Noise and Health
Topic Organizers: Deepak Prasher, Stephen Stansfeld
Sessions:
15.01 Hearing Protection
15.02 Annoyance / Health Effects
15.03 Effects of noise on health and cognition in children
15.04 Sleep Disturbance
15.05 Cardiovascular Health Impacts of Noise
15.06 Auralization of source and field in the design stage
15.07 Community reaction to noise (methods and the role of contextual variables and policy implications)
15.08 Noise and Hearing Loss
15.09 Understanding speech in noise

Noise Policy Development, Education, Economics and Implementation
Topic Organizers: Henk Wolfert & Miriam Weber DCMR EPA
Sessions:
16.01 Legislation, Implementation and Noise Control Policies
16.02 Stakeholder education and public awareness
16.04 Noise policies integrated in other policy domains
16.05 Economics of Noise for Sustainability
16.06 Airport Noise Policy
16.07 Approaches to encourage people to low noise behavior
16.08 Mentoring in Acoustics Education

Numerical and Analytical Techniques
Topic Organizer: Wim Desmet
Sessions:
17.01 Numerical Methods in Vibration and Acoustics (FEM, BEM, IFEM) (joint INCE / ASME NCAD)
17.02 Statistical Energy Analysis and Energy Methods
17.04 Mid frequency vibroacoustic methods
17.06 Numerical analysis for structural acoustics and vibrations
Old Meets New
Topic Organizers: Steve Sorenson, Stuart Bolton, Patricia Davies
Session: 18.01 Student presentations of seminal papers in the field of noise control engineering

Railway Noise and Vibration
Topic Organizers: Jason Ross, David Towers
Sessions: 19.01 Railway Noise and Vibration
19.02 High Speed Train Noise

Renewable Energy System Noise
Topic Organizers: Mark Bastasch, Geoff Leventhall, Parimal Tathavedekar
Sessions: 20.02 Wind turbines and renewable energy noise

Psychoacoustic Aspects in Noise Evaluation
Topic Organizers: Patricia Davies, Hugo Fastl, Sonoko Kuwano
Sessions: 21.02 Memorial session for Rhona Hellman
21.03 Perceptions and effects of noise
21.04 Psychoacoustic approach to noise problems in daily life
21.05 Psychoacoustics

Structural Acoustics
Topic Organizers: Ran Cabell, Charles Pézerat
Sessions: 22.01 General Structural Acoustics and Vibration (joint INCE / ASME NCAD)

Soundscape
Topic Organizers: Jian Kang, Brigitte Schulte-Fortkamp
Sessions: 23.01 Soundscape and its application
23.02 Sound quality and Soundscaping
23.05 Architecture and Urban Sound Design
23.06 Soundscape techniques and approaches
23.09 Soundscape and urban area design
23.10 Natural and Urban Soundscape

Flow Induced Noise and Vibration
Topic Organizer: Brent Paul
Sessions: 24.01 Flow / aero acoustics (ASME NCAD)
24.05 Piping and Duct Acoustics
24.07 Fatigue due to Acoustical Induced Vibration in Piping Systems
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NOISE
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1/N Octave, FFT
Type 1 standards

VIBRATION
Acceleration, Velocity, Displacement

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## INTERNATIONAL ADVISORY COMMITTEE

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<td>Australia</td>
<td>Marion Burgess</td>
<td>Korea</td>
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<td>Austria</td>
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<td>Mexico</td>
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<td>Brazil</td>
<td>Samir Gerges</td>
<td>New Zealand</td>
<td>Roger Halkyard</td>
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<td>Canada (CAA Liaison)</td>
<td>Brad Gover</td>
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<td>Canada</td>
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<td>France</td>
<td>Goran Pavic</td>
<td>UK</td>
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<td>Germany</td>
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<td>USA (ASA liaison)</td>
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<td>Hong Kong</td>
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<td>India</td>
<td>M.L. Munjal</td>
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<td>Jim Thompson</td>
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<td>Rajendra Singh</td>
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<td>Hideki Tachibana</td>
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<td>Japan</td>
<td>Ichiro Yamada</td>
<td>USA (ASME NCAD liaison)</td>
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## STUDENT VOLUNTEERS

- **Kookmin University**: Nguyen Phu Thuong Luu
- **Lewis S. Goodfriend & Associates**: Jack Zybura, Frank Reder
- **Ohio State University**: Osman Taha Sen, Hasan Koruk
- **Penn State University**: Jason Bostron, Rachel Ramond, Matt Shaw, Paul Bauch, Abe Lee, Whitney Coyle
- **Purdue University**: Hongdan Tao, Yangfan Liu, Nicholas Nakjoo Kim, Brandon Sobekci, Clothilde Giacomoni
- **University of Cincinatti**: Wael Elwali, Guohua Sun
- **University of Hartford**: Ryan Maurer
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Session: 1.01 Passive Noise and Vibration Control (joint INCE / ASME NCAD)
Organizers: Noah Schiller (ASME)
Fabio Semperlotti
Franck Marrot

Session: 1.02 Algorithms and Systems for Active Control and Acoustic Echo Cancellation
Organizers: Jing Lu
Muhammad Akhtar
Xiaojun Qiu

Session: 1.04 Applications of Active Noise and Vibration Control (joint INCE / ASME NCAD)
Organizers: Jie Duan
Mingfeng Li
Rich Silcox (ASME)

Session: 1.05 Adaptive Structures for Noise / Vibration Control
Organizers: Li Cheng
George Lesieutre

Session: 2.03 Aeroacoustics and Jet Noise - Measurement and control
Organizers: Phil Morris
Lars Enghard
Carsten Spehr

Session: 2.05 Aircraft Interior Noise: applications, strategies and test
Organizers: Pascale Neple
Jeff Weisbeck
Samir N.Y. Gerges

Session: 2.06 Noise Source Characterization in Aircraft
Organizers: Carsten Spehr
Todd Rook

Session: 2.09 Launch and Space Vehicle Noise and Vibration
Organizers: Haisam Osman
Micah Shepherd (ASA)

Session: 3.01 Classroom noise, criteria and standards
Organizers: Benjamin Sachwald
Ning Xiang

Session: 3.02 Healthcare noise
Organizers: David Sykes
Kenric Van Wyk

Session: 3.03 Noise in Performing Arts spaces (both indoor / outdoor venues)
Organizers: Todd Brooks
Ning Xiang

Session: 3.04 Noise in Green / Sustainable Buildings
Organizers: Greg Coudriet
Jeff Fullerton

Session: 3.05 Impact noise - Building Acoustics
Organizers: Berndt Zeitler
Delphine Bard

Session: 3.06 Acoustics of Lightweight Constructions
Organizers: Jean-Luc Kouyoumji

Session: 3.08 Sound Propagation in Buildings
Organizers: Adam C. Jenkins
Jack B. Evans

Session: 3.09 Speech Privacy
Organizers: Kenric Van Wyk
Jorge Patricio

Session: 3.1 Measurements in Rooms and Building Acoustics
Organizers: Jeffrey Mahn
Yun Jing

Session: 3.11 Computational Techniques in Room and Building Acoustics
Organizers: Julieta António
Monika Rychtarikova
Yun Jing

Session: 3.12 Indoor acoustic comfort and building acoustics assessment and classification
Organizers: Jorge Patricio
Antonino di Bella

Session: 3.13 Room acoustics: Fundamental research and practical applications
Organizers: Ning Xiang
Lauri Savioja
Session: 3.14 Vertical transmission of noise and vibration
Organizers: Jack B. Evans
Marc Asselineau

Session: 3.16 Acoustic-Thermal Interactions
Organizers: Jean-Luc Kouyoumji
Marc Asselineau

Session: 4.01 Automotive NVH - general vehicle, subsystem and component topics
Organizers: Steve Sorenson
Hether Fedullo

Session: 4.03 Noise control requirements for vehicles and tires
Organizers: Truls Berge
Klaus Genuit

Session: 4.05 Noise and sound from electric and hybrid vehicles
Organizers: Klaus Genuit
G J van Blokland

Session: 4.06 Vehicle Noise, Vibration, and Harshness - Noise control methods and materials
Organizers: Steve Sorenson
Koo-Tae Kang
Pranab Saha (SAE)

Session: 4.07 Vehicle NVH modeling and simulation
Organizers: Gabriella Cerrato (SAE)
Pranab Saha (SAE)

Session: 4.08 Vehicle noise measurement
Organizers: Paul Donavan
Chad Musser (SAE)

Session: 4.09 Enclosures, mufflers and silencers
Organizers: Tamer Elnady
Mark Storm
Francisco D. Denia

Session: 4.1 Brake noise - using engine and/or wheel brakes
Organizers: Todd Rook (SAE)
James McIntosh

Session: 4.12 Pavement influence on noise
Organizers: Ulf Sandberg
Hans Bendtsen

Session: 4.13 Longevity, costs and sacrifices related to quiet pavements
Organizers: Paul Donavan
Rob Rasmussen

Session: 4.14 Tire-Pavement Noise Sources, Modeling and Simulation
Organizers: Richard Sohaney
G J van Blokland
Courtney Burroughs

Session: 4.15 Tire-pavement noise measurement methods
Organizers: Judy Rochat
Piotr Mioduszewski

Session: 4.16 Sound Quality work for Automotive Applications
Organizers: Gordon Ebbitt
Wade Bray

Session: 5.01 General Topics
Organizers: Chuck Hayden
Matt Nobile

Session: 5.04 Buy Quiet Policies: Encouraging Demand for Low-Noise Products
Organizers: Jean Tourret
Matt Nobile

Session: 6.01 IT Equipment: General Noise Issues, Noise Standards, Noise Control & Perception
Organizers: Marco Beltman
Ikwo Kimizuka
Gaku Minorakawa

Session: 7.02 Recreational / Entertainment Noise
Organizers: Paul Burge
Chris Menge
Bob Bronsdon

Session: 7.03 Environmental Noise Management and Mapping
Organizers: Doug Manvell
Nicholas P. Miller

Session: 7.05 National Park Noise / Quiet Parks
Organizers: Karen Trevino
Truls Gjestland

Session: 7.06 Public outreach workshop on community noise
Organizers: Larry Finegold
David Sykes
Session:  7.07 Outdoor sound propagation
Organizers:  Charlie Zheng (ASME)
Henry Scarton (ASME)

Session:  7.08 Community response to noise
Organizers:  Truls Gjestland
Irene van Kamp

Session:  7.1 Sonic Boom Noise (joint INCE / ASME NCAD)
Organizers:  Vic Sparrow
Joe Gavin (ASME)

Session:  7.11 Airport and Community Noise modeling and monitoring
Organizers:  Idar L N Granoeien
Naoaki Shinohara

Session:  8.01 Construction noise
Organizers:  Maurice Kwok-Leung
Erich Thalheimer

Session:  8.03 Urban noise & policy
Organizers:  Maurice Kwok-Leung
Nachiketa Tiwari
Charles Shamoon

Session:  8.04 Mitigating noise in urban areas through building envelop design
Organizers:  Maurice Kwok-Leung
SK Tang

Session:  8.06 Quiet zones in cities
Organizers:  Klaus Genuit
Sharon Paul Carpenter

Session:  9.01 Power Plant Noise
Organizers:  Frank Brittain
Karl Washburn

Session:  9.02 Noise Control for Petrochemical and Process Plants
Organizers:  Jim Cowling
Jon Richards

Session:  9.04 Fan Noise and Aeroacoustics (joint INCE / ASME NCAD)
Organizers:  Prakash Thawani
Mike Jonson (ASME)

Session:  9.06 Application of noise controls in the mining industry (joint INCE / ASME NCAD)
Organizers:  Adam Smith (ASME)
Hugo Camargo (ASME)

Session:  10.01 Low frequency noise: airborne, structure-borne, and ground (joint INCE / ASME NCAD)
Organizers:  Jeff Vipperman (ASME)
Mark Downing

Session:  10.02 Low Frequency Human Perception and Measurement
Organizers:  Wade Bray
Joe Gavin (ASME)

Session:  10.03 Indoor Response to Sonic Boom and Low Frequency Noise Sources (joint INCE / ASME NCAD)
Organizers:  Jake Klos
Joe Gavin (ASME)

Session:  11.04 Underwater and Marine Structure Noise / Vibration (joint INCE / ASME NCAD)
Organizers:  Joe Cushieri
Ab Kirwan (ASME)

Session:  12.01 Vibration and Acoustic Measurement Techniques and Facilities
Organizers:  Jason Kunio
Ran Cabell

Session:  12.02 Sound Power / Intensity Determination for Noise Sources
Organizers:  Finn Jacobsen
Eric Myer

Session:  12.03 Signal processing and analysis
Organizers:  Andrew Barnard
Jason Kunio

Session:  12.07 Source-Path Contribution / Transfer Path Analysis
Organizers:  Gary Newton (SAE)
Finn Jacobsen

Session:  12.08 Acoustic metrology, measurement techniques and case studies
Organizers:  Salvador Barrera Figueroa
Andrew Barnard

Session:  13.01 Acoustical holography
Organizers:  Weikang Jiang
Jesper Gomes

Session:  13.02 Beamforming
Organizers:  Hyu-Sang Kwon
Mingsian Bai
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<th>Session: 15.03 Effects of noise on health and cognition in children</th>
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<td>Organizers: Antonio Concilio, Jeong-Guon Ih</td>
<td>Organizers: Irene van Kamp, Charlotte Clark</td>
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<tr>
<td>Session: 13.04 Visualization of the source and field</td>
<td>Session: 15.04 Sleep Disturbance</td>
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<td>Organizers: Diange Yang, Jeong-Guon Ih</td>
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<td>Session: 13.05 3D sound reproduction and sound field control</td>
<td>Session: 15.05 Cardiovascular Health Impacts of Noise</td>
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<td>Session: 13.07 Identification methods for vibroacoustics</td>
<td>Session: 15.06 Auralization of source and field in the design stage</td>
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<td>Organizers: Charles Pézerat, Antonio Concilio</td>
<td>Organizers: Cheol-Ho Jeong, Michael Vorlaender</td>
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<td>Session: 14.01 Acoustic Wave Propagation in Porous Media (joint INCE / ASME NCAD)</td>
<td>Session: 15.07 Community reaction to noise (methods and the role of contextual variables and policy implications)</td>
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<td>Organizers: Nicolas Dauchez, Sue Sung (ASME), Kirill Horoshenkov</td>
<td>Organizers: Takashi Yano, Sabine Janssen</td>
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<td>Session: 14.02 Phononic Crystals and Acoustic Metamaterials / Nano Materials (joint INCE / ASME NCAD)</td>
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<td>Session: 15.09 Understanding speech in noise</td>
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<td>Organizers: Steve Roth, Christopher Griffen</td>
<td>Organizers: Jerker Ronnberg, Deepak Prasher</td>
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<td>Session: 14.08 Innovative lightweight materials for noise control and abatements (joint INCE / ASME NCAD)</td>
<td>Session: 16.02 Stakeholder education and public awareness</td>
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<td>Session: 15.01 Hearing Protection</td>
<td>Session: 16.04 Noise policies integrated in other policy domains</td>
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<td>Organizers: Elliott Berger, Samir Gerges</td>
<td>Organizers: Wim van Keulen, Henk Wolfert</td>
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<td>Session: 15.02 Annoyance / Health Effects</td>
<td>Session: 16.05 Economics of Noise for Sustainability</td>
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<td>Organizers: Stephen Stansfeld, Deepak Prasher</td>
<td>Organizers: Abigail Bristlow, Cecilia Rocha</td>
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</table>
Session: 16.06 Airport Noise Policy
Organizers: Larry Finegold
Henk Veerbeek

Session: 16.07 Approaches to encourage people to low noise behavior
Organizers: Stephan Paul
Irene Schlachter

Session: 16.08 Mentoring in Acoustics Education
Organizers: Andy Harris
Eric Wood
Nick Miller

Session: 17.01 Numerical Methods in Vibration and Acoustics (FEM, BEM, IFEM) (joint INCE / ASME NCAD)
Organizers: Bryce Gardner
Rui Botelho (ASME)
Jeffrey L. Cipolla

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Organizers: Vincent Cotoni
Steve Conlon

Session: 17.04 Mid frequency vibroacoustic methods
Organizers: Wim Desmet
Steve Conlon

Session: 17.06 Numerical analysis for structural acoustics and vibrations
Organizers: Kuangcheng Wu (ASA)
Francois Gautier

Session: 18.01 Student presentations of seminal papers in the field of noise control engineering
Organizers: Steve Sorenson, Stuart Bolton, Patricia Davies

Session: 19.01 Railway Noise and Vibration
Organizers: Leonardo Lecce
Shankar Rajaran
David Towers

Session: 19.02 High Speed Train Noise
Organizers: Steven Wolf
Jason Ross

Session: 20.02 Wind turbines and renewable energy noise
Organizers: Mark Bastasch
Pari Tathavadekar
Brent Paul (ASME)

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Organizers: Patricia Davies
Brigitte Schulte-Fortkamp
Sonoko Kuwano, Mary Floretine

Session: 21.03 Perceptions and effects of noise
Organizers: Wade Bray
Brigitte Schulte-Fortkamp

Session: 21.04 Psychoacoustic approach to noise problems in daily life
Organizers: Hugo Fastl
Sonoku Kuwano
Dongxing Mao

Session: 21.05 Psychoacoustics
Organizers: Etienne Parizet
Reinhard Weber
Detlef Krahé

Session: 22.01 General Structural Acoustics and Vibration (joint INCE / ASME NCAD)
Organizers: Albert Allen (ASME)
Ran Cabell
Ferdinand Grosveld

Session: 23.01 Soundscape and its application
Organizers: Brigitte Schulte-Fortkamp
Klaus Genuit
Greg Watts

Session: 23.02 Sound quality and Soundscape
Organizers: Kay Voigt
Jian Kang
Greg Watts

Session: 23.05 Architecture and Urban Sound Design
Organizers: Bjorn Hellstrom
Luigi Maffei
Kerrie Standlee
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<td>23.06 Soundscape techniques and approaches</td>
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<td>8:20</td>
<td>O’Neill</td>
<td>4.06 Vehicle Noise, Vibration, and Harshness - Noise control methods and materials</td>
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<td>8:40</td>
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<td>8.01 Construction noise</td>
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<td>Wilder</td>
<td>15.07 Community reaction to noise (methods and the role of contextual variables and policy implications)</td>
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<td>Gilbert</td>
<td>13.05 3D sound reproduction and sound field control</td>
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<td>7.11 Airport and Community Noise modeling and monitoring</td>
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<td>3.06 Acoustics of Lightweight Constructions</td>
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<td>Lyceum/Carnegie</td>
<td>13.07 Identification methods for vibroacoustics</td>
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<td>Booth</td>
<td>6.01 IT Equipment: General Noise Issues, Noise Standards, Noise Control &amp; Perception</td>
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<td>11:40</td>
<td>Broadway North Center</td>
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<td>12:00</td>
<td>Broadway South Center</td>
<td>3.13 Room acoustics: Fundamental research and practical applications</td>
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<td>Music Box/Winter Garden</td>
<td>7.03 Environmental Noise Management and Mapping</td>
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<td>Palace</td>
<td>12.08 Acoustic metrology, measurement techniques and case studies</td>
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<td>Uris/Plymouth</td>
<td>16.04 Noise policies integrated in other policy domains</td>
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<td>Royale</td>
<td>14.04 Manufacturer Noise Control Materials and Case Studies</td>
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<td></td>
<td>Gotham/Chelsea</td>
<td>16.06 Airport Noise Policy</td>
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<td></td>
<td>Hudson/Empire</td>
<td>12.03 Signal processing and analysis</td>
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<td></td>
<td>Olmstead/Grammercy</td>
<td>4.01 Automotive NVH - general vehicle, subsystem and component topics</td>
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<td></td>
<td>Soho</td>
<td>4.10 Brake noise - using engine and/or wheel brakes</td>
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<td></td>
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<td>1.04 Applications of Active Noise and Vibration Control (joint INCE / ASME NCAD)</td>
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Coffee & Tea will be available from 9:00 – 11:00 a.m. and 2:00 – 4:00 p.m. on the 4th, 5th and 7th floors.
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Topic</th>
<th>Authors/Institutions</th>
</tr>
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<tbody>
<tr>
<td>10:00</td>
<td>241</td>
<td>Measurements and calculations of noise in the streets of Amsterdam, Rotterdam, and Paris</td>
<td>Author: Erik Salomons, TNO</td>
</tr>
<tr>
<td>10:20</td>
<td>506</td>
<td>Psychoacoustic aspects of shaping city soundscapes</td>
<td>Author: Waldemar Paszkowski, Silesian University of Technology</td>
</tr>
<tr>
<td>10:40</td>
<td>511</td>
<td>Representation of the acoustic contrast in urban context through noise mapping</td>
<td>Authors: Pauline Delaitre, Universite de Cergy Pontoise; Catherine Lavandier</td>
</tr>
<tr>
<td>11:00</td>
<td>569</td>
<td>Reproducibility of soundscape dimensions</td>
<td>Authors: William J. Davies, University of Salford; Jesse Edward Murphy, University of Salford</td>
</tr>
<tr>
<td>11:20</td>
<td>897</td>
<td>Auralization of non-stationary traffic noise using sample based synthesis - Comparison with pass-by recordings</td>
<td>Authors: Julien Maillard, Centre Scientifique et Technique du Batiment; Jan Jagla, CSTB</td>
</tr>
<tr>
<td>11:40</td>
<td>1003</td>
<td>Noise in an environment: Unwanted sound or noisescapes?</td>
<td>Authors: Anna Preis, Adam Mickiewicz University; Honorata Hafke-Dys, Adam Mickiewicz University; Tomasz Kaczmarek, Adam Mickiewicz University</td>
</tr>
<tr>
<td>13:20</td>
<td>1082</td>
<td>Support vector machines and self-organizing maps for the recognition of sound events in urban soundscapes</td>
<td>Authors: Xavier Valero, Universitat Ramon Llull; Francesco Alias, Ghent University; Damiano Oldoni, La Salle - Universitat Ramon Llull; Dick Botteldooren, Ghent University</td>
</tr>
<tr>
<td>13:40</td>
<td>1189</td>
<td>A computational auditory attention model for urban soundscapes design</td>
<td>Authors: Damiano Oldoni, Ghent University; Bert De Coensel, Acoustic group, INTEC department, Ghent University; Michiel Boes, Acoustic group, INTEC department, Ghent University; Timothy Van Renterghem, Acoustic group, INTEC department, Ghent University; Dick Botteldooren, Acoustic group, INTEC department, Ghent University</td>
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<tr>
<td>14:00</td>
<td>130</td>
<td>Acoustic design artifacts and methods for urban soundscapes: A case study on the qualitative dimensions of sounds</td>
<td>Invited</td>
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<td>14:20</td>
<td>135</td>
<td>CAN we improve acoustic environments by adding sound?</td>
<td>Contributed</td>
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<tr>
<td>14:40</td>
<td>236</td>
<td>Nine sound-art installations in public space</td>
<td>Contributed</td>
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<tr>
<td>15:00</td>
<td>263</td>
<td>Interdisciplinary approach to urban soundscape research</td>
<td>Invited</td>
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<tr>
<td>15:40</td>
<td>273</td>
<td>Performative sound art as a method of research</td>
<td>Invited</td>
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<tr>
<td>16:00</td>
<td>340</td>
<td>Influence of the design of railway noise barriers on soundscape perception</td>
<td>Invited</td>
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<tr>
<td>16:20</td>
<td>681</td>
<td>Qualitative sound analysis - a tool for understanding and designing urban acoustic space</td>
<td>Invited</td>
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<td>16:40</td>
<td>823</td>
<td>Sonic membranes: Sound design between interior and exterior spaces</td>
<td>Invited</td>
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<tr>
<td>17:00</td>
<td>1207</td>
<td>An exploration of the urban sound environment of traditional neighborhoods in Mexico City, in search of contemporary sound design proposals</td>
<td>Contributed</td>
</tr>
</tbody>
</table>
### Motor Vehicle Noise, Interior and Exterior: 4.06 Vehicle Noise, Vibration, and Harshness – Noise control methods and materials

Session Chairs: AM: Steve Sorenson, Robert Bernhard; PM: Steve Sorenson, Pranab Saha, Raj Singh

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Number</th>
<th>Title</th>
<th>Invited</th>
<th>Authors</th>
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<tr>
<td>10:00</td>
<td>582</td>
<td>A study to determine the importance of various factors on the sound transmission loss of a sound package part using design of experiments</td>
<td>Invited</td>
<td>in12_582.pdf</td>
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<tr>
<td></td>
<td></td>
<td>Authors: James Haylett, Commercial Vehicle Group, Inc.; Pranab Saha, Kolano and Saha Engineers, Inc.; Ranjit K. Roy, Nutek, Inc.</td>
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<tr>
<td>10:20</td>
<td>814</td>
<td>How to handle low weight vehicle concept design and conflicting NVH targets</td>
<td>Invited</td>
<td>in12_814.pdf</td>
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<td></td>
<td></td>
<td>Authors: Juha Plunt, Muller-BBM; William Easterling</td>
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<td>10:40</td>
<td>864</td>
<td>Optimization of the balance between absorption and insulation in automotive sound package parts by means of SEA</td>
<td>Invited</td>
<td>in12_864.pdf</td>
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<td></td>
<td></td>
<td>Authors: Claudio Bertolini, Autoneum Management AG; Marco Seppi, Autoneum Management AG</td>
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<td>11:00</td>
<td>1319</td>
<td>Acoustic booming investigation of a tracked vehicle</td>
<td>Contributed</td>
<td>in12_1319.pdf</td>
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<tr>
<td></td>
<td></td>
<td>Authors: T.S. Tao, Singapore Technologies Kinetics Ltd; W.K. Yue, Singapore Technologies Kinetics</td>
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<tr>
<td>11:20</td>
<td>83</td>
<td>The impedance tube construction and acoustic absorption study applied materials inside vehicles</td>
<td>Contributed</td>
<td>in12_83.pdf</td>
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<tr>
<td></td>
<td></td>
<td>Authors: Campos Velloso M. Rosely, Polytechnic Institute (IPUC); Rodolfo Henrique Araujo Silva, PUC Minas - Polytechnic Institute (IPUC); Thulio Marques, PUC Minas - Polytechnic Institute (IPUC); Christofi Meira Rocha, PUC Minas - Polytechnic Institute (IPUC)</td>
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<td>11:40</td>
<td>1087</td>
<td>Effect of exterior absorption on heavy vehicle tire/surface noise at highway speeds</td>
<td>Contributed</td>
<td>in12_1087.pdf</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Authors: Steve Sorenson, E-A-R Thermal Acoustic Systems; Steven Jorro, E-A-R Thermal Acoustic Systems</td>
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<td>13:20</td>
<td>1078</td>
<td>Statistical analyses to contain the variability of heavy duty truck noise for good noise control</td>
<td>Contributed</td>
<td>in12_1078.pdf</td>
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<tr>
<td>13:40</td>
<td>1356</td>
<td>Sound package treatment scenario in the Indian automotive industry</td>
<td>Contributed</td>
<td>in12_1356.pdf</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Authors: Debasish Chatterjee, Paracoat Products Ltd; Nayak M. Santhosha, Paracoat Products Limited; Pranab Saha, Kolano and Saha Engineers, Inc.</td>
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<td>14:00</td>
<td>1386</td>
<td>Front engine diesel motorhomes: Issues and opportunities</td>
<td>Contributed</td>
<td>in12_1386.pdf</td>
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<tr>
<td></td>
<td></td>
<td>Authors: Charles T. Moritz, Blachford Inc.; Jennifer A. Shaw, Blachford Inc.</td>
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</table>
### 4.05 Noise and Sound from Electric and Hybrid Vehicles

**Session Chairs:** Klaus Genuit, GJ van Blokland

**Room:** O’Neill

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Code</th>
<th>Title</th>
<th>Type</th>
<th>Authors</th>
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<tbody>
<tr>
<td>14:20</td>
<td>221</td>
<td><strong>Blind pedestrians and quieter vehicles: How adding artificial sound impacts travel decisions</strong></td>
<td>Contributed</td>
<td>Robert Wall Emerson, Western Michigan University; Dae Shik Kim, Western Michigan University; Koorosh Naghshineh, Western Michigan University; Kyle Myers, Western Michigan University</td>
</tr>
<tr>
<td>14:40</td>
<td>396</td>
<td><strong>Sustainable noise reduction and enhanced passenger comfort using hybrid diesel-electric urban buses</strong></td>
<td>Invited</td>
<td>J-W. Biermann, Aachen University; Sven Ruschmeyer</td>
</tr>
<tr>
<td>15:00</td>
<td>478</td>
<td><strong>Investigation and reduction of motor noise for battery electric van</strong></td>
<td>Contributed</td>
<td>Ming-Hung Lu, Industrial Technology Research Institute; Ming Une Jen, Industrial Technology Research Institute</td>
</tr>
<tr>
<td>15:40</td>
<td>535</td>
<td><strong>Sound detection of electric vehicles by blind or visually impaired persons</strong></td>
<td>Contributed</td>
<td>Klaus-Peter Glaeser, BAS; Torsten Marx Eike, BAS</td>
</tr>
<tr>
<td>16:00</td>
<td>701</td>
<td><strong>Questionnaire survey on the sound of quiet vehicles</strong></td>
<td>Invited</td>
<td>Katsuya Yamauchi, Nagasaki University; Yuma Sakabe, Kyushu University; Kenji Ito, Kyushu University; Sayaka Inoue, Kyushu University; Shin-ichi Iwamiya, Kyushu University</td>
</tr>
<tr>
<td>16:20</td>
<td>1027</td>
<td><strong>Noise reduction by electric vehicles in the Netherlands</strong></td>
<td>Contributed</td>
<td>Jan Jabben, National Institute for Public Health and Environment; Edwin Verheijen, dBVision Consultants; Charlos Potma, RIVM</td>
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<tr>
<td>16:40</td>
<td>806</td>
<td><strong>Functional noise specifications for purchasing green low noise vehicles</strong></td>
<td>Contributed</td>
<td>Filip Stenlund, Tyrens AB</td>
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<tr>
<td>17:00</td>
<td>738</td>
<td><strong>Approaching electric vehicles sound for pedestrians based on ease of detection by fluctuation of motor sound</strong></td>
<td>Contributed</td>
<td>Nozomiko Yasui, Matsue College of Technology; Masanobu Miura, Faculty of Science and Technology, Ryukoku University</td>
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<tr>
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<td>10:20</td>
<td>460</td>
<td>A developing analysis method for assessing construction noise in New York City</td>
<td>Contributed in12_460.pdf Author: Weixiong Wu, AKRF</td>
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<tr>
<td>10:40</td>
<td>1025</td>
<td>Noise reduction of steel bridges in urban areas</td>
<td>Contributed in12_1025.pdf Author: Dipl. Phys Helmut Venghaus</td>
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<tr>
<td>11:00</td>
<td>1033</td>
<td>Fieldwork in support of designing to city noise ordinances in Massachusetts</td>
<td>Invited in12_1033.pdf Author: Nancy S. Timmerman, Self</td>
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<tr>
<td>11:40</td>
<td>1095</td>
<td>The five myths of construction noise</td>
<td>Invited in12_1095.pdf Authors: Paul L. Burge, URS Corporation; Erich Thalheimer, Parsons Brinckerhoff</td>
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<tr>
<td>13:20</td>
<td>1140</td>
<td>Noise generation from ground-borne vibrations: Beyond noise nuisance to structural damage</td>
<td>Contributed in12_1140.pdf Authors: Ian Camilleri Casssar, Dhi Periti; Vincent Buhagiar, University of Malta; Denis H. Camilleri, Dhi Periti</td>
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<tr>
<td>13:40</td>
<td>1155</td>
<td>Urban form as environmental noise indicators</td>
<td>Contributed in12_1155.pdf Authors: Marta Oliveira, University of Minho; Ligia T. Silva, University of Minho</td>
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<tr>
<td>14:00</td>
<td>1411</td>
<td>On the assessment of human exposure to vibration caused by railway construction</td>
<td>Contributed in12_1411.pdf Authors: Gennaro Sica, University of Salford; James Woodcock, University of Salford; Eulalia Peris, University of Salford; Andrew Moorhouse, University of Salford; David Waddington, University of Salford</td>
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<tr>
<td>15:00</td>
<td>93</td>
<td>Protecting MIT’s interests during expansion of the Grand Junction rail line through campus</td>
<td>Invited</td>
<td>Erich Thalheimer, Parsons Brinckerhoff; Jacob Poling</td>
</tr>
<tr>
<td>15:20</td>
<td>106</td>
<td>New noise sources in urban areas</td>
<td>Invited</td>
<td>Christian Fabris, Umweltbundesamt</td>
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<tr>
<td>15:40</td>
<td>177</td>
<td>Building isolation for luxury condominium adjacent to New York City subway</td>
<td>Contributed</td>
<td>Benjamin H. Sachwald, AKRF Inc; Lance B. Bischoff, AKRF; Andreas Stofleth, Getzner</td>
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<tr>
<td>16:00</td>
<td>218</td>
<td>São Paulo Metro Line 2 Tamanduateí elevated structure noise barriers</td>
<td>Contributed</td>
<td>Helder J.R. Soares, Companhia do Metropolitano de Sao Paulo; Adilson R. Takeuti, IEME Brasil Engenharia Consultiva LTDA; Marco Juliani, IEME Brasil Engenharia Consultiva LTDA; Tiago M. Juliani</td>
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**Noise and Health: 15.07 Community Reaction to Noise: Methods and the role of contextual variables and policy implications**

<table>
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<th>Authors</th>
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<tbody>
<tr>
<td>10:00</td>
<td>1267</td>
<td>The effect of creating a quiet side on annoyance and sleep disturbances due to road traffic noise</td>
<td>Invited</td>
<td>Anita Gidlof-Gunnarsson, Gothenburg University; Evy Ohrstrom, Occupational and Environmental Medicine, University of Gothenburg, Sweden; Jens Forssen, Division of Applied Acoustics, Chalmers University of Technology, Gothenburg, Sweden</td>
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<tr>
<td>10:20</td>
<td>101</td>
<td>Aircraft noise annoyance and residents’ acceptance and use of sound proof windows and ventilation systems</td>
<td>Invited</td>
<td>Dirk Schreckenberg, ZEUS GmbH</td>
</tr>
<tr>
<td>Time</td>
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<tr>
<td>10:40</td>
<td>796</td>
<td>Representative dose-response curves for individual transportation noises in Japan</td>
<td>Invited</td>
<td>Shigenori Yokoshima, Kanagawa Prefectural Government; Takashi Yano, Kumamoto University; Keiji Kawai, Kumamoto University; Makoto Morinaga, Defense Facilities Environment Improvement Association;</td>
</tr>
<tr>
<td>11:00</td>
<td>223</td>
<td>Assessment of the community tolerance level as a model for the prevalence of noise annoyance</td>
<td>Contributed</td>
<td>D. Keith Wilson, U.S. Army Engineer Research and Development Center; Dan Valente, U.S. Army Engineer Research and Development Center; Edward T. Nykaza, U.S. Army Engineer Research and Development Center</td>
</tr>
<tr>
<td>11:20</td>
<td>365</td>
<td>A contribution to the estimation of the burden of disease due to noise exposure around Heathrow airport</td>
<td>Contributed</td>
<td>Howard M. Cambridge, University of York; Dietrich H. Schwela, Griffith University, Brisbane</td>
</tr>
<tr>
<td>11:40</td>
<td>489</td>
<td>Surveys as assistance in putting forward noise action plans</td>
<td>Contributed</td>
<td>Ulrich Moehler, Moehler + Partner Ingenieure AG; Roozbeh Karimi, ZEUS GmbH; Dirk Schreckenberg</td>
</tr>
<tr>
<td>13:20</td>
<td>881</td>
<td>Community response to noise and environmental noise impact assessment according noise pollution legislations on neighborhoods of Santos Dumont Airport in Rio de Janeiro, Brazil</td>
<td>Invited</td>
<td>Rita de Cassia Cordeiro Nogueira, Federal University of Rio de Janeiro; Webe Joao Mansur, PEC/UFRJ/COPPE; Miguel Aloysio Sattler, PPGECP/UFRGS</td>
</tr>
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</table>
| 13:40 | 386    | Aircraft and road traffic noise annoyance in Da Nang City, Vietnam   | Invited    | Thu Lan Nguyen, Kumamoto University; Takashi Yano, Graduate School of Science and Technology, Kumamoto University; Huy Quang Nguyen, Graduate School of Science and Technology, Kumamoto University; |}
| 14:00 | 680    | Community reaction to noise and vibration from railway and road traffic in Hanoi, Vietnam | Invited    | Takashi Morihara, Ishikawa National College of Technology; Hiroaki Fukushima, Kumamoto University; Thu Lan Nguyen, Kumamoto University; Huy Quang Nguyen, Kumamoto University; Takashi Yano, Kumamoto University; Keiji Kawai, Sojo University; Tsuyoshi Nishimura, Hokkai Gakuen University; |}
| 14:20 | 1198   | Attitudinal factors as determinants of railway vibration annoyance   | Contributed | Eulalia Peris, The University of Salford; James Woodcock, The University of Salford; Gennaro Sica, The University of Salford; Calum Sharp, The University of Salford; Andy Moorhouse, The University of Salford; David Waddington, The University of Salford |
Community response to a step change in railway noise and vibration exposures by the opening of a new Shinkansen Line

Authors: Shuhei Oka, Kumamoto University; Hiroyuki Tetsuya, Department of Architecture, Sojo University, Kumamoto, Japan; Takashi Yano, Graduate School of Science and Technology, Kumamoto University, Kumamoto, Japan; Yasuhiro Murakami, Graduate School of Science and Technology, Kumamoto University, Kumamoto, Japan

Cognitive effects of exposure to traffic-related air pollution and transportation noise in primary school children

Authors: Elise Van Kempen, National Institute for Public Health and the Environment (RIVM); Paul Fischer, National Institute for Public Health and the Environment (RIVM); Nicole Janssen, National Institute for Public Health and the Environment (RIVM); Danny Houthuijs, National Institute for Public Health and the Environment (RIVM); Irene Van Kamp, National Institute for Public Health and the Environment (RIVM); Charlotte Clark, Barts and the London, School of Medicine and Dentistry, Queen Mary University of London; Stephen Stansfeld, Barts and the London, School of Medicine and Dentistry, Queen Mary University of London; Flemming R. Cassee, National Institute for Public Health and the Environment (RIVM)

Does traffic-related air pollution explain the associations of aircraft and road traffic noise exposure with children's health and cognition

Author: Charlotte Clark, Queen Mary University of London

Experiments on cognitive performance using binaural stimuli

Authors: Janina Fels, Aachen University; Michael Vorlander, RWTH Aachen University, Institute of Technical Acoustics; Bruno Masiero, RWTH Aachen University, Institute of Technical Acoustics; Josefa Oberem, RWTH Aachen University, Institute of Technical Acoustics; Vera Lawo, RWTH Aachen University, Institute of Psychology; Iring Koch, RWTH Aachen University, Institute of Psychology

Analyzing effects of aircraft noise on cognition and quality of life in German children near Frankfurt Airport in the NORAH-study: An overview of design and methods

Authors: Kirstin Bergstroem, University of Kaiserslautern; Markus Meis, Hoerzentrum Oldenburg GmbH, Germany; Andreas Seidler, University of Dresden, Germany; Rainer Guski, Ruhr-University Bochum, Germany; Dirk Schreckenberg, ZEUS GmbH, Germany; Thomas Lachmann, University of Kaiserslautern, Germany; Maria Klatte, University of Kaiserslautern, Germany

Measurement and active-passive control of noise in neonatal incubators

Authors: Chris Fuller, Virginia Tech; Morgan Mitchell, Virginia Tech; Tom-Davy Saux, Virginia Tech; Cory Papenfuss, Virginia Tech; Alex Levitov, Eastern Virginia Medical School; Paul Marik, Eastern Virginia Medical School
Numerical and Analytical Techniques:
17.06 Numerical Analysis for Structural Acoustics and Vibrations
Session Chairs: Kuangcheng Wu, Jeffrey L. Cipolla
Room: Ziegfeld

10:00 100
Soil effect on the vibration of a finite simply supported plate
Contributed in12_100.pdf
Authors: Bernard Laulagnet, National Institute of Applied Sciences of Lyon

10:20 1308
Conditioning and convergence in an analytic model of the elastodynamics of submerged, coated, ribbed plates
Invited in12_1308.pdf
Authors: Kirubel Teferra, Weidlinger Associates, Inc; Jeffrey L. Cipolla

10:40 1161
Near-field acoustic holography for large complex structures in shallow water environment
Invited in12_1161.pdf
Author: Nicolas P. Valdivia, Naval Research Laboratory

11:00 1211
Application of the Ritz method to the optimization of vibrating structures
Invited in12_1211.pdf ASME NCAD
Authors: J. Gregory McDaniel, Boston University; Andrew S. Wixom, Boston University

11:20 362
Recent developments in high-performance computational vibro-acoustics in the medium frequency regime
Contributed in12_362.pdf
Authors: Charbel Farhat, Stanford University; Radek Tezaur, Stanford University; Ulrich Hetmaniuk, University of Washington

13:20 586
Characterization of the pressure wave emitted from implosion of submerged cylindrical shell structures
Invited in12_586.pdf ASME NCAD

13:40 228
Vibration and noise analysis procedure for chain-driving engine timing systems
Invited in12_228.pdf
Authors: Gee-Pinn James Too, National Cheng Kung University; Chih-Hao Chou, National Cheng Kung University

14:00 348
Effect of the curvature on vibration frequencies of shallow shells with general elastic boundary conditions
Contributed in12_348.pdf
Authors: Shiliang Jiang, Harbin Engineering University; Tiejun Yang, Harbin Engineering University; W.L. Li, Wayne State University

14:20 640
Analytical approaches for friction induced vibrations and stability analysis
Contributed in12_640.pdf
Authors: Mehrdad Noei Aghaei, Ferdowsi University of Mashhad; Anooshiravan Farshidianfar, Ferdowsi University of Mashhad

14:40 1187
FEM modeling and experimental assessment of lightweight floor vibration
Contributed in12_1187.pdf
Authors: Jewoo Park, Kyungpook National University; Hongjin Kim, Kyungpook National University; Jinhee Jeong, Kyungpook National University; Hee-kyoung Jung, Kyungpook National University; Kyungpook National University
<table>
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<th>Authors/Institutions</th>
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<td>15:20</td>
<td>1272</td>
<td>Numerical simulation of a piezoelectric loudspeaker including viscothermal effects for hearing aid applications</td>
<td>Gustavo C. Martins, Universidade Federal de Santa Catarina; Julio A. Cordioli, Universidade Federal de Santa Catarina; Roberto Jordan, Universidade Federal de Santa Catarina</td>
</tr>
<tr>
<td>15:40</td>
<td>1353</td>
<td>Nonlinear dynamic analysis of cables under accelerated moving masses</td>
<td>Flavio M. Oliveira, Federal University of Minas Gerais; Marco A.M. Vecci, Federal University of Minas Gerais - Brazil; Marcelo Breco, Federal University of Minas Gerais - Brazil</td>
</tr>
<tr>
<td>16:00</td>
<td>691</td>
<td>Nonlinear dynamic behaviors of an axially deploying beam</td>
<td>Hyoung-rae Kim, Hanyang University; Sungpil Park, Hanyang University; Jintai Chung, Hanyang University</td>
</tr>
<tr>
<td>16:20</td>
<td>693</td>
<td>Dynamic analysis of a deploying beam with overall translation motion</td>
<td>Byiong-Jin Kim, Hanyang University; Jintai Chung, Hanyang University</td>
</tr>
</tbody>
</table>

**Inverse Approaches in Vibro-Acoustics:**

**13.05 3D Sound Reproduction and Sound Field Control**

*Room: Gilbert*

**Session Chairs:** Wan-Ho Cho, Filippo Fazi

<table>
<thead>
<tr>
<th>Time</th>
<th>Code</th>
<th>Title</th>
<th>Authors/Institutions</th>
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<tbody>
<tr>
<td>10:00</td>
<td>280</td>
<td>Handling of uncertainties in inverse rendering of sound field</td>
<td>Wan-Ho Cho, Korea Research Institute of Standards and Science; Jeong-Guon Ih, Korea Advanced Institute of Science and Technology; Takeshi Toi, Chuo University</td>
</tr>
<tr>
<td>10:20</td>
<td>665</td>
<td>Sound field reproduction based on the Basis Function Method and Equivalent Source Method</td>
<td>Mingsian R. Bai, National Tsing Hua University; Ho-Shen Hsu, National Tsing Hua University</td>
</tr>
<tr>
<td>10:40</td>
<td>747</td>
<td>Active localization of a silent intruder with audible frequency in 2D security space</td>
<td>Kihyun Kim, Gwangju Institute of Science and Technology; Daesung Kim, Gwangju Institute of Science and Technology, Republic of Korea; Homin Ryu, Gwangju Institute of Science and Technology, Republic of Korea; Semyung Wang, Gwangju Institute of Science and Technology, Republic of Korea; Sung Q Lee, Electronics Telecommunication Research Institute, Republic of Korea; Kang Ho Park, Electronics Telecommunication Research Institute, Republic of Korea</td>
</tr>
<tr>
<td>11:00</td>
<td>763</td>
<td>Active control of sound leakage in handheld sound devices</td>
<td>Aran Cha, Yonsei University; Se-Woon Jeon, Yonsei University; Dae Hee Youn, Yonsei University; Young-cheol Park, Yonsei University; Jung-Woo Choi, Korea Advanced Institute of Science and Technology; Gun Woo Lee, Samsung Electronics Co., Ltd.; Seong-Hun Kim, Samsung Electronics Co., Ltd.; Youngtae Kim, Samsung Electronics Co., Ltd.</td>
</tr>
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</table>
Control of sound fields with a circular double-layer array of loudspeakers
Invited in12_799.pdf
Authors: Jiho Chang, Technical University of Denmark; Finn Jacobsen, Acoustic Technology, Department of Electrical Engineering, Technical University of Denmark

Subjective listening tests about front images on frontal double layered WFS system
Invited in12_872.pdf
Authors: Jae-hyoun Yoo, Electronics and Telecommunications Research Institute; Keunwoo Choi, ETRI; Jeongil Seo, ETRI; Kyeongok Kang, ETRI; Hirohuki Okubo, NHK STRL

Control of a dual-layer loudspeaker array for the generation of private sound
Invited in12_887.pdf
Authors: Mincheol Shin, University of Southampton; Filippo M. Fazi, Institute of Sound and Vibration Research; Fabio C. Hirono, Institute of Sound and Vibration Research; Philip A. Nelson, Institute of Sound and Vibration Research

Partial field decomposition using pressure gradient references
Invited in12_372.doc
Authors: Chuan-Xing Bi, Hefei University of Technology; Ming-Jian Guo, Institute of Sound and Vibration Research, Hefei University of Technology, Hefei 230009, China; Yong-Bin Zhang, Institute of Sound and Vibration Research, Hefei University of Technology, Hefei 230009, China; Liang Xu, Institute of Sound and Vibration Research, Hefei University of Technology, Hefei 230009, China

Effect of patterns on wave propagation and sound radiation over the tire surface
Invited in12_483.pdf
Authors: Jeong-Guon Ih, Korea Advanced Inst. of Science and technology; Agustinus Oey, LG Electronics Co.

An improved acoustic holography for high-speed sound sources identification and visualization
Invited in12_669.pdf
Authors: Zitent Wang, Tsinghua University; Changwei He, Department of Automotive Engineering, Tsinghua University; Diange Yang, Department of Automotive Engineering, Tsinghua University

A novel means to find where BSR noise is by using beamforming based on audio-fingerprint technology
Invited in12_1528.pdf
Authors: Dae-Hoon Seo, KAIST; Yang-Hann Kim, KAIST (Korea Advanced Institute of Science and Technology); Jung-Woo Choi, KAIST (Korea Advanced Institute of Science and Technology)

Development of sound-visualization glasses
Invited in12_1529.pdf
Authors: Ki-Won Kim, KAIST; Jung-Woo Choi, Korea Advanced Institute of Science and Technology (KAIST); Yang-Hann Kim, Korea Advanced Institute of Science and Technology (KAIST)
## Inverse Approaches in Vibro-Acoustics: 13.01 Acoustical Holography

**Room:** Gilbert  
**Session Chairs:** Weikang Jiang, Jesper Gomes

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<th>Type</th>
<th>Authors</th>
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<tbody>
<tr>
<td>15:40</td>
<td>112</td>
<td>Research on the SONAH based transient near-field acoustical holography</td>
<td>Invited</td>
<td>Siwei Pan, Shanghai Jiao Tong University; Weikang Jiang, Shanghai Jiao Tong University; Haibin Zhang, Shanghai Jiao Tong University</td>
</tr>
<tr>
<td>16:00</td>
<td>290</td>
<td>High frequency noise measurement of a mechanical element by converted NAH method</td>
<td>Contributed</td>
<td>Mao Takamatsu, Hosei University; Masao Nagamatsu, Hokkaido Institute of Technology; Mitsuo Iwahara, Hosei University; Gaku Minorikawa, Hosei University</td>
</tr>
<tr>
<td>16:20</td>
<td>663</td>
<td>Nonlinear and dissipative nearfield acoustical holography algorithms based on Westervelt wave equation</td>
<td>Contributed</td>
<td>Yaying Niu, Texas A&amp;M University; Yong-Joe Kim, Department of Mechanical Engineering, Texas A&amp;M University</td>
</tr>
<tr>
<td>16:40</td>
<td>639</td>
<td>Investigating the use of the acousto-optic effect for acoustical holography</td>
<td>Contributed</td>
<td>Antoni Torras-Rosell, Danish Fundamental Metrology A/S; Efren Fernandez-Grande, Technical University of Denmark; Finn Jacobsen, Technical University of Denmark; Salvador Barrera-Figueroa, Danish Fundamental Metrology A/S</td>
</tr>
<tr>
<td>17:00</td>
<td>390</td>
<td>Identification of sound source in a car based on the near-field acoustic holography</td>
<td>Invited</td>
<td>Yong-Bin Zhang, Hefei University of Technology; Chuan-Xing Bi, Hefei University of Technology; Xin-Zhao Chen, Hefei University of Technology</td>
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## Community / Environmental Noise: 7.11 Airport and Community Noise Modeling and Monitoring

**Room:** Salon 3  
**Session Chairs:** Idar L N Granoeien, Naoaki Shinohara

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<th>Time</th>
<th>Session</th>
<th>Title</th>
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<tbody>
<tr>
<td>10:00</td>
<td>1048</td>
<td>Advanced aviation noise modeling tools to inform policymakers</td>
<td>Invited</td>
<td>Christopher Roof, US DOT; Meghan Ahearn, Federal Aviation Administration; Jonathan Koopmann, US DOT Volpe Center</td>
</tr>
<tr>
<td>10:20</td>
<td>914</td>
<td>JAXA’s research plan for next generation air traffic management system (DREAMS) and noise abatement flight technologies</td>
<td>Invited</td>
<td>Hirokazu Ishii, Japan Aerospace Exploration Agency; Yoshinori Okuno, Japan Aerospace Exploration Agency; Satoshi Okada, Fuji Heavy Industries; Tadashi Ishikawa, Fuji Heavy Industries; Takatoshi Yokota, Kobayasi Institute of Physical Research; Masayuki Sugawara, Airport Environment Improvement Foundation</td>
</tr>
<tr>
<td>10:40</td>
<td>839</td>
<td>Visualization of meteorological effects on aircraft noise propagation based on GPS-synchronized multipoint measurement</td>
<td>Invited</td>
<td>Takatoshi Yokota, Kobayasi Institute of Physical Research; Tomonao Okubo, Kobayasi Institute of Physical Research; Koichi Makino, Kobayasi Institute of Physical Research; Toshiro Matsumoto, Kobayasi Institute of Physical Research; Kohei Yamamoto, Kobayasi Institute of Physical Research; Hirokazu Ishii, Japan Aerospace Exploration Agency; Yoshinori Okuno, Japan Aerospace Exploration Agency</td>
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</table>
Monday, August 20, 2012

11:00 120  Development of a new German aircraft noise and performance database
Invited in12_120.pdf
Authors: Ullrich Isermann, German Aerospace Center

11:20 815  Optimization of rotorcraft noise abatement trajectories
Contributed in12_815.pdf
Authors: Sander Hartjes, Delft University of Technology; Yorick Buys, Delft University of Technology; Hendrikus G. Visser, Delt University of Technology; Marilena D. Pavel, Delft University of Technology; Massimo Gennaretti, University Roma Tre; Giovanni Bernardini, University Roma Tre; Michael Arntzen, Dutch National Aerospace Laboratory NLR

11:40 712  Minimizing airport noise impact by traffic management
Contributed in12_712.pdf
Authors: Teo Revoredo, State University of Rio de Janeiro; Walid El Moudani, UERJ, Universidade Estadual do Rio de Janeiro, Brazil, revoredo@ufrj.br; Felix Mora-Camino, Lebanese University, Tripoli, Lebanon, wmoudani@ul.edu.lb

13:20 147  Statistical models to simulate noise levels generated by vehicle traffic flow in the Caribbean region of Colombia
Contributed in12_147.pdf
Authors: Edgar Quinones-Bolanos, University of Cartegena; Javier Mouthon Bello, Universidad de Cartegena; Ciro Bustillo-Lecompte, Ryerson University

13:40 1554  Aircraft noise reduction for typical home construction types
Contributed in12_1554.pdf
Authors: Nathan Firesheets, Georgia Institute of Technology; Erica E. Ryherd, Georgia Institute of Technology

14:00 481  Overview of changing noise index and evaluating airport ground noise in Japan
Invited in12_481.pdf
Authors: Naoaki Shinohara, Narita International Airport Promotion Foundation; Ichiro Yamada, Aviation Environment Research Center, Airport Environment Improvement Foundation

14:20 1104  Data collection necessary for airport noise modeling taking account of ground noise
Invited in12_1104.pdf
Authors: Hisashi Yoshioka, Aviation Environment Research Center; Ichiro Yamada, Aviation Environment Research Center, AEIF; Yasuaki Kawase, Narita International Airport Promotion Foundation; Saburo Ogata, Narita Airport Authority

14:40 464  Reliability of the renewed system for monitoring ground noise at Narita Airport
Invited in12_464.pdf
Authors: Kazuyuki Hanaka, Narita International Airport Corporation; Kyoko Anzai, Narita International Airport Corporation; Saburo Ogata, Narita International Airport Corporation; Kazuhiro Kudo, Narita Airport Regional Symbiosis Promotion Foundation; Miroku Tani, Narita International Airport Promotion Foundation
### Community / Environmental Noise: 7.07 Outdoor Sound Propagation
Room: Salon 3

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<tbody>
<tr>
<td>15:20</td>
<td>108</td>
<td>Comparing downwind shielding of noise walls and berms</td>
<td>Timothy Van Renterghem, University of Ghent; Dick Botteldooren, University of Ghent, Department of Information Technology, Acoustics group</td>
</tr>
<tr>
<td>15:40</td>
<td>111</td>
<td>On the infrasound precursor generation by vortex</td>
<td>K. Naugolnykh, Zeltech/NOAA</td>
</tr>
<tr>
<td>16:00</td>
<td>224</td>
<td>Modeling sound fields from directive noise sources in the presence of atmospheric refraction and ground effects</td>
<td>D. Keith Wilson, U.S. Army Engineer Research and Development Center; Sergey N. Vecherin, U.S. Army Engineer Research and Development Center; Vladimir E. Ostashev, CIRES/University of Colorado</td>
</tr>
<tr>
<td>16:20</td>
<td>301</td>
<td>German prediction model of the sound propagation in and around tunnels</td>
<td>Joern Huebelt, Gesellschaft fuer Akustikforschung Dresden mbH; Christian Schulze, Gesellschaft fuer Akustikforschung Dresden mbH; Sebastian Kluth, Gesellschaft fuer Akustikforschung Dresden mbH; Wolfram Bartolomeus, Federal Highway Research Institute BASf, Germany</td>
</tr>
<tr>
<td>16:40</td>
<td>347</td>
<td>Road traffic noise and exposed population on central area in the Belém - Brazil</td>
<td>Elcione Moraes, University Federal of the Para; Santos Carolina, University Federal of Para</td>
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### Architectural Noise / Building Acoustics: 3.06 Acoustics of Lightweight Constructions
Room: Salon 4

<table>
<thead>
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<th>Time</th>
<th>Session</th>
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<th>Authors</th>
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<tbody>
<tr>
<td>10:00</td>
<td>262</td>
<td>Acoustical behaviour of new multifunctional ceiling panels made of textile-reinforced concrete composites</td>
<td>Werner A. Hufenbach, Technische Universitaet Dresden (ILK); Frank Kolbe, Technische Universitaet Dresden (ILK); Martin Dannemann, Technische Universitaet Dresden (ILK); Stefan Friebe, Technische Universitaet Dresden (ILK); Thomas Engler, Technische Universitaet Dresden (ITB); Anett Brueckner, Technische Universitaet Dresden (IFMB)</td>
</tr>
<tr>
<td>10:20</td>
<td>345</td>
<td>Improvement of acoustical flanking transmission through light-weight facades</td>
<td>Marc Louwers, Impedance</td>
</tr>
<tr>
<td>10:40</td>
<td>351</td>
<td>Shortening Helmholtz resonator by subsided neck and application to perforated plate structure for low frequency sound resonance</td>
<td>Teruo Iwase, Niigata University; Keiko Shirahata, Graduate school of Niigata University; Akiko Igarashi, Niigata University; Satoshi Sugie, Kobayasi Institute of Physical Research; Yasuaki Okada, Meijo University; Koichi Yoshihisa, Meijo University</td>
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<td>Authors</td>
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<tr>
<td>11:00</td>
<td>364</td>
<td>Sound insulation evaluation results of lightweight and solid built multi-family houses in Austria</td>
<td>Invited in12_364.pdf Authors: Heinz J. Ferk, Graz University of Technology</td>
</tr>
<tr>
<td>11:20</td>
<td>385</td>
<td>Geometric simplification of a wooden building connector in dynamic finite element model</td>
<td>Invited in12_385.pdf Authors: Antonin Tribaleau, Laboratoire d'Acoustique de l'Université; Olivier Dazel, Laboratoire d'Acoustique de l'Université; Najat Tahani, Laboratoire d'Acoustique de l'Université; Jean-Michel Genevaux, Laboratoire d'Acoustique de l'Université; Jean-Philippe Groby, Laboratoire d'Acoustique de l'Université; Romain Brevart, Critt Bois</td>
</tr>
<tr>
<td>11:40</td>
<td>456</td>
<td>Investigation of the vibration transmission through a lightweight junction with elastic layer using the finite element method</td>
<td>Invited in12_456.pdf Authors: Juan Negreira Montero, Lund University; Anders Sjostrom, Lund University (Sweden); Delphine Bard, Lund University (Sweden)</td>
</tr>
<tr>
<td>13:20</td>
<td>540</td>
<td>Flanking transmission in light weight timber houses with elastic flanking isolators</td>
<td>Invited in12_540.pdf Authors: Anders Agren, Lulea University of Technology; Fredrik Ljunggren, Lulea University of Technology; Asa Bolmsvik, Linneaus University; Kirsi Jarnero, SP Wood Technology</td>
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<tr>
<td>13:40</td>
<td>654</td>
<td>Airborne sound insulation performance of autoclaved aerated concrete building material, design study of an AAC double partition wall</td>
<td>Contributed in12_654.pdf Authors: Olivier Delas, Vipac Engineers &amp; Scientists (HK) Ltd</td>
</tr>
<tr>
<td>14:00</td>
<td>723</td>
<td>Modeling acoustic properties of different types of lightweight T-junctions.</td>
<td>Invited in12_723.pdf ASME NCAD Authors: Anders Sjostrom, Lund University; Juan Negreira Montero, Lund University; Delphine Bard, Lund Universitet</td>
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<tr>
<td>14:20</td>
<td>725</td>
<td>The sound transmission of finite ribbed plates using a variational technique</td>
<td>Invited in12_725.pdf Author: Jonas Brunskog, Technical University of Denmark</td>
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<tr>
<td>14:40</td>
<td>751</td>
<td>Design principles of small multi storey wooden houses</td>
<td>Invited in12_751.pdf Authors: Klas Hagberg, SP Tratek; Delphine Bard, Lund University</td>
</tr>
<tr>
<td>15:40</td>
<td>973</td>
<td>Airborne sound insulation at low frequencies</td>
<td>Contributed in12_973.pdf Authors: Cyrille Demanet, Siniat; Geert Houvenaghel, Siniat</td>
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<tr>
<td>16:00</td>
<td>1071</td>
<td>Continued research on achieving acoustical code requirements in lightweight multi-family dwellings</td>
<td>Invited in12_1071.pdf Author: Jeffrey E. Babich, Babich Acoustics</td>
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</table>
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16:20 1101
**Classification and effect of floor treatment on wood frame construction**
Invited in12_1101.pdf
Authors: Berndt Zeitler, National Research Council Canada; Stefan Schoenwald, National Research Council Canada; Frances King, National Research Council Canada;

16:40 1146
**In situ acoustic performances of wood structural panels and evaluation of flanking transmission**
Contributed in12_1146.pdf
Authors: Giovanni Semprini, University of Bologna; Luca Barbaresi, DIENCA University of Bologna

### Inverse Approaches in Vibro-Acoustics: 13.07 Identification Methods for Vibroacoustics Room: Lyceum/Carnegie
Session Chairs: Charles Pezerat, Antonio Concilio

**10:00 159**
**Modeling hysteretic friction of viscoelastic components and parameters identification techniques**
Contributed in12_159.pdf
Authors: Hanen Jrad, LISMMMA; Jean Luc Dion, SUPMECA- LISMMMA - EA2336; Franck Renaud, SUPMECA- LISMMMA - EA2336; Imad Tawfiq, SUPMECA- LISMMMA - EA2336; Mohamed Haddar, ENIS- U2MP - 03/UR/11-06

**10:20 215**
**Application of the transmissibility concept to acoustic array measurements**
Invited in12_215.pdf
Author: Quentin Leclere, INSA-Lyon; Celine Sandier, LVA, INSA-Lyon

**10:40 387**
**Boundary condition identification using spatial discrete differentiation with annihilators**
Invited in12_387.pdf
Authors: Simon Chesne, Lyon University; Catherine Chochol, Lyon University, CNRS INSA-Lyon, LaMCoS; Didier Remond, Lyon University, CNRS INSA-Lyon, LaMCoS

**11:00 490**
**Describing functions for the inverse temperature image reconstruction using sound**
Contributed in12_490.pdf
Authors: Tae-Kyoon Kim, Korea Advanced Institute of Science and Technology; Jeong-Guon Ih, Korea Advanced Institute of Science and Technology

**11:20 502**
**How an inverse vibration method can be used for the extraction of the acoustic component of a turbulent boundary layer**
Invited in12_502.pdf
Authors: Damien Lecoq, Laboratoire d'Acoustique de l'Universite Maine; Charles Pezerat, LAUM (Laboratoire d'Acoustique de l'Universit); Jean-Hugh Thomas, LAUM (Laboratoire d'Acoustique de l'Universit); Wenping Bi, LAUM (Laboratoire d'Acoustique de l'Universit)

**11:40 548**
**Identification of non self-adjoint systems: taking advantage of a MIMO strategy**
Invited in12_548.pdf
Authors: Morvan Ouisse, FEMTO-ST Institute; Emmanuel Foltete, FEMTO-ST Department of Applied Mechanics

**13:20 729**
**Numerical investigations on modal microsliding dissipations in built-up structures**
Contributed in12_729.pdf
Authors: Hugo Festjens, LISMMMA-SUPMECA; Gael Chevallier, LISMMMA-SUPMECA; Jean-Luc Dion, LISMMMA-SUPMECA
**Monday, August 20, 2012**

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<tr>
<td>13:40</td>
<td>1188</td>
<td>On the effect of mechanical excitation position on panel loss factor estimation with the power input method</td>
<td>Contributed in12_1188.pdf  ASME NCAD Authors: Himanshu A. Dande, University of Kansas; Mark S. Ewing, University of Kansas</td>
</tr>
<tr>
<td>14:00</td>
<td>1307</td>
<td>Air-borne sound source characterisation by plane surface harmonics</td>
<td>Invited in12_1307.pdf Authors: Goran Pavic, INSA Lyon</td>
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</table>

**Old Meets New: 18.01 Student Presentations of Seminal Papers in the Field of Noise Control Engineering**  
Room: Lyceum/Carnegie  
Session Chairs: Steve Sorenson, Stuart Bolton, Patricia Davies

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<tr>
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<th>Title</th>
<th>Authors/Contributors</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:20</td>
<td><strong>Overview of Leo Beranek</strong></td>
<td>Contributed presentation only Author: Zhao Peng, University of Nebraska</td>
</tr>
<tr>
<td>14:40</td>
<td><strong>Overview of Beranek, L.L’s 1947 paper on “Airplane Quieting II - Specification of Acceptable Noise Levels,</strong></td>
<td>Contributed presentation only Authors: Rajavel BALAGURU, Stevens Institute of Technology; Prasad Marehalli, Stevens Institute of Technology</td>
</tr>
<tr>
<td>15:00</td>
<td><strong>Loudness, Its Definition, Measurement and Calculation</strong></td>
<td>Contributed presentation only Author: Jennifer Francis, University of Nebraska - Lincoln</td>
</tr>
<tr>
<td>15:40</td>
<td><strong>Overview of Beranek &amp; Work</strong></td>
<td>Contributed presentation only Author: Ryan Schultz, Purdue University</td>
</tr>
<tr>
<td>16:00</td>
<td><strong>Overview of Hunt, Beranek and Maa</strong></td>
<td>Contributed presentation only Author: Michael Hayward, Ray W. Herrick Laboratories, Purdue University</td>
</tr>
<tr>
<td>16:20</td>
<td><strong>Revised criteria for noise in buildings</strong></td>
<td>Contributed presentation only Author: Andrew Hathaway, University of Nebraska</td>
</tr>
<tr>
<td>16:40</td>
<td><strong>Overview of Beranek’ls 1947 paper on Airplane Quieting II-Specification of Acceptable Noise Levels</strong></td>
<td>Contributed presentation only Author: Thu Lan Nguyen, Graduate School of Science and Technology, Kumamoto University</td>
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<tr>
<td>10:00</td>
<td>341</td>
<td><strong>Loudness level and Rhona Hellman</strong></td>
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<td>10:20</td>
<td>416</td>
<td><strong>Insights gained from Rhona Hellman’s loudness functions for individual listeners</strong></td>
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<tr>
<td>10:40</td>
<td>547</td>
<td><strong>Studying equal loudness level contours with Rhona Hellman</strong></td>
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<td>11:00</td>
<td>884</td>
<td><strong>The importance of psychoacoustics in the USA - A personal view</strong></td>
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<tr>
<td>11:20</td>
<td></td>
<td><strong>Honoring Rhona Hellman: Predicting psychometric functions for detecting an intensity increment added to a continuous or gated pedestal</strong></td>
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<tr>
<td>11:40</td>
<td>1334</td>
<td><strong>Rhona Hellmand and the Munich School of Psychoacoustics</strong></td>
</tr>
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<td>13:20</td>
<td>1536</td>
<td><strong>Rhona Hellman’s work and impact from a Boston perspective</strong></td>
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<tr>
<td>13:40</td>
<td>304</td>
<td><strong>Wind turbine noise perception, pathways and effects: A case study</strong></td>
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<tr>
<td>14:00</td>
<td>305</td>
<td><strong>Questionnaire survey on vehicle horn use in urban areas of Japan</strong></td>
</tr>
<tr>
<td>14:20</td>
<td>602</td>
<td><strong>Perception-based protection from low-frequency sounds may not be enough</strong></td>
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14:40  807  Evaluation of the effect of rhythmical sound on compatibility by using physiological information
Contributed in12_807.pdf
Authors: Masao Yamaguchi, Chuo University; Masaki Moritani, Chuo University; Kazuto Hanawa, Chuo University; Wan-Ho Cho, Chuo University; Takeshi Toi, Chuo University

15:00  1051  Study of directionality impacts on temporal loudness perception and calculation
Contributed in12_1051.pdf
Authors: Jeremy Charbonneau, University of Windsor; Colin Novak, University of Windsor; Helen Ule, University of Windsor; Robert Gaspar, University of Windsor

15:40  1451  Numerical simulation of infrasound perception, with reference to prior reported laboratory effects
Invited in12_1451.pdf
Author: M.A. Swinbanks, MAS Research Ltd;

16:00  1530  A study on the construction of the sound quality index of the drum washing machine based on characteristics of noise sources
Contributed in12_1530.pdf
Authors: Jin-Su Kim, Hanyang University; Ji-Hyun Yoon, Hanyang University Graduate School of Mechanical Engineering; In-Hyung Yang, Hanyang University Graduate School of Mechanical Engineering; Jae-Eun Jung, Hanyang University Graduate School of Mechanical Engineering; Jae-Eung Oh, Hanyang University Graduate School of Mechanical Engineering

Information Technology Noise: 6.01 IT Equipment:
General Noise Issues, Noise Standards, Noise Control & Perception Room: Booth
Session Chairs: AM: Marco Beltman, Ikuo Kimizuka; PM: Marco Beltman, Gaku Minorikawa

10:00  92  Developing a standard test method for in situ measurements of the noise reduction potential of “Quiet Rack” enclosures
Contributed in12_92.pdf
Authors: Peter Jackson, American Acoustical Products; Bob Alexander, Quiet-Rack.com

10:20  425  RotoSub – The self silencing fan technology
Contributed in12_425.pdf
Authors: Lars Stromback, RotoSub AB; Marten Oretorp

10:40  454  Updates to ISO 3744 and ISO 11201 and the implications for measurement of noise emissions of IT equipment in accordance with ISO 7779
Invited in12_454.pdf
Authors: Jeff G. Schmitt, ViAcoustics; Michael C. Black, ETS-Lindgren; Brian Stahnke

11:00  578  A comparison of loudness metrics for acoustic noise from information technology products
Contributed in12_578.pdf
Author: Willem M. Beltman, Intel

11:20  610  Numerical and experimental acoustic analysis of small scale notebook radial blower
Contributed in12_610.pdf
Authors: Jessica Gullbrand, Intel Corporation; Willem M. Beltman, Intel Corporation
## Study on mechanical design aiming at improvement of sound quality - Influence of structure around loudspeaker on sound quality

**Contributed in 12_658.pdf**

Authors: Kobi Seki, Hosei University; Gaku Minorikawa, Hosei university; Shinya Hasegawa, Hosei university

## Subjective evaluation for judgement of abnormal sound in stepping motor

**Contributed in 12_659.pdf**

Authors: Keisuke Inagaki, Hosei University; Gaku Minorikawa, Hosei university; Yohei Hayashi, Hosei university

## Increasing fan efficiency to reduce acoustic noise in IT servers

**Invited in 12_1123.pdf**

Authors: Howard Harrison, Distributed Thermal Systems Ltd.; Marlin Vogel, Juniper Networks Inc.; Peter Kimmett, ebm-papst Inc.

## A shaped noise file representative of speech

**Contributed in 12_1285.pdf**

Author: Eric Baugh, Intel Corporation

## Considerations for adequacy of qualification method of HAC inverse-square law characteristics - JBMIA SWQ3 prospectus and view

**Invited in 12_1329.pdf**

Authors: Ikuo Kimizuka, IBM Japan, Ltd.; Kohei Shimoda, Fuji Xerox Co., Ltd., FXICC Test Laboratory

### Railway Noise and Vibration: 19.02 High Speed Train Noise

**Session Chairs: Steven Wolf, Jason Ross**

#### Visualizing noise sources on KTX high speed trains

**Contributed in 12_97.pdf**

Authors: Michael Denton, National Instruments; Kurt Veggeberg, National Instruments; Youngkey K. Kim

#### High speed solutions for the San Jose to Merced section of the California high-speed rail project

**Contributed in 12_842.pdf**

Author: Martin R. Meyer, Parsons Transportation Group

#### Evaluation of the effect of high-speed train noise source heights on the effectiveness of wayside noise barriers and their heights

**Invited in 12_1201.pdf**

Authors: Silas J. Bensing, Wilson, Ihrig & Associates; Richard A. Carman, Wilson, Ihrig & Associates

#### Aeroacoustic noise generation and transmission modeling for a high-speed train driver's cab

**Contributed in 12_1352.pdf**

Authors: Karl-Richard Kirchner, Bombardier Transportation; Fabian Braennstroem, Bombardier Transportation; Ulf Orrenius, Bombardier Transportation; Raphael Hallez, LMS-International
### Measurement and Signal Processing Techniques:

**12.08 Acoustic Metrology, Measurement Techniques and Case Studies**  
Room: Music Box/Winter Garden

Session Chairs: AM: Salvador Barrera Figueroa, Joachim Scheuren;  
PM: Salvador Barrera Figueroa, Andrew Barnard, Kirill Horoshenkov

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00</td>
<td>139</td>
<td>An automatic method to detect defaults in the measurement chain of a sound level meter used for unattended noise measurements</td>
<td>Daniel Vaucher de la Croix, ACOEM; Erik Aflalo, ACOEM</td>
</tr>
<tr>
<td>10:20</td>
<td>314</td>
<td>Heat conduction correction in reciprocity calibration of laboratory standard microphones</td>
<td>Erling Sandermann Olsen, Brul and Kjaer</td>
</tr>
<tr>
<td>10:40</td>
<td>433</td>
<td>Implementation of a diffuse-field microphone calibration system</td>
<td>Richard J. Jackett, National Physical Laboratory</td>
</tr>
<tr>
<td>11:00</td>
<td>588</td>
<td>Methods for determining the free-field sensitivity of 1/2-inch working standard microphones by substitution</td>
<td>Dominique Rodrigues, LNE; Jean-Noel Durocher, LNE</td>
</tr>
<tr>
<td>11:20</td>
<td>904</td>
<td>Appropriate parameter choice for calibration of microphones and sound level meters with swept sines</td>
<td>Zemar M. Defilippo Soares, INMETRO; Swen Muller, INMETRO</td>
</tr>
<tr>
<td>13:40</td>
<td>1354</td>
<td>A practical implementation of microphone free-field comparison calibration according to the standard IEC 61094-8</td>
<td>Salvador Barrera-Figueroa, Danish Fundamental Metrology A/S; Antoni Torras-Rosell, Danish Fundamental Metrology A/S; Knud Rasmussen, Danish Fundamental Metrology A/S; Finn Jacobsen, Acoustic Technology, Department of Electrical Engineering, Technical University of Denmark; Vicente Cutanda-Henriquez, Institute of Technology and Innovation, University of Southern Denmark</td>
</tr>
<tr>
<td>14:00</td>
<td>308</td>
<td>Test and calibration of reference sound sources</td>
<td>Ole-Herman Bjor, Norsonic AS; Svein Arne Nordby, Norsonic AS</td>
</tr>
<tr>
<td>14:20</td>
<td>534</td>
<td>The laser pistonphone with low distortion: A reference infrasound source of NIM</td>
<td>Longbiao He, National Institute of Metrology; Ping Yang, National Institute of Metrology, China; Junhui Qin, Beijing University of Chemical Technology; Haijiang Zhu, Beijing University of Chemical Technology</td>
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</table>
Monday, August 20, 2012

14:40 907 Calibration of microphones in the infrasonic frequencies
Invited in12_907.pdf
Authors: Dr. Zemar M. Defilippo Soares, INMETRO; Swen Muller, INMETRO

15:20 919 Measuring noise emission from rifles - Microphones at the ground or elevated 1.5 m?
Contributed in12_919.pdf
Authors: Morten Huseby, Norwegian Defence Research Establishment

15:40 966 Enhanced techniques for automatic calibration of outdoor microphones by electrostatic actuator
Contributed in12_966.pdf
Authors: Richard A. Wright, Cirrus Research plc; Guillaume I. Goulamhoussen, Cirrus Research plc; Ali Imtiaz, Cirrus Research plc

16:00 1115 Using large database management systems for noise analyses
Contributed in12_1115.pdf
Author: Elliot B. Dick, HDR Engineering

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Noise Policy Development, Education, Economics and Implementation:
16.04 Noise Policies Integrated in Other Policy Domains Room: Palace
Session Chairs: Wim van Keulen, Henk Wolfert

10:00 238 MODUS & DESA city asphalt, combining noise reduction, durability & sustainability
Invited in12_238.pdf
Author: Hendro Subroto, IBU Stadsingenieurs

10:20 559 Quest for more durability of low-noise pavements: More than technology alone
Invited in12_559.pdf
Author: Willem van Keulen, Vankeulen Advies

10:40 603 The correlation between texture and noise: Practical case
Contributed in12_603.pdf
Authors: Wim van Keulen, Vankeulen advies; Martin Wennink, SurfaceCracks; Marius Nagelhout, SurfaceCracks; Thijs van Hoof, Versluys & Zoon; Paul Landa, AKC

11:00 830 Spanish law affects the spatial and urban planning
Invited in12_830.pdf
Authors: Itziar Aspuru, Tecnalia Research & Innovation; Igone Garcia, Tecnalia Research & Innovation; Pilar Fernandez, Tecnalia Research & Innovation

11:20 1294 Noise policy - Integration with climate and natural resource policies
Contributed in12_1294.pdf
Author: Tor Kihlman, Chalmers University of Technology

11:40 1362 Policy requires durable low-noise pavements for heavy traffic in the city of Rotterdam
Invited in12_1362.pdf
Author: Wim van Keulen, Vankeulen advies; Gert Put, DCMR
Noise Policy Development, Education, Economics and Implementation:
16.05 Economics of Noise for Sustainability
Room: Palace
Session Chairs: Abigail Bristlow, Cecilia Rocha

13:20  220  Integrating noise impacts in UK decision making
Invited  in12_220.pdf
Authors: Roald Dickens, Department for the Environment Food and Rural Affairs

13:40  296  An experimental study of attitudes towards aircraft noise and other environmental externalities at Bangkok Suvarnabhumi Airport
Contributed  in12_296.pdf
Authors: Narudh Cheramakara, Loughborough University; Abigail L. Bristow, Loughborough University; Lucy C.S. Budd, Loughborough University

14:00  537  The value of access to quiet areas relative to other local environmental factors
Invited  in12_537.pdf
Authors: Abigail L. Bristow, Loughborough University; Mark Wardman, University of Leeds; Jeremy D. Shires, University of Leeds; V. Phani K. Chintakayala, University of Leeds; John Nellthorp, University of Leeds

14:20  908  Investigating the relationship between aircraft marginal noise social cost and airport traffic - An empirical analysis of Taiwanese airports
Invited  in12_908.pdf
Author: Cherie Lu, Chang Jung Christian University

14:40  1269  The price of the Portuguese noise policy
Invited  in12_1269.pdf
Author: Cecilia Rocha, FEUP - Citta

15:00  1460  Cost-benefit analysis of noise reduction approaches in four highways of Lima, Peru
Contributed  in12_1460.pdf
Author: Alexis Campos Enriquez, Ingenier edel Pacifico IDP

Aircraft and Space System Noise & Vibration:
2.05 Aircraft Interior Noise - applications, strategies and test
Room: Palace
Session Chairs: Pascale Neple, Jeff Weisbeck

15:40  539  Vibration reduction options for aircraft floors
Invited  in12_539.pdf
Authors: Marcelo A. Bustamante, Federal University of Santa Catarina; Samir N. Y. Gerges, Enidine Inc; Julio A. Cordioli, Federal University of Santa Catarina, Department Mechanical Engineering, Vibration and Acoustic Laboratory.; Gregorio G. Azevedo, Federal University of Santa Catarina, Department Mechanical Engineering, Vibration and Acoustic Laboratory.; Jeffrey N. Weisbeck, Federal University of Santa Catarina, Department Mechanical Engineering, Vibration and Acoustic Laboratory

16:00  758  Effect of mechanical links on the transmission loss of lightweight double-walls under diffuse acoustic field: Measurements and SEA
Contributed  in12_758.pdf
Authors: Bruno Campolina, Airbus Operations SAS; Noureddine Atalla, Universit; Nicolas Dauchez, Supm; Pascale Neple, Airbus Operations SAS
<table>
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<tr>
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<tr>
<td>16:20</td>
<td>934</td>
<td>The effect of isolator mount selection on noise transmission through typical aircraft</td>
<td>Invited</td>
<td>Andrew Wareing, Bombardier Aerospace; Jeff Weisbeck, ITT Enidine; Gary Burns, Bombardier Aerospace</td>
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<td>16:40</td>
<td>1106</td>
<td>Structureborne noise attenuation using strut integrated isolators</td>
<td>Contributed</td>
<td>Ryan M. Evans, ITT Enidine Inc.; Mark J. Ott, ITT Enidine Inc.</td>
</tr>
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</table>

### Noise Control Products: 14.04 Manufacturer Noise Control Materials and Case Studies

**Session Chairs:** Steve Roth, Christopher Griffen  
**Room:** Uris/Plymouth

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<th>Time</th>
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<tr>
<td>10:00</td>
<td>1390</td>
<td>A SoundSense patented acoustic muffler to eliminate acoustic leakage from recessed lights and other openings in a ceiling or wall</td>
<td>Contributed</td>
<td>Bonnie Schnitta, SoundSense; Greg Enenstein, SoundSense LLC</td>
</tr>
<tr>
<td>10:20</td>
<td>1014</td>
<td>Introduction of Kinetics Noise Control IsoMax UniBrace for building noise control</td>
<td>Invited</td>
<td>Matthew V. Golden, Kinetics Noise Control</td>
</tr>
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<td>10:40</td>
<td>167</td>
<td>In healthcare the ceilings are not enough</td>
<td>Invited</td>
<td>Amy Sparks, SoundTech Interior Wall Products; Chuck Hogan</td>
</tr>
<tr>
<td>11:00</td>
<td>1541</td>
<td>Kicking vibration isolation to the curb</td>
<td>Invited</td>
<td>Sami Elkhazin, Vibro-Acoustics</td>
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<td>11:20</td>
<td>981</td>
<td>Cross reference of urethane foam physical properties to acoustic performance</td>
<td>Contributed</td>
<td>Frank Angione, University of Windsor; Colin Novak, University of Windsor; Helen Ule, University of Windsor</td>
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<tr>
<td>11:40</td>
<td>992</td>
<td>OpenMat - An open XML-database for acoustical properties of materials and objects</td>
<td>Contributed</td>
<td>Alexander Pohl, HafenCity University; Stefan Drechsler, Centre for Quantifiable Quality of Service in Communication Systems, NTNU Trondheim, Norway; Uwe Stephenson, HafenCity University Hamburg, Germany; Dirk Schroder, Centre for Quantifiable Quality of Service in Communication Systems, NTNU Trondheim, Norway; Peter Svensson, Institute of Technical Acoustics, RWTH Aachen University, Germany; Michael Vorlander, HafenCity University Hamburg, Germany</td>
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<td>13:20</td>
<td>905</td>
<td>Experimental estimation of viscoelastic properties of a multilayer damped plate in broad-band frequency range</td>
<td>Contributed</td>
<td>Kerem Ege, INSA-Lyon; Thibault Boncompagne, GMPPA, INSA-Lyon; Bernard Laulagnet, Laboratoire Vibrations Acoustique (LVA), INSA-Lyon; Jean-Louis Guyader, Laboratoire Vibrations Acoustique (LVA), INSA-Lyon</td>
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Characterization of constrained viscoelastic materials through a FE model updating using genetic algorithms
Contributed in12_961.pdf
Authors: Giovanni Bratti, Federal University of Santa Catarina; Augusto Amador Medeiros, Federal University of Santa Catarina; Murilo Ferreira Santos, Federal University of Santa Catarina; Julio Apolinario Cordioli, Federal University of Santa Catarina; Arcanjo Lenzi, Federal University of Santa Catarina; Francisco Keller Klug, EMBRAER - Empresa Brasileira de Aeron; Sideto Futatsugi, EMBRAER - Empresa Brasileira de Aeron

A generalized formulation of vibration isolation by frequency and temperature sensitive elastomers
Contributed in12_173.doc
Author: Giora Rosenhouse, Israel Institute of Technology

Dispersion of carbon nanotubes within polyurethane foams and its effects on acoustic absorption
Invited in12_667.pdf
Authors: Andrew M. Willemsen, Michigan Technological University; Mohan D. Rao, Michigan Technological University, Department of Mechanical Engineering-Engineering Mechanics

Background and development of a high-powered carbon nanotube thin-film loudspeaker
Contributed in12_847.pdf
Authors: Andrew R. Barnard, Penn State University; Timothy A. Brungart, Penn State University, Applied Research Laboratory; Timothy E. McDevitt, Penn State University, Applied Research Laboratory; David M. Jenkins, Penn State University, Applied Research Laboratory; Richard I. Scott, Joint Non-Lethal Weapons Directorate

Investigating the acoustic characteristics of carbon nanotube buckypaper
Contributed in12_1556.pdf
Authors: Eoin A. King, Trinity College Dublin; Shane D. Bergin, Imperial College London; Rory Storey, Trinity College Dublin

Smart metacomposites for semi-active control of sound radiation
Contributed in12_556.pdf
Authors: Manuel Collet, FEMTO-ST; Morvan Ouisse, FEMTO-ST Department of Applied Mechanics; Morvan Ischchou, LTDS Ecole Centrale de Lyon; Roger Ohayon, LMS CNAM

Sound absorption using poro-elastic acoustic meta materials
Contributed in12_1007.pdf
Authors: Chris Fuller, Virginia Tech; Tom-Davy Saux, Virginia Tech

Sound manipulation with acoustic metamaterials
Contributed in12_1277.pdf ASME NCAD
Authors: Lucian Zigoneanu, Duke University; Bogdan-Ioan Popa, ECE Department, Duke University; Steven A. Cummer, ECE Department, Duke University
### Noise Policy Development, Education, Economics and Implementation:

**16.06 Airport Noise Policy**  
Room: Royale  
Session Chairs: Larry Finegold, Henk Veerbeek

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<tr>
<td>10:00</td>
<td>1359</td>
<td>Development of airport environmental policies - Focusing on noise issues for Taiwanese airports</td>
<td>Invited</td>
<td>in12_1359.pdf</td>
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<td></td>
<td></td>
<td>Author: Cherie Lu, Chang Jung Christian University</td>
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<td>10:20</td>
<td>184</td>
<td>Aircraft noise assessment and monitoring of flight routes in Germany</td>
<td>Contributed</td>
<td>in12_184.pdf</td>
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<td></td>
<td></td>
<td>Authors: Thomas Myck, Federal Environment Agency; Berthold Vogelsang, Ministry for Climate Protection and Environment of Lower Saxony</td>
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<td>10:40</td>
<td>509</td>
<td>Noise management takes two to tango</td>
<td>Invited</td>
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<td></td>
<td>Authors: Lea Bodossian, Airport Regions Conference; Joachim Wempe</td>
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<td>11:00</td>
<td>698</td>
<td>Strategy for development of airport noise enforcement models</td>
<td>Contributed</td>
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<td></td>
<td></td>
<td>Authors: Roalt Aalmoes, Dutch National Aerospace Laboratory (NLR); Dick Bergmans, Dutch National Aerospace Laboratory (NLR); Annette Kruger-Dokter, Dutch National Aerospace Laboratory (NLR)</td>
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<td>11:20</td>
<td>793</td>
<td>Relation between worry about and annoyance from air transport</td>
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<td></td>
<td></td>
<td>Authors: Frits van den Berg, GGD Amsterdam Public Health Service; Claudia Verhagen, GGD Amsterdam Public Health Service</td>
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<td>11:40</td>
<td>1320</td>
<td>Airport noise policy, but based on which data?</td>
<td>Invited</td>
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<td>Author: eith Adams, Lochard/B&amp;K EMS</td>
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<td>13:20</td>
<td>1371</td>
<td>Airport community noise models: Verification of critical information</td>
<td>Invited</td>
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<td></td>
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<td>Author: Wayne R. Lundberg, US Air Force</td>
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<td>13:40</td>
<td>1384</td>
<td>Mitigating aircraft noise impacts on communities</td>
<td>Invited</td>
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<td></td>
<td>Author: Ambrose W. Clay, City of College Park, GA</td>
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<td>14:00</td>
<td>1407</td>
<td>Study on land use planning with improved noise compatibility around airfields</td>
<td>Invited</td>
<td>in12_1407.pdf</td>
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<td></td>
<td></td>
<td>Authors: Ichiro Yamada, Airport Environment Improvement Foundation; Naoaki Sinohara, Narita International Airport Promotion Foundation; Makoto Morinaga, Defense Facilities Environment Improvement; Sonoko Kuwano, Osaka Univeristy</td>
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</table>
Monday, August 20, 2012

14:20  142  The Implementation of the ICAO balanced approach at Bucharest Airports National Company; A gap analysis and recommendations
Invited  in12_142.pdf
Authors: Vlad Martian, Bucharest Airports; Delia Dimitriu, Centre for Air Transport and the Environment, Faculty of Science and Engineering; Mihaela Creju, COMOTI National Research and Development Institute for Gas Turbines

Noise Policy Development, Education, Economics and Implementation:
16.07 Approaches to Encourage People to Low Noise Behavior
Room: Royale
Session Chairs: Stephan Paul, Irene Schlachter

14:40  1002  The concept of Tag gege Larm - International noise awareness day in Germany
Invited  in12_1002.pdf
Authors: Brigitte Schulte-Fortkamp, Technische Universitat Berlin

15:00  1274  What makes car users adopt an environmentally friendly driving style?
Invited  in12_1274.pdf
Authors: Ruth Kaufmann-Hayoz, University of Bern; Lisa Lauper, Interdisciplinary Centre for General Ecology, University of Bern, Switzerland; Maja Fischer, Interdisciplinary Centre for General Ecology, University of Bern, Switzerland; Stephanie Moser, Interdisciplinary Centre for General Ecology, University of Bern, Switzerland; Irene Schlachter, Federal Office for the Environment, Bern, Switzerland; Tommaso Meloni, Federal Office for the Environment, Bern, Switzerland

15:20  1306  Reducing road traffic noise - How to design effective individual-based interventions
Invited  in12_1306.pdf
Authors: Irene Schlachter, Federal Office for the Environment FOEN; Tommaso Meloni, University of Berne, Interdisciplinary Center for General Ecology; Stephanie Moser, University of Berne, Interdisciplinary Center for General Ecology; Lisa Lauper, University of Berne, Interdisciplinary Center for General Ecology; Maja Fischer, University of Berne, Interdisciplinary Center for General Ecology; Ruth Kaufmann-Hayoz, Federal office for the environment FOEN, Noise abatement division

15:40  1313  Using a website, social media and microblogs to encourage people to low noise behavior
Invited  in12_1313.pdf
Authors: William D. Fonseca, Federal University of Santa Catarina; Stephan Paul, Dept. of Acoustical Eng., Fed. University of Santa Maria

16:00  1297  Celebrating the noise awareness day in Chile - Impacts and future developments
Invited  in12_1297.pdf
Authors: Igor Valdebenito, Ministry of Environment

16:20  1427  Educational activities to increase noise awareness between children and young adults - Examples from Brazil's Santa Catarina state
Invited  in12_1427.pdf
Authors: Aline Gomes de Franca, County Health Department; Simone Mariotto Roggia, Federal University of Santa Catarina; Stephan Paul, Federal University of Santa Maria
**Monday, August 20, 2012**

**Architectural Noise / Building Acoustics: 3.13 Room acoustics:**
**Fundamental Research and Practical Applications**

Session Chairs: AM: Ning Xiang, Lauri Savioja; PM: Ning Xiang, Yang-Hann Kim, Beiek Temel

**Room:** Broadway North

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<th>Authors</th>
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<tr>
<td>10:00</td>
<td>105</td>
<td><strong>Measurement of directional distribution of incident acoustic energy on the boundary of a closed space by closely located 4-point microphone</strong>&lt;br&gt;Invited</td>
<td>Ruilin Mu, Kyoto University; Daiji Takahashi, Faculty of Environmental and Urban Engineering, Kansai University; Masahiro Toyoda, Graduate School of Engineering, Kyoto University</td>
</tr>
<tr>
<td>10:20</td>
<td>213</td>
<td><strong>The state of the art in measurement and characterization of the absorption, diffusion and scattering coefficients</strong>&lt;br&gt;Invited</td>
<td>Peter D’Antonio, RPG Diffusor Systems, Inc.</td>
</tr>
<tr>
<td>10:40</td>
<td>272</td>
<td><strong>An experimental analysis of the relationship between reverberant acoustic intensity and energy density inside long rooms</strong>&lt;br&gt;Invited</td>
<td>Chiara Visentin, Universita degli Studi di Ferrara; Nicola Prodi, Dipartimento di Ingegneria, Universita degli Studi di Ferrara; Vincent Valeau, Institut PPRIME, CNRS-Universit; Judica Picaut, LUNAM University, IFSTTAR, IM, EASE</td>
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<tr>
<td>11:00</td>
<td>309</td>
<td><strong>Acoustical planning inside rooms - The principle of CadnaR</strong>&lt;br&gt;Contributed</td>
<td>Fabian Probst, DataKustik GmbH</td>
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<tr>
<td>11:20</td>
<td>349</td>
<td><strong>Energy- and wave-based beam-tracing prediction of room-acoustical parameters using different boundary conditions</strong>&lt;br&gt;Invited</td>
<td>Murray Hodgson, U. British Columbia; Behrooz Yousefzadeh, U. British Columbia</td>
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<td>11:40</td>
<td>353</td>
<td><strong>Measuring reverberation time using preprocessed energy detection</strong>&lt;br&gt;Invited</td>
<td>Dario D’Orazio, University of Bologna; Simon De Cesaris, University of Bologna; Massimo Garai, University of Bologna</td>
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<td>13:20</td>
<td>491</td>
<td><strong>A modified approach to the backward integration leading to an increase in decay curve dynamic range</strong>&lt;br&gt;Invited</td>
<td>Dejan Ciric, University of Nis</td>
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<tr>
<td>13:40</td>
<td>500</td>
<td><strong>Scattered sound field above a grating of rectangular cavities</strong>&lt;br&gt;Contributed</td>
<td>Abel Khanfir, Institut National de Recherche et Securite; Abil Faiz, Laboratoire d’En; Joel Ducourneau, Laboratoire d’En; Jacques Chatillon, Institut National de Recherche et S</td>
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<tr>
<td>14:00</td>
<td>585</td>
<td><strong>Cepstral deconvolution method for measurement of absorption and scattering coefficients of materials</strong>&lt;br&gt;Invited</td>
<td>Mehmet Caliskan, Middle East Technical University; Gokhan Aslan, Middle East Technical University</td>
</tr>
</tbody>
</table>
Bayesian room-acoustic modal analysis
Contributed in12_607.pdf
Authors: Wesley Henderson, Rensselaer Polytechnic Institute; Jonathan Botts, Rensselaer Polytechnic Institute; Ning Xiang, Rensselaer Polytechnic Institute

A combination of the acoustical radiosity and the image source method
Invited in12_733.pdf
Authors: Georgios I. Koutsouris, Technical University of Denmark; Jonas Brunskog, Acoustic Technology, DTU Electrical Engineering, Technical University of Denmark; Cheol-Ho Jeong, Acoustic Technology, DTU Electrical Engineering, Technical University of Denmark; Finn Jacobsen, Acoustic Technology, DTU Electrical Engineering, Technical University of Denmark

Multi-dimensional analyses of large vineyard halls
Invited in12_371.pdf
Authors: PWei-Hwa Chiang, National Taiwan University of Science and Technology; Hui-Ping Wu, National Taiwan University of Science and Technology; Bing-Jie Chiu, National Taiwan University of Science and Technology; Wei Lin, Hwa-Hsia Institute of Technology

Embedded parks in Quiet Zones
Invited in12_503.pdf
Authors: Staffan Algers, Royal Inst. of Technology; Markus Petz, ACCON

Quiet zones and traffic policy in Amsterdam
Invited in12_783.pdf
Author: Frits van den Berg, GGD Amsterdam Public Health Service

Evaluation of quiet zones in Sweden
Contributed in12_789.pdf
Authors: Daniel Soderstrom, Tyrens AB; Nils-Ake Nilsson, Tyrens AB

Development of a low noise road surface for inner city areas
Contributed in12_869.pdf
Author: Martin Hojer, Tyrens AB

Remote vibration monitoring during construction
Invited in12_226.pdf
Authors: Rob Greene, Parsons Brinckerhoff

Similarities and differences between noise and vibration monitoring
Invited in12_285.pdf
Authors: Douglas Manvell, Bruel and Kjaer; Jan Hansen, Bruel & Kjaer; Greg Bracci, Bruel & Kjaer

Design and benefits of community sound monitoring
Invited in12_1395.pdf
Author: James D. Barnes, Acentech Inc
<table>
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<th>Time</th>
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<th>Authors</th>
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<tr>
<td>11:00</td>
<td>148</td>
<td>Approaches and benefits of system wide noise reduction on rail transit systems</td>
<td>Invited</td>
<td>Hugh Saurenman, ATS Consulting</td>
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<tr>
<td>11:20</td>
<td>958</td>
<td>Effects of source data and derivation method on statistical noise levels (LN)</td>
<td>Contributed</td>
<td>Guillaume I. Goulamhoussen, Cirrus Research plc; Richard A. Wright, Cirrus Research plc</td>
</tr>
<tr>
<td>11:40</td>
<td>1059</td>
<td>Round robin tests on environmental noise</td>
<td>Contributed</td>
<td>Jens Elgaard Laursen, DELTA Acoustics</td>
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<tr>
<td>13:20</td>
<td>310</td>
<td>Reflected sound in street canyons - Diffuse or specular?</td>
<td>Contributed</td>
<td>Wolfgang Probst, DataKustik GmbH</td>
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<tr>
<td>13:40</td>
<td>527</td>
<td>Strategic noise mapping in Ireland (Phase Two): Implementation of lessons learned from the first phase</td>
<td>Contributed</td>
<td>Eion A. King, Trinity College Dublin</td>
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<tr>
<td>14:00</td>
<td>521</td>
<td>IT tools for supporting administrators of strategic noise maps</td>
<td>Contributed</td>
<td>Marcin Dabrowske, Silesian University of Technology; Artur Kuboszek, Silesian University of Technology, Faculty of Organization and Management, Institute of Production Engineering</td>
</tr>
<tr>
<td>14:20</td>
<td>617</td>
<td>Traffic management strategy to reduce environmental noise in cities based on the application of ITS</td>
<td>Contributed</td>
<td>Jose Luis Cueto, University of Cadiz; Francisco Fernandez, SINCOSUR Ingenieria Sostenible S.L.; Ricardo Hernandez, SINCOSUR Ingenieria Sostenible S.L.; Fernando Lopez, University of Cadiz; Lola Lorente, University of Cadiz; David Carretero, SINCOSUR Ingenieria Sostenible S.L.</td>
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<tr>
<td>14:40</td>
<td>1533</td>
<td>The use of continuous noise monitoring system as a validation method for strategic noise map prepared for the city of Gdansk in Poland</td>
<td>Contributed</td>
<td>Piotr Mioduszewski, Technical University of Gdansk; Stanislaw Taryma, GS Hydro Sp. z o.o., Gdynia, Poland; Daniel Karpinski, City Hall of Gdansk, Department of Environment, Gdansk, Poland; Jan Grabowski, Technical University of Gdansk, Mechanical Engineering Faculty, Poland</td>
</tr>
<tr>
<td>15:00</td>
<td>318</td>
<td>Quantifying the ambient environment: Siting within the urban din</td>
<td>Contributed</td>
<td>Tim Wiens, Conestoga-Rovers &amp; Associates; Gordon Reusing, Conestoga-Rovers &amp; Associates; Zachary Zehr, Conestoga-Rovers &amp; Associates</td>
</tr>
<tr>
<td>15:20</td>
<td>1405</td>
<td>A geographical information system based traffic noise map production: Samsun province example</td>
<td>Contributed</td>
<td>Erdem Emin Maras, Ondokuz Mayis University; Zubeyde Alkis, Yildiz Technical University; Hakan Hadi Maras, General Command of Mapping</td>
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<td>15:40</td>
<td>1469</td>
<td>Estimation of outdoor sound fields using interpolation and geostatistical models</td>
<td>Contributed in12_1469.pdf</td>
<td>Edward T. Nykaza, ERDC-CERL; Michael J. White, ERDC-CERL; D. Keith Wilson, ERDC-CRREL; Anthony A. Atchely, The Pennsylvania State University</td>
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<tr>
<td>16:00</td>
<td>1175</td>
<td>Addressing haul route noise in Ontario</td>
<td>Invited in12_1175.pdf</td>
<td>Nicholas Sylvestre-Williams, Aercoustics Engineering Ltd.</td>
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<td>16:20</td>
<td>1312</td>
<td>Community noise assessment of a Flour Mill located at Quito, Ecuador</td>
<td>Contributed in12_1312.pdf</td>
<td>Guillermo Bolanos Rodriquez, Calle rio Pastaza; Daniel Nunez Solano, Universidad de las Am</td>
</tr>
<tr>
<td>16:40</td>
<td>1037</td>
<td>Modeling the spectral directivity of guns</td>
<td>Contributed in12_1037.pdf</td>
<td>Michael J. White, US Army ERDC/CERL</td>
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<td>7th Floor:</td>
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<tr>
<td>10:00</td>
<td>156</td>
<td>Study on localization of infrasound waves radiated by natural events</td>
<td>Contributed in12_156.pdf</td>
<td>Jun Lu, Chinese Academy of Sciences; Yichun Yang, Institute of Acoustics, Chinese Academy of Sciences</td>
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<tr>
<td>10:20</td>
<td>326</td>
<td>Six noise type military sound classifier</td>
<td>Contributed in12_326.pdf</td>
<td>Christopher Michael Shelton, University of Pittsburgh; Jeffrey S. Vipperman, University of Pittsburgh Mechanical Engineering And Material Science; Edward T. Nykaza, US Army Engineer Research and Development Center; Dan Valente, US Army Engineer Research and Development Center</td>
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<tr>
<td>10:40</td>
<td>462</td>
<td>Background noise reduction using Adaptive Noise Cancellation determined by the cross-correlation</td>
<td>Contributed in12_462.pdf</td>
<td>Taylor B. Spalt, VirginiaTech; Christopher R. Fuller, Vibration and Acoustics Lab, VirginiaTech; Thomas F. Brooks, NASA Langley Research Center</td>
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<tr>
<td>11:00</td>
<td>808</td>
<td>Relationship between subjective and objective evaluation of noise-reduced speech based on temporal fluctuation of speech distortion</td>
<td>Contributed in12_808.pdf</td>
<td>Mitsunori Mizumachi, Kyushu Institute of Technology</td>
</tr>
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</table>
### 13:20 653 Evaluation of on-board sound intensity measurement parameters using a tire noise chassis dynamometer
Invited  in12_653.pdf  Authors: Paul R. Donavan, Illingworth & Rodkin, Inc.; Dana M. Lodico, Lodico Acoustics, LLC

### 13:40 611 Evaluation of on-board sound intensity measurement parameters through controlled test track measurements and comparative testing between users on in-service roadways
Invited  in12_611.pdf  Authors: Dana M. Lodico, Lodico Acoustics, LLC; Paul Donavan, Illingworth & Rodkin, Inc

### 14:00 1205 Improving wayside noise measurements on roadways and at test tracks using on-board sound intensity

### 14:20 613 Overview and application of the Statistical Isolated Pass-By Method (SIP) for determining the influence of road surfaces on vehicle noise (AASHTO TP-98)

### 14:40 1004 Overview and application of the Continuous-Flow Traffic Time-Integrated Method (CTIM) for determining the influence of road surfaces on traffic noise

### 15:20 1010 Pavement sound absorption measurements in the U.S.
Invited  in12_1010.pdf  Authors: Judith L. Rochat, U.S. DOT; Paul Donavan, Illingworth & Rodkin, Inc.; Andrew Seybert, University of Kentucky; Tyler Dare, Purdue University

### 15:40 1254 Requirements and testing methods for ISO 10844:2011 test tracks
Invited  in12_1254.pdf  Authors: Gijsjan van Blokland, M+P Consulting engineers; Wout Schwanen, M+P Consulting engineers

### 16:00 1538 Comparison of CPX systems with round robin test
Invited  in12_1538.pdf  Authors: Fred Reinink, M+P Consulting engineers; Gijsjan van Blokland, M+P Consulting engineers; Foort de Roo, TNO Technical sciences; Gijam Derksen, TNO Technical sciences
<table>
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<th>Authors/Contributions</th>
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<tr>
<td>16:20</td>
<td>1462</td>
<td>Tire camber angle influence on tire-pavement noise</td>
<td>Authors: Richard Wozniak, Gdansk University of Technology; Stanislaw Taryma, Gdansk University of Technology; Piotr Mioduszewski, Gdansk University of Technology, Faculty of Mechanical Engineering</td>
</tr>
<tr>
<td>10:00</td>
<td>90</td>
<td>Air induction NVH development using a hybrid CAE method and a practical test procedure</td>
<td>Authors: Weiguo Zhang, Chrysler Group LLC; Antoni Szatkowski, Chrysler Group LLC; Mac Lynch, Chrysler Group LLC; Jeffrey Orzechowski, Chrysler Group LLC</td>
</tr>
<tr>
<td>10:20</td>
<td>115</td>
<td>Recovery of combustion pressure in compression ignition engine from vibration data</td>
<td>Author: Richard H. Lyon, Self</td>
</tr>
<tr>
<td>10:40</td>
<td>1032</td>
<td>Noise measurement system analysis of medium duty diesel engines for vehicle consistency and sound quality improvements</td>
<td>Invited</td>
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<tr>
<td>11:00</td>
<td>1199</td>
<td>Noise at the mid to high flow range of a turbocharger compressor</td>
<td>Authors: Neil Figurella, The Ohio State University; Rick Dehner, The Ohio State University; Ahmet Selamet, The Ohio State University; Keith Miazgowicz, Ford Motor Company; Robert Wade, Ford Motor Company</td>
</tr>
<tr>
<td>11:20</td>
<td>873</td>
<td>Structural dynamic characterization of an occupied vehicle seat</td>
<td>Authors: Leon Lo, RMIT University; Mohammad Fard, RMIT University, Melbourne Australia; Aleksandar Subic, RMIT University, Melbourne Australia; Reza Jazar, RMIT University, Melbourne Australia</td>
</tr>
<tr>
<td>11:40</td>
<td>1154</td>
<td>Acoustic PVB interlayer film laminated side door glass to enhance vehicle cabin quietness</td>
<td>Authors: S. Kobata, Sekisui S-LEC America, LLC; Sekisui S-LEC America, LLC; Sekisui S-LEC America, LLC</td>
</tr>
<tr>
<td>13:20</td>
<td>1279</td>
<td>Identifying the factors and controlling measures for door chucking and rattle performance</td>
<td>Authors: Sachin Pewar, NVH Center of Excellence; Murali Bodla, Mahindra &amp; Mahindra; Rajesh Bhangale, Mahindra &amp; Mahindra; Vishal Chaudhari, Mahindra &amp; Mahindra; Mansinh Kumbhar, Mahindra &amp; Mahindra</td>
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<tr>
<td>13:40</td>
<td>415</td>
<td>Effect of visual and auditory stimulus on human response to whole body vibration</td>
<td>Authors: Junya Tatsuno, Kinki University; Hitomi Nakamura, Graduate School of Systems Engineering, Kinki University; Shin Takehara, Kinki University; Kenta Tsuchiya, Kinki University; Makimo Yonehara, Kinki University; Setsuo Maeda, Kinki University</td>
</tr>
</tbody>
</table>
### Architectural Noise / Building Acoustics: 3.03 Noise in Performing Arts Spaces
(both indoor / outdoor venues)  
Room: Hudson/Empire  
Session Chairs: Todd Brooks, Ning Xiang

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<tr>
<td>14:00</td>
<td>969</td>
<td>How quiet is quiet enough?</td>
<td>Invited</td>
<td>Jonah Sacks, Acentech Inc; Robert William Wolff, Studio A - Acentech; Ana Maria Jaramillo, Virginia Tech</td>
</tr>
<tr>
<td>14:20</td>
<td>916</td>
<td>Audience noise in concert halls during musical performances</td>
<td>Invited</td>
<td>Pierre Marie, Grontmij A/S, Acoustica; Cheol-Ho Jeong, AcousticTechnology, Department of Electrical Engineering, Technical University of Denmark; Jonas Brunskog, AcousticTechnology, Department of Electrical Engineering, Technical University of Denmark; Claus Moller Petersen, Grontmij A/S, Acoustica</td>
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<tr>
<td>15:20</td>
<td>1000</td>
<td>Project and cost considerations for achieving ultra-low noise performance spaces</td>
<td>Invited</td>
<td>Damian J. Doria, Stages Consultants LLC; Joe Perryman, Cost Plus</td>
</tr>
<tr>
<td>16:00</td>
<td>851</td>
<td>A new method to predict and measure the noise control performance of a performing arts centre displacement system</td>
<td>Invited</td>
<td>John O’Keefe, Aercoustics Engineering Limited</td>
</tr>
<tr>
<td>16:20</td>
<td>1453</td>
<td>Quiet HBAC systems design for the experimental media and Performing Arts Center at RPI</td>
<td>Invited</td>
<td>Terry Tyson, Kirkegaard Associates</td>
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### Motor Vehicle Noise, Interior and Exterior: 4.10 Brake noise - Using engine and/or wheel brakes  
Room: Olmstead/Gramercy  
Session Chairs: Todd Rook, James McIntosh

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<tr>
<td>10:00</td>
<td>576</td>
<td>What kind of friction model is needed to predict brake squeal?</td>
<td>Contributed</td>
<td>Tore Butlin, Cambridge University; Jim Woodhouse, Cambridge University Engineering Department</td>
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<tr>
<td>10:20</td>
<td>673</td>
<td>Australian / New Zealand governments response to truck compression brake noise</td>
<td>Contributed</td>
<td>James McIntosh, VicRoads; Rob Hannaby, New Zealand Transport Agency</td>
</tr>
<tr>
<td>10:40</td>
<td>676</td>
<td>Development of compression brake noise regulations in Australia</td>
<td>Contributed</td>
<td>Phil West, AECOM</td>
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</table>
11:00  949  Response surface model of a brake system to optimize structural modifications for squeal noise suppression
Invited in12_949.pdf
Authors: Antonio Culla, Universita’ di Roma La Sapienza; Davide Tonazzi, Dipartimento di Ingegneria Meccanica e Aerospaziale - Universita’ di Roma La Sapienza; Francesco Massi, INSA-Lyon LaMCoS UMR5259; Annalisa Fregolent, Dipartimento di Ingegneria Meccanica e Aerospaziale - Universita’ di Roma La Sapienza

11:20  1338  Improved mathematical models of vehicle brake judder and experimental observations
Invited in12_1338.pdf
Authors: Osman Taha Sen, The Ohio State University; Rajendra Singh, The Ohio State University

11:40  484  Superelement reduction of industrial finite element brake system for a constrained harmonic balance method
Invited in12_484.pdf  ASME NCAD
Authors: Paul Villard, Ecole des Ponts ParisTech; Samuel Nacivet, PSA Peugeot Citroen; Jean-Jacques Sinou, Laboratoire de Tribologie et Dynamique des Systemes

Industrial Noise: 9.01 Power Plant Noise
Room: Olmstead/Gramercy
Session Chairs: Frank Brittain, Dave Parzych

13:20  647  Repowering aging power plants surrounded by differing jurisdictional noise regulations
Invited in12_647.pdf
Author: Marlund E. Hale, Advanced Engineering Acoustics

13:40  1166  Passive noise control treatments for power generators
Invited in12_1166.pdf
Authors: Shashikant More, Cummins Power Generation; Pranab Saha, Kolano and Saha Engineers, Inc.; Martin Myers, Cummins Power Generation

14:00  1417  Aerodynamics of ducted systems and flow affects upon silencers, combustion turbines, and machine performance
Invited in12_1417.pdf
Author: Elden R. Ray, Universal Acoustic & Emission Technologies Inc.

14:20  1452  Combustion turbine silencer design, selection and applications
Invited in12_1452.pdf
Author: David J. Parzych, Power Acoustics, Inc.

14:40  1498  Reducing costs by designing power plants to permit retrofit of selected noise controls
Invited in12_1498.pdf
Author: Frank H. Brittain, Brittain Noise Control

15:20  230  Vibration reduction for the feedwater pump piping using viscous dampers
Contributed in12_230.pdf
Authors: Jung-soo Kim, Kepco Engineering and Construction; Chang-been Jeon, KEPCO Engineering & Construction Company, Inc.; Yong-ho Won, KEPCO Engineering & Construction Company, Inc.; Jae-whan Bae, KEPCO Engineering & Construction Company, Inc.
Monday, August 20, 2012

15:40 361 Noise reduction from combined-cycle plants subject to their configuration
Contributed in12_361.pdf
Authors: Sergey A. Semin, National Research University; Vladimir B. Tupov, National Research University “Moscow Power Engineering Institute”

16:00 405 The development of complex silencers for large power stations
Contributed in12_405.pdf
Authors: Vladimir B. Tupov, National Research University;

16:20 488 Reducing noise from a big city power plant in the conditions of reconstruction
Contributed in12_488.pdf
Authors: Galina Seyfelmlyukova, National Research University; Vladimir B. Tupov, National Research University

16:40 1419 Chilean experience in noise control on genset based power plants
Contributed in12_1419.pdf
Authors: Hector L. Fuentes, Silentium; Christopher C. Rooke, Silentium, ingenieria del Silencio

Active and Passive Noise & Vibration Control:
1.04 Applications of Active Noise and Vibration Control (joint INCE / ASME NCAD) Room: Herald/Soho
Session Chairs: AM: Jie Duan, Mingfeng Li; PM: Mingfeng Li, Rich Silcox

10:00 77 Passive and active noise control of a low power diesel generator
Contributed in12_77.pdf
Authors: Marcos Felipe Simon Galvez, Institute of Sound and Vibration Research, (ISVR); Antonio Minguex Olivares, Technical University of Madrid (UPM); Daniel Fernandez Comesana, Microflown technologies

10:20 188 Numerical analysis of active vibro-acoustic control in an enclosed cavity
Contributed in12_188.pdf
Authors: Wael Elwali, University of Cincinnati; Mingfeng Li, University of Cincinnati; Teik C Lim, University of Cincinnati

10:40 247 Active structural control on a car for cancellation of road noise disturbance
Invited in12_247.pdf
Authors: Walid Belgacem, Centre de technologies avanc; Patrice Massons, GAUS - Dept Mech. Engineering, Universit; Alain Berry, GAUS - Dept Mech. Engineering, Universit

11:00 381 A basic study on ANC with multi channel wave synthesis method
Contributed in12_381.pdf
Authors: Shotaro Maeda, Tottori University; Masaharu Nishimura, Department of Mechanical and Aerospace Engineering,Tottori University; Kenji Shigeki, Loarant Co., Ltd.

11:20 439 Modified filtered-x LMS algorithm for active control of vehicle road impact noise
Contributed in12_439.pdf
Authors: Guohua Sun, University of Cincinnati; Mingfeng Li, University of Cincinnati; Teik C. Lim, University of Cincinnati

11:40 378 Active window based on the prediction of interior sound field: Experiment for a directional exterior noise
Contributed in12_378.pdf
Authors: Byoungho Kwon, KAIST; Youngjin Park, KAIST
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<th>Contributor</th>
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<tr>
<td>13:20</td>
<td>508</td>
<td>Reduction of low-frequency resonance utilizing active noise control system in enclosed three-dimensional space</td>
<td>Contributed</td>
<td>Ken Kaneuchi, Osaka Gas Co Ltd; Koichi Nishimura, OSAKA GAS CO., LTD</td>
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<tr>
<td>13:40</td>
<td>542</td>
<td>Combined structural-acoustic active control system for the reduction of noise radiated from the outlets and the walls of a ventilation duct</td>
<td>Invited</td>
<td>Jens Rohlfing, Universita' degli studi di Udine; Paolo Gardonio, Universita' degli studi di Udine, Dipartimento di Ingegneria Elettrica Gestionale e Meccanica</td>
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<tr>
<td>14:00</td>
<td>753</td>
<td>Basic study on active acoustic shielding: Phase 4 improving noise reducing performance in low frequency-2</td>
<td>Contributed</td>
<td>Tatsuya Murao, Tottori University; Masaharu Nishimura, Department of Mechanical and Aerospace Engineering Tottori University; Kazunori Sakurama, Department of Mechanical and Aerospace Engineering Tottori University</td>
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<tr>
<td>14:20</td>
<td>1148</td>
<td>Active noise control systems in locomotives with varying sound signatures</td>
<td>Contributed</td>
<td>Daniel J. Maguire, TechnoFirst USA; Christian Carme, Electro-Motive Diesels, Inc.; Kathleen Reilly, TechnoFirst SA</td>
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<td>14:40</td>
<td>1300</td>
<td>Active reduction of sound transmission through triple panel partitions: Performance evaluation</td>
<td>Contributed</td>
<td>I. Dimino, The Italian Aerospace Research Centre; A. Concilio, ALTEN; A. Pierre, CIRA, The Italian Aerospace Research Centre; M. H. Aliabadi, Imperial College, London</td>
</tr>
<tr>
<td>15:00</td>
<td>1305</td>
<td>Double channel feed-forward active structural acoustic control of a test mockup</td>
<td>Invited</td>
<td>Vojtech Jandak, Czech Technical University; Ondrej Jiricek, Czech Tech. Univ. in Prague; Marek Borthanek, Czech Tech. Univ. in Prague; Petr Svec, Czech Tech. Univ. in Prague</td>
</tr>
<tr>
<td>15:40</td>
<td>1377</td>
<td>Semi-active method to control tonal noise from fans</td>
<td>Invited</td>
<td>Anthony Gerard, Universite de Sherbrooke; Alain Berry, Universite de Sherbrooke; Patrice Masson, Universite de Sherbrooke; Stephane Moreau, Universite de Sherbrooke</td>
</tr>
<tr>
<td>16:00</td>
<td>1532</td>
<td>The first Ford active sound quality control car developments (Lincoln Mks)</td>
<td>Contributed</td>
<td>Takeshi Abe, Ford Motor Company; Ming-te Cheng, Ford Motor Company; Ming-Ran Lee, Ford Motor Company; Frederick Vanhaaften, Ford Motor Company; Joseph Kafati, Ford Motor Company; James Hartman, Ford Motor Company</td>
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<tr>
<td>16:20</td>
<td>523</td>
<td>Active control of exhaust noise using an air horn</td>
<td>Contributed</td>
<td>Dong-ki Min, Hanyang University; Deok-man Kim, Hanyang University; Jun-hong Park, Hanyang University</td>
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</table>
16:40  1531  Improvement of noise reduction performance for a high-speed elevator using modified active noise control
Contributed in12_1531.pdf
Authors: In-Hyung Yang, Hanyang University; Ji Hyun Yoon, Graduate School of Mechanical Engineering, HANYANG university; Jae Eun Yeong, Graduate School of Mechanical Engineering, HANYANG university; Un Chang Jeong, Graduate School of Mechanical Engineering, HANYANG university; Jae-Eung Oh, School of Mechanical Engineering, HANYANG university

17:00  743  Progress in research on active control of transformer noise
Invited in12_743.pdf
Authors: Xiaojun Qiu, Nanjing University; Limin Zhang, Institute of Acoustics, Nanjing University; Jiancheng Tao, Institute of Acoustics, Nanjing University
## TECHNICAL PROGRAM OVERVIEW - Tuesday

<table>
<thead>
<tr>
<th>Room</th>
<th>8:00-8:20</th>
<th>8:40-9:00</th>
<th>9:20-9:40</th>
<th>10:00-10:20</th>
<th>10:40-11:00</th>
<th>11:20-11:40</th>
<th>12:00-12:20</th>
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<tbody>
<tr>
<td>Hart</td>
<td></td>
<td></td>
<td></td>
<td>23.01 Soundscape and its application</td>
<td>23.10 Natural and Urban Soundscape</td>
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<tr>
<td>O’Neill</td>
<td>4.05 Noise and sound from electric and hybrid vehicles</td>
<td>3.01 Classroom noise, criteria and standards</td>
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<td>Odets</td>
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<td>8.03 Urban noise &amp; policy</td>
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<td>Wilder</td>
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<td>15.02 Annoyance / Health Effects</td>
<td>7.08 Community response to noise</td>
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<td>Ziegfeld</td>
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<td>4.12 Pavement influence on noise</td>
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<td>Gilbert</td>
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<td>13.01 Acoustical holography</td>
<td>16.08 Mentoring in Acoustics Education</td>
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<td>Foyer</td>
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<td>Poster Session</td>
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<td>Salon 3</td>
<td>3.06 Acoustics of Lightweight Constructions</td>
<td>3.13 Room acoustics: Fundamental research and practical applications</td>
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<td>Salon 4</td>
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<td>7.07 Outdoor sound propagation</td>
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<td>Lyceum/Carnegie</td>
<td>9.02 Noise Control for Petrochemical and Process Plants</td>
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<td>Alvin/Edison</td>
<td>21.05 Psychoacoustics</td>
<td>13.02 Beamforming</td>
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<td>Booth</td>
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<td>19.01 Railway Noise and Vibration</td>
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<td>Broadway North Center</td>
<td>8.06 Quiet zones in cities</td>
<td>7.11 Airport and Community Noise modeling and monitoring</td>
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<td>Broadway South Center</td>
<td>7.03 Environmental Noise Management and Mapping</td>
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<tr>
<td>Music Box/Winter Garden</td>
<td>12.01 Vibration and Acoustic Measurement Techniques and Facilities</td>
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<td>Palace</td>
<td>2.05 Aircraft Interior Noise: applications, strategies and test</td>
<td>15.08 Noise and Hearing Loss</td>
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<td>Uris/Plymouth</td>
<td>10.01 Low frequency noise: airborne, structure-borne, and ground (joint INCE / ASME NCAD)</td>
<td>3.09 Speech Privacy</td>
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<td>Royale</td>
<td>2.03 Aeroacoustics and Jet Noise - Measurement and control</td>
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<td>Gotham/Chelsea</td>
<td>15.01 Hearing Protection</td>
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<tr>
<td>Hudson/Empire</td>
<td>3.08 Sound Propagation in Buildings</td>
<td>17.01 Numerical Methods in Vibration and Acoustics (FEM, BEM, IFEM) (joint INCE / ASME NCAD)</td>
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<td>Olmstead/Grammercy</td>
<td>22.01 General Structural Acoustics and Vibration (joint INCE / ASME NCAD)</td>
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<tr>
<td>Soho</td>
<td>14.01 Acoustic Wave Propagation in Porous Media (joint INCE / ASME NCAD)</td>
<td>14.08 Innovative lightweight materials for noise control and abatements (joint INCE / ASME NCAD)</td>
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</table>

Coffee & Tea will be available from 9:00 – 11:00 a.m. and 2:00 – 4:00 p.m. in the Exhibit Area (Westside Ballroom).
Coffee & Tea will be available from 9:00 – 11:00 a.m. and 2:00 – 4:00 p.m. in the Exhibit Area (Westside Ballroom).
## TECHNICAL PROGRAM DETAIL

**Tuesday, August 21, 2012**

### 4th Floor:

**Soundscape: 23.01 Soundscape and its application**  
**Room: Hart**  
Session Chairs: Brigitte Schulte-Fortkamp, Klaus Genuit, Greg Watts

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
</table>
| 8:00  | 136       | **Sounding Brighton: Practical approaches towards better soundscapes** | Invited in12_136.pdf  
Authors: Lisa Lavia, Noise Abatement Society; Matthew Easteal, Brighton and Sussex Medical School; Donna Close, The Illustrious Company; Harry Witchel, Decorum Communications; OstenAxelsson, Independent Consultant; Martyn Ware, Brighton and Hove City Council; Max Dixon, Brighton and Hove City Council |
| 8:20  | 380       | **Soundscape linkage database based on emotion similarity**           | Contributed in12_380.pdf  
Authors: Stone Cheng, National Chiao Tung University; Chih-Yi Lin, National Chiao Tung University |
| 8:40  | 410       | **Evaluating and Improving Hospital Soundscapes**                    | Invited in12_410.pdf  
Authors: Erica E. Ryherd, Georgia Institute of Technology; James E. West, Johns Hopkins University; Jeremy Ackerman, Emory University; Craig Zimring, Georgia Institute of Technology; Kerstin Persson Waye, University of Gothenburg |
| 9:00  | 466       | **Problems caused to the acoustic environment by the Japan quake: A critique from the viewpoint of soundscape study** | Invited in12_466.pdf  
Authors: Koji Nagahata, Fukushima University |
| 9:20  | 855       | **Towards more inclusive approaches in soundscape research: The soundscape of blind people** | Invited in12_855.pdf  
Authors: Monika Rychtarikova, STU Bratislava; Jasmien Herssens, KU Leuven, Belgium; Ann Heylighen, KU Leuven, Belgium |
| 9:40  | 943       | **Why E-mobility is a constituent of the environment - Acoustics and ecology balanced in soundscapes** | Invited in12_943.pdf  
Authors: Brigitte Schulte-Fortkamp, Technische Universit |

### Soundscape: 23.10 Natural and urban Soundscapes

**Room: Hart**  
Session Chairs: Luigi Maffei, Brigitte Schulte-Fortkamp

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<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
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</table>
| 10:20 | 163       | **Tranquillity and soundscapes in a country park - Results of a jury experiment** | Invited in12_163.pdf  
Authors: Greg Watts, University of Bradford; Rob Pheasant, University of Bradford |
### Soundscape: 23.02 Sound quality and Soundscaping

**Room:** Hart  
**Session Chairs:** Kay Voigt, Greg Watts

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
<th>PDF File</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:40</td>
<td>202</td>
<td>Home appliance sound design in consideration of home environment</td>
<td>Authors: Koichi Ohtomi, Toshiba Corporation; Rika Hosaka, Toshiba Corporation</td>
<td>in12_202.pdf</td>
</tr>
<tr>
<td>16:00</td>
<td>859</td>
<td>Indoor soundscape analysis of enclosed public and commercial spaces with soundwalk method</td>
<td>Authors: Papatya Nur Dokmeci, University of Sheffield; Jian Kang, University of Sheffield</td>
<td>in12_859.pdf</td>
</tr>
<tr>
<td>16:20</td>
<td>959</td>
<td>Living soundscapes in housing</td>
<td>Authors: Mohammed Boubezari, Instituto Superior Tecnico</td>
<td>in12_959.pdf</td>
</tr>
<tr>
<td>16:40</td>
<td>1472</td>
<td>Difference in STI measurements in a lecture room caused by the location, orientation, and directionality of sound sources and receivers in the room</td>
<td>Authors: Sang-Bong Shin, University of Florida; Gary W. Siebein, University of Florida</td>
<td>in12_1472.pdf</td>
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### Motor Vehicle Noise, Interior and Exterior:

**Room:** O’Neill  
**Session Chairs:** Klaus Genuit, GJ van Blokland

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<tr>
<th>Time</th>
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<th>Authors</th>
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<tbody>
<tr>
<td>8:00</td>
<td>1288</td>
<td>Electric and hybrid vehicles noise control at speed-up</td>
<td>Author: Luc-PhuThuong Nyuyen, LyTu Technical College of Ho Chi Minh City</td>
<td>in12_1288.pdf</td>
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</table>
**Tuesday, August 21, 2012**

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<tbody>
<tr>
<td>8:20</td>
<td>1415</td>
<td>Report on basic research for standardization of measures for quiet vehicles in Japan</td>
<td>Ichiro Sakamoto, National Traffic Safety and Environment Laboratory; Hiroyuki Houzu, National Traffic Safety and Environment Laboratory; Michiaki Sekine, National Traffic Safety and Environment Laboratory; Takeharu Tanaka, National Traffic Safety and Environment Laboratory; Kazumoto Morita, National Traffic Safety and Environment Laboratory; Yoshifumi Nagai, Ministry of Land, Infrastructure, Transport and Tourism; Koichi Suehiro, Ministry of Land, Infrastructure, Transport and Tourism</td>
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<tr>
<td>8:40</td>
<td>1493</td>
<td>Sound emissions from a plug-in electric vehicle</td>
<td>Kenneth Kaliski, Resource Systems Group; Isaac Old, Resource Systems Group; Les Blomberg, Noise Pollution Clearinghouse</td>
</tr>
</tbody>
</table>

**Architectural Noise / Building Acoustics: 3.01 Classroom Noise, Criteria and Standards**

*Session Chairs: Benjamin Sachwald, Ning Xiang*

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<tbody>
<tr>
<td>9:00</td>
<td>324</td>
<td>Effects of acoustic environments on speech comprehension by native-English-speaking listeners</td>
<td>Zhao Peng, University of Nebraska-Lincoln; Lily M. Wang, University of Nebraska-Lincoln; Siu-Kit Lau</td>
</tr>
<tr>
<td>9:20</td>
<td>333</td>
<td>Acoustic design considerations for business school classrooms</td>
<td>Frank N. Babic, AECOM</td>
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<tr>
<td>10:00</td>
<td>388</td>
<td>The influence of classroom acoustics on the level of background noise in selected Polish primary schools</td>
<td>Jan Radosz, Central Institute for Labour Protection</td>
</tr>
<tr>
<td>10:20</td>
<td>441</td>
<td>Classroom acoustics and student/teacher performance in Chinese schools</td>
<td>Kenneth Roy, Armstrong World Industries; Sean Browne, Armstrong World Industries; Jerry Li, Armstrong China Inv. Com. Ltd</td>
</tr>
<tr>
<td>10:40</td>
<td>671</td>
<td>Linking HVAC type noise and student achievement</td>
<td>Ana M. Jaramillo, Virginia Tech; Michael Ermann, Virginia Tech</td>
</tr>
<tr>
<td>11:00</td>
<td>819</td>
<td>Intelligibility assessment of speech in classrooms with and without acoustic conditioning through measured and simulated parameters</td>
<td>Marco A.M. Vecchi, Universidade Federal de Minas Gerais; Frederico C. Horta, Universidade Federal de Minas Gerais - UFMG; Rafaela M. Ferraz, Oppus Acustica Ltda.</td>
</tr>
<tr>
<td>11:20</td>
<td>865</td>
<td>Acoustic properties of classrooms in elementary schools - Correlation coefficient between reverberation time and speech transmission index</td>
<td>Mikulski Witold, Central Institute For Labour Protection</td>
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<tr>
<td>Time</td>
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<tr>
<td>11:40</td>
<td>1008</td>
<td>Noise levels encountered in classrooms and associated health impact at selected schools in United Arab Emirates</td>
<td>Hussein M. Elmehdi, University of Sharjah</td>
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<tr>
<td>13:20</td>
<td>1229</td>
<td>The effect of receiving room sound field on the heavy-weight impact sound pressure level</td>
<td>Jeong-ho Jeong, Fire Insurers Laboratories of Korea; Jung-uk Kim, Fire Insurers Laboratories of Korea; Jae-gun Jeong, Fire Insurers Laboratories of Korea</td>
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<tr>
<td>13:40</td>
<td>1474</td>
<td>Influence of tapping machine position on timber joist floors on the low frequency impact sound</td>
<td>Krister Larsson, SP Technical Research Institute of Sweden; Christian Simmons, SP Technical Research Institute of Sweden; Nata Amiryarahmadi, SP Technical Research Institute of Sweden; Xuetao Zhang, SP Technical Research Institute of Sweden</td>
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<tr>
<td>14:00</td>
<td>615</td>
<td>Increasing impact insulation ratings in occupied condominium buildings by modifying only the ceiling</td>
<td>Scott Harvey, Phoenix Noise &amp; Vibration; Josh Curley, Phoenix Noise &amp; Vibration</td>
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<tr>
<td>14:20</td>
<td>1236</td>
<td>Effect of ceiling specification on floor impact sound insulation of wood-frame construction</td>
<td>Atsuo Hiramitsu, Building Research Institute</td>
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<td>14:40</td>
<td>1096</td>
<td>On reducing low frequency impact sound transmission in wood framed construction</td>
<td>Berndt Zeitler, National Research Council Canada; Ivan Sabourin, National Research Council Canada; Stefan Schoenwald, National Research Council Canada; Erik Wenzke, Stuttgart University of Applied Sciences</td>
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<tr>
<td>15:20</td>
<td>472</td>
<td>Floor impact characteristics when applied to health club floors</td>
<td>Joseph M. Cuschieri, Noise Control Services</td>
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<tr>
<td>15:40</td>
<td>849</td>
<td>Effect of structural components of floated floors on the vibration characteristics in concrete slabs</td>
<td>Jae Ho Kim, Hanyang University; JinYong Jeon, Hanyang University</td>
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<tr>
<td>16:00</td>
<td>1069</td>
<td>Psycho-vibration evaluation in timber floors</td>
<td>Delphine Bard, Lund University; Juan Negreira Montero, Lund University; Arnaud Trolle, Universit</td>
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<tr>
<td>16:20</td>
<td>274</td>
<td>Prediction of maximum sound pressure levels in heavyweight buildings using the ISO rubber ball as an impact source</td>
<td>Carl Hopkins, University of Liverpool; Matthew Robinson, University of Liverpool</td>
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<td>16:40</td>
<td>687</td>
<td>The heavy-weight impact noise analysis of bare concrete slab using FEM</td>
<td>Dae-Ho Mun, Seoul National University; Hong-Gun Park, Department of Architecture; Jae-Seung Hwang, Department of Architecture, Chonnam National University</td>
</tr>
<tr>
<td>8:00</td>
<td>518</td>
<td>Noise-management in public space with the “Laarhoven-Index”</td>
<td>Loek van Laarhoven, Parce Research; Reinier Vinken, Ingenieursburo Ulehake BV</td>
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<tr>
<td>8:20</td>
<td>543</td>
<td>Model based monitoring of urban traffic noise: A wireless sensor network design</td>
<td>Peter W. Wessels, TNO; Tom G.H. Basten, TNO; Frits J.M. van der Eerden, TNO</td>
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<tr>
<td>8:40</td>
<td>641</td>
<td>Reduction of urban noise by speed-limit in main streets at night time</td>
<td>Klaus Habermehl, University of Applied Sciences</td>
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<tr>
<td>9:00</td>
<td>682</td>
<td>3D road traffic noise assessment model for hyper dense Hong Kong</td>
<td>Isaac Ng, HKSAR Government; Chee-Kwan Lee, Environmental Protection Department, HKSAR Government; Maurice Yeung, Environmental Protection Department, HKSAR Government</td>
</tr>
<tr>
<td>9:20</td>
<td>923</td>
<td>Urban forms in Hong Kong and their acoustical environment</td>
<td>Maurice Yeung, HKSARG; Chi-wing Law, Environmental Protection Department, HKSARG; Aaron Lui, Environmental Protection Department, HKSARG; Kin-che Lam, Hong Kong Chinese University</td>
</tr>
<tr>
<td>9:40</td>
<td>413</td>
<td>A calculating method on roadside ground noise from the reverberation between the surface and the bridge bottom along a surface and viaduct combined road</td>
<td>Jiping Zhang, South China University of Technology; James Boyle, Schomer and Associates, Inc.; Paul D. Schomer, Schomer and Associates, Inc.; Ling Zhang, International College Zhejiang University of Technology; Fei Chen, Zhejiang Hangzhou-Anhui Expressway Co., Ltd</td>
</tr>
<tr>
<td>10:20</td>
<td>924</td>
<td>Toward a certification of night delivery in urban freight transport</td>
<td>Gerarld Cavalier, Cemafroid SNC; Eric Devin, CEMAFROID</td>
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<tr>
<td>10:40</td>
<td>979</td>
<td>Revision of New Orleans’ noise ordinance: Efforts toward simplification and enforceability</td>
<td>David Woolworth, Oxford Acoustics, Inc.</td>
</tr>
<tr>
<td>11:00</td>
<td>1197</td>
<td>CadnaA noise modeling of a large scale facility in New York City</td>
<td>G. Noemi Santiago, Henningson, Durham and Rechardson Architecture and Engineering Inc; Jennifer Namias, HDR</td>
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<td>11:20</td>
<td>1355</td>
<td>Approaches to urban noise management in India</td>
<td>Contributed in12_1355.pdf</td>
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<td>11:40</td>
<td>1222</td>
<td>Sound quality characteristics of the cicada sound in Korea</td>
<td>Contributed in12_1222.pdf</td>
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**Motor Vehicle Noise, Interior and Exterior:**

**4.16 Sound Quality Work for Automotive Applications**

Room: Odets

Session Chairs: Gordon Ebbitt, Wade Bray

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<th>Time</th>
<th>Session No.</th>
<th>Title</th>
<th>Invited/Contributed</th>
<th>Authors/Contributors</th>
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<tbody>
<tr>
<td>13:20</td>
<td>322</td>
<td>Perspectives and recommendations for broader participation in the development and communication of acoustic standards</td>
<td>Invited in12_322.pdf</td>
<td>Wade R. Bray, HEAD acoustics, Inc.; Paul D. Schomer, Schomer and Associates; James K. Thompson, JKT Enterprises</td>
</tr>
<tr>
<td>13:40</td>
<td>522</td>
<td>Comparison of hearing characteristics of sounds from diesel and gasoline engines</td>
<td>Contributed in12_522.pdf</td>
<td>Buhm Park, Hanyang University; Junhong Park, Hanyang University; Minsup Lee, LG Electronics</td>
</tr>
<tr>
<td>14:00</td>
<td>965</td>
<td>Sound quality design and development for the new Bentley Continental V8</td>
<td>Contributed in12_965.pdf</td>
<td>Andrew Jackson, Bentley Motors Ltd; Uday Senapati, Bentley Motors Limited</td>
</tr>
<tr>
<td>14:20</td>
<td>1227</td>
<td>Instrumented inspection of audio speaker’s rattle noise</td>
<td>Contributed in12_1227.pdf</td>
<td>Kyung-Sil Lim, Hyundai Kia Motors R&amp;D Center; Taehee Lee, Hyundai Motor Group; Youngkey K. Kim, SM Instruments; JunGoo Kang, SM Instruments; TaewoongLee, SM Instruments</td>
</tr>
<tr>
<td>14:40</td>
<td>1280</td>
<td>Identification of sound quality parameters with respect to subjective feel of HVAC noise of diesel SUV’s</td>
<td>Contributed in12_1280.pdf</td>
<td>Murali Bodla, Mahindra &amp; Mahindra; Riyazuddin Mohammed, Mahindra &amp; Mahindra; Rajesh Bhangale, Mahindra &amp; Mahindra; Kumbhar Mansinh, Mahindra &amp; Mahindra</td>
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<tr>
<td>15:00</td>
<td>1430</td>
<td>Annoyance estimation on noisy components of tire-pattern noise</td>
<td>Contributed in12_1430.pdf</td>
<td>Sung-Hwan Shin, KAERI; Takeo Hashimoto, Seikei University; Shigeko Hatano, Seikei University</td>
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<tr>
<td>15:40</td>
<td>1473</td>
<td>Comprehensive process for car engine sound design: From signal processing to an audio system integrated in the vehicle</td>
<td>Contributed in12_1473.pdf</td>
<td>Patrick Boussard, GENESIS Acoustics; Stephane Molla, GENESIS Acoustics; Francois Orange, GENESIS Acoustics</td>
</tr>
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### Motor Vehicle Noise, Interior and Exterior: 4.07 Vehicle NVH Modeling and Simulation

**Session Chairs:** Gabriella Cerrato, Pranab Saha  
**Room:** Odets

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<th>Title</th>
<th>Contributors</th>
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<tr>
<td>16:00</td>
<td>279</td>
<td>The simulation of traffic noise in intersections by considering the operation status of vehicles</td>
<td>Ming Cai, Sun Yat-sen University; Yu-Shan Lin, School of Engineering, Sun Yat-sen University, China</td>
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<tr>
<td>16:20</td>
<td>438</td>
<td>Analytical studies of passenger vehicle interior wind noise with acoustic laminated glasses of surface density reduction</td>
<td>Min Shen, Corning Inc; Chadwyck T. Musser, Cambridge Collaborative Incorporated; Jerome E. Manning, Cambridge Collaborative Incorporated</td>
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<td>16:40</td>
<td>459</td>
<td>Predicting the loudness of rattle in a center-console</td>
<td>Sascha Merz, ESI Group; Phil Shorter, ESI Group</td>
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### Noise and Health: 15.02 Annoyance / Health Effects

**Session Chairs:** Stephen Stansfeld, Deepak Prasher  
**Room:** Wilder

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<tr>
<th>Time</th>
<th>Session ID</th>
<th>Title</th>
<th>Contributors</th>
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<tr>
<td>8:00</td>
<td>297</td>
<td>Health effects of aircraft noise near three French airports: Results from pilot epidemiological study of the DEBATS study</td>
<td>Anne-Sophie Evrard, UMRESTTE; Ines Khati, Epidemiological Research &amp; Surveillance Unit in Transport, Occupation and Environment (UMRESTTE), Joint Research Unit of IFSTTAR (French institute of science and technology for transport, development and networks), and Claude Bernard University of Lyon; Bernard Laumon, Transport and Environment Laboratory (LTE) of IFSTTAR (French institute of science and technology for transport, development and networks); Patricia Champelovier, Transport and Environment Laboratory (LTE) of IFSTTAR (French institute of science and technology for transport, development and networks); Jacques Lambert, Epidemiological Research &amp; Surveillance Unit in Transport, Occupation and Environment (UMRESTTE), Joint Research Unit of IFSTTAR (French institute of science and technology for transport, development and networks), and Claude Bernard University of Lyon</td>
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<tr>
<td>8:20</td>
<td>303</td>
<td>Annoyance can represent a serious degradation of health: wind turbine noise: A case study</td>
<td>Carmen M.E. Krogh, Self; Roy D. Jeffery, Independent; Jeff Aramini, President and Chief Executive Officer Intelligent Health Solutions; Brett Horner, Independent</td>
</tr>
<tr>
<td>8:40</td>
<td>848</td>
<td>Annoyance effects of passive MP3 player listening</td>
<td>Mark Thorley, Coventry University</td>
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<tr>
<td>9:00</td>
<td>1282</td>
<td>Noise exposure in preterm infants treated with respiratory support using two models of neonatal helmet CPAP</td>
<td>Ricardo Hernandez Molina, University of Cadiz; Francisco Fernandez Zacarias, University of Cadiz; Simon Lubian Lopez, Andalusian Health Service; Almudena Alonso Ojembarrena, Andalusian Health Service; University of Cadiz</td>
</tr>
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</table>
9:20 1458 Evaluating the health benefits of natural sounds: An approach for assessing the environmental impacts of transportation noise
Contributed in12_1458.pdf
Authors: Christopher D. Zevitas, Volpe National Transportation Systems Center; Jonathan D. Cybulski, Harvard School of Public Health; Eileen McNeely, Volpe National Transportation Systems Center

9:40 96 Shall we quiet cities and workplaces? : The effects of auditive and visual stimuli on perceived restoration likelihood
Contributed in12_96.pdf
Authors: Helena Jahncke, University of Gavle; Karolina Eriksson, Uppsala University; Sanna Naula, Uppsala University

Community / Environmental Noise: 7.08 Community response to noise Room: Wilder
Session Chairs: Truls Gjestland, Irene van Kamp

10:20 128 Proactive noise control at a rock quarry next to a residential neighborhood
Contributed in12_128.pdf
Authors: Mr. Marc C. Wallace, Tech Environmental, Inc.; Ryan T. Callahan, Tech Environmental, Inc.

10:40 137 Examining the empirical relationship between Lnight and the probability of awakening
Contributed in12_137.pdf
Authors: Nicholas P. Miller, Harris Miller Miller & Hanson Inc.

11:00 164 Quantifying the efficacy of aircraft noise regulation
Invited in12_164.pdf
Authors: Vincent Mestre, SINTEF ICT; Paul Schomer, Fidell Associates, Inc; Sanford Fidell, Mestre Greve Associates of Landrum and Brown; Truls Gjestland, Schomer and Associates

11:20 473 Community response to noise from inner-city railway transportation in Sapporo, Japan
Contributed in12_473.pdf
Authors: Tetsumi Sato, Hokkai Gakuen University

11:40 504 Reaction of people for urban noise under heterogeneous traffic conditions
Contributed in12_504.pdf
Authors: Kalaiselvi Ramasamy, Indian Institute of Technology Madras; Ramachandraiah Alur, Indian Institute of Technology Madras

13:20 769 Annoyance related to noise from wind turbines in subjective assessment of people living in their vicinity
Contributed in12_769.pdf
Authors: Malgorzata Pawlaczyk-Luszczynska, Nofer Institute of Occupational Medicine; Adam Dudarewicz, Department of Physical Hazards, Nofer Institute of Occupational Medicine; Kamil Zaborowski, Department of Physical Hazards, Nofer Institute of Occupational Medicine; Malgorzata Zamojska, Department of Physical Hazards, Nofer Institute of Occupational Medicine; MalgorzataWaszkowska, Department of Work Psychology, Nofer Institute of Occupational Medicine; Mariola Sliwinska-Kowalska, Department of Physical Hazards, Nofer Institute of Occupational Medicine
13:40  804  Applicability of road traffic dose-effect relations to Turkish urban context
Contributed   in12_804.pdf
Authors: Aglaia Badino, University of Genoa; Mine Asgicil-Dincer, Istanbul Technical University - Faculty of Architecture; Corrado Schenone, University of Genoa - DIME; Sevtap Yılmaz, Istanbul Technical University - Faculty of Architecture

14:00  925  Citizen participation in community noise management
Contributed   in12_925.pdf
Authors: Anna M. Wilinska, Silesian University of Technology

14:20  942  The effect of structural differences at regional or community level on noise annoyance curves
Invited   in12_942.pdf
Authors: Peter Lercher, Medical University Innsbruck; Dick Botteldooren, Acoustics group, INTEC, Gent University, Belgium

14:40  1125  Sustainable noise pollution policy
Contributed   in12_1125.pdf
Author: Eddie Duncan, Resource Systems Group, Inc.

15:20  1138  Residential exposure to port noise: A case study of Dublin, Ireland
Contributed   in12_1138.pdf
Authors: Enda Murphy, University College Dublin; Eion A. King, Trinity College Dublin, Ireland

15:40  1139  Community response to aircraft noise: Recent examples from the Netherlands
Invited   in12_1139.pdf
Authors: Danny Houthuijs, National Institute for Public Health and the Environment; Irene van Kamp, National Institute for Public Health and the Environment (RIVM); Oscar Breugelmans, National Institute for Public Health and the Environment (RIVM); Caroline Ameling, National Institute for Public Health and the Environment (RIVM); Martin Marra, National Institute for Public Health and the Environment (RIVM); Ric van Poll, National Institute for Public Health and the Environment (RIVM)

16:00  1151  Effects of transportation noise and attitudes on task performance
Invited   in12_1151.pdf
Authors: Kim White, VU University; Martijn Meeter, VU University Amsterdam; Adelbert Bronkhorst, TNO Human Factors, VU University Amsterdam

16:20  1315  The UK national noise attitude survey 2012 - Description of the survey methodology and questionnaire design
Contributed   in12_1315.pdf
Authors: Hilary Notley, Bureau Veritas; Colin Grimwood, Bureau Veritas; Gary Raw, GR People Solutions; Nick Moon, GfK NOP Social Research

16:40  1363  Exposure-response functions for (or versus?) the prediction of annoyance in specific situations
Invited   in12_1363.pdf
Authors: Sabine A. Janssen, TNO; Henk Vos, TNO
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<th>Authors</th>
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<tr>
<td>8:00</td>
<td>516</td>
<td>Tyre/road noise: Influence of multi-asperity road surface properties on tyre/road contact stresses</td>
<td>Invited in12_516.pdf, Julien Cesbron, IFSTTAR; Guillaume Dubois, IFSTTAR; Fabienne Anfosso-Lede, IFSTTAR; Hai Ping Yin, Universit</td>
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<td>8:20</td>
<td>717</td>
<td>Impacts of age and texture of porous asphalts on tyre/road noise in Hong Kong</td>
<td>Invited in12_717.pdf, Wing-tat Hung, The Hong Kong Polytechnic University; Yat-ken Lam, The Hong Kong Polytechnic University</td>
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<td>8:40</td>
<td>761</td>
<td>Development of low noise pavement based on tire/road noise model</td>
<td>Contributed in12_761.pdf, Tatsuo Fujikawa, Japan Automobile Research Institute; Yasuo Oshino, Japan Automobile Research Institute; Hideki Tachibana, Chiba Institute of Technology</td>
</tr>
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<td>9:00</td>
<td>781</td>
<td>Influence of changes in surface layer properties on tire/pavement noise</td>
<td>Contributed in12_781.pdf, Mingliang Li, Delft University of Technology; Wim van Keulen, VANKEULEN advies bv; Martin van de Ven, Section of Road and Railway Engineering, Faculty of Civil Engineering &amp; Geosciences, Delft University of Technology; And Molenaar, Section of Road and Railway Engineering, Faculty of Civil Engineering &amp; Geosciences, Delft University of Technology</td>
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<td>9:40</td>
<td>837</td>
<td>Analysis of the acoustic characteristics and optimization potential of road surfaces - One focus within the project “Quiet Road Traffic 3”</td>
<td>Contributed in12_837.pdf, Christina Buckers, Federal Highway Research Institute; Ulrike Stockert, Federal Highway Research Institute (BASt), Germany; Thomas Beckenbauer, M; Wolfgang Kropp, Division of Applied Acoustics, Chalmers University of Technology, Gothenburg, Sweden</td>
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<td>10:20</td>
<td>948</td>
<td>The noise reduction effect and durability of various drainage asphalt pavement</td>
<td>Contributed in12_948.pdf, Tomotaka Ueta, Oriental Consultants Co Ltd; Kenichi Ishikawa, Oriental Consultants Co., LTD; Eiji Noguchi, Oriental Consultants Co., LTD; Reiji Fukui, Oriental Consultants Co., LTD; TeruoIwase, Niigata Univ.</td>
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<td>10:40</td>
<td>1143</td>
<td>Low noise pavements in Poland</td>
<td>Invited in12_1143.pdf, Piotr Mioduszewski, Technical University of Gdansk</td>
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<td>11:20</td>
<td>1153</td>
<td>Tyre/road noise at low speeds</td>
<td>Invited</td>
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<td>11:40</td>
<td>1234</td>
<td>The effect of asphalt mixture materials on changes of the road surface texture</td>
<td>Contributed</td>
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<td>13:20</td>
<td>1331</td>
<td>Traffic noise reduction in Istanbul by stone mastic asphalt surface</td>
<td>Contributed</td>
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<td>13:40</td>
<td>1341</td>
<td>CTIM-method wayside noise study for Virginia quiet pavement pilot project</td>
<td>Contributed</td>
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<td>2:00</td>
<td>1439</td>
<td>Gaining extra noise reduction and lower rolling resistance by grinding a porous asphalt pavement</td>
<td>Invited</td>
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**Motor Vehicle Noise, Interior and Exterior:**

4.14 Tire-Pavement Noise Sources, Modeling and Simulation

Session Chairs: Richard Sohaney, Courntney Burroughs, G J van Blokland

<table>
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<tr>
<td>14:20</td>
<td>282</td>
<td>Modeling high-frequency tire tread vibration as a group of traveling bending waves</td>
<td>Contributed</td>
<td>Masao Ishihama, Kanagawa Institute of Technology; Takayuki Kagaya, Kanagawa Institute of Technology</td>
</tr>
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<td>14:40</td>
<td>1366</td>
<td>A numerical macro-scale approach for the tire/road viscoelastic contact for the noise prediction</td>
<td>Contributed</td>
<td>Hai-Ping Yin, ENPC; Guillaume Dubois, Ifsttar; Julien Cesbron, ENPC; Fabienne Anfosso-Ledee, Ifsttar; Quoc-Huong Bui, Ifsttar; Denis Duhamel, ENPC</td>
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<td>15:00</td>
<td>910</td>
<td>Dynamic behavior of rolling tires under different operating conditions</td>
<td>Contributed</td>
<td>S. Vercammen, Goodyear Innovation Center; C. Gonzalez, Goodyear Innovation Center; P. Kindt, Goodyear Innovation Center; C. Thiry, Goodyear Innovation Center; J. Middelberg, Goodyear Innovation Center; J. Leyssens, Goodyear Innovation Center</td>
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</table>
15:40  419  Influence of tire geometry on the horn effect
Contributed  in12_419.pdf
Authors: W.R. Graham, University of Cambridge

16:00  1030  FEM acoustical modelling of the impedance tube for improving road porous pavement behaviour description
Contributed  in12_1030.pdf
Authors: Gaetano Licitra, Environment protection agency of Tuscany Region; Luca Teti, University of Siena - Department of Physics; Francesco Bianco, University of Pisa - Department of Physics; Mauro Cerchiai, ARPAT-Department of Pisa

16:20  530  Road surface texture and tire/road noise - A pilot comparison of prediction and measurement
Invited  in12_530.pdf
Authors: Jens Oddershede, Danish Road Directorate; Jorgen Kragh, Danish Road Directorate; Hans Bendtsen, Danish Road Directorate

16:40  203  Prediction of noise from laboratory produced pavement slabs
Contributed  in12_203.pdf
Authors: Hans Bendtsen, Danish Road Directorate; Jens Oddershede, Danish Road Directorate; Quing Lu, University of Florida, USA; Arash Rezaie, University of California Pavement Research Center, USA

Inverse Approaches in Vibro-Acoustics: 13.01 Acoustical Holography  Room: Gilbert
Session Chairs: Weikang Jiang, Jesper Gomes

8:00  755  Separation of nonstationary sound fields and its applications in time domain holography and real-time nearfield acoustic holography
Invited  in12_755.pdf
Authors: Xiao-Zheng Zhang, Hefei University of Technology; Jean-Hugh Thomas, Laboratoire d’Acoustique de l’Universite du Maine (LAUM UMR-CNRS 6613); Chuan-Xing Bi, Institute of Sound and Vibration Research, Hefei University of Technology; Jean-Claude Pascal, Laboratoire d’Acoustique de l’Universite du Maine (LAUM UMR-CNRS 6613)

8:20  843  Application of the acoustic double holography method for low frequency sound wave
Contributed  in12_843.pdf
Authors: Masao Nagamatsu, Hokkaido Institute of Technology; Mitsuo Iwahara, Hosei University; Gaku Minorikawa, Hosei University; Mao Takamatsu, Hosei University

8:40  1089  The use of non-collocated higher order sources in the equivalent source method
Invited  in12_1089.pdf
Authors: Yangfan Liu, Purdue University; J. Stuart Bolton, Ray W. Herrick Laboratories, School of Mechanical Engineering, Purdue University

9:00  1209  Panel acoustic contribution analysis
Invited  in12_1209.pdf
Authors: Sean F. Wu, Wayne State University; Logesh Kumar Natarajan, Wayne State University, Detroit, MI 48202

9:20  1248  Two-dimensional expression of sound by beamforming and acoustic holography: Their similarity and differences
Invited  in12_1248.pdf
Authors: Jung-Woo Choi, KAIST; Yang-Hann Kim, Department of Mechanical Engineering, KAIST
### Noise Policy Development, Education, Economics and Implementation:

#### 16.08 Mentoring in Acoustics Education

**Room:** Gilbert  
**Session Chairs:** Andy Harris, Eric Wood, Nick Miller

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<tr>
<td>10:00</td>
<td>1374</td>
<td>What is mentoring?</td>
<td>Invited</td>
<td>Nicholas P. Miller, Harris Miller Miller &amp; Hanson Inc.</td>
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<tr>
<td>10:20</td>
<td>1396</td>
<td>Mentoring -- A business model</td>
<td>Invited</td>
<td>Andrew S. Harris, Andrew S. Harris, Inc.; Eric W. Wood, Acentech</td>
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<td>10:40</td>
<td>1382</td>
<td>Mentoring for the engineering and consulting professions</td>
<td>Invited</td>
<td>Ben H. Sharp, Wyle</td>
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<td>11:00</td>
<td>1372</td>
<td>Mentoring - The future of our profession</td>
<td>Invited</td>
<td>James D. Barnes, Acentech Inc; Eric J. Wood, Acentech</td>
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<td>11:20</td>
<td>1397</td>
<td>Mentoring -- A career path</td>
<td>Invited</td>
<td>Andrew S. Harris, Andrew S. Harris, Inc.</td>
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### Inverse Approaches in Vibro-Acoustics: 13.03 Source tracking and control

**Room:** Gilbert  
**Session Chairs:** Antonio Concillio, Jeong-Guon Ih

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<td>13:20</td>
<td>104</td>
<td>Source localization in 3D urban environments using acoustic fingerprinting</td>
<td>Contributed</td>
<td>Brian Choi, Virginia Tech; Stephanie Pasareanu, Virginia Tech; Ricardo A. Burdisso, Virginia Tech</td>
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<td>13:40</td>
<td>242</td>
<td>Acoustic antenna calibration accuracy: A parametric investigation</td>
<td>Contributed</td>
<td>Orsola Petrella, Centro Italiano Ricerche Aerospaziali; Vincenzo Quaranta, CIRA-Centro Italiano Ricerche Aerospaziali; Salvatore Ameduri, CIRA-Centro Italiano Ricerche Aerospaziali; Giovanni Betta, University of Cassino</td>
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<td>14:00</td>
<td>1350</td>
<td>A novel passive SODAR for air traffic control</td>
<td>Contributed</td>
<td>Vincenzo Quaranta, Italian Aerospace Research Centre; Barbara Tiseo, Salvatore; Salvatore Amerduri, Donisi; D. Donisi, M. Bonamente</td>
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<tr>
<td>14:20</td>
<td>1370</td>
<td>Dynamic design of a mobile acoustic antenna for air traffic control</td>
<td>Contributed</td>
<td>P. Vitiello, Italian Aerospace Research Centre; A. Sorrentino, CIRA, Italian Aerospace Research Centre; V. Quaranta, CIRA, Italian Aerospace Research Centre</td>
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<td>14:40</td>
<td>1548</td>
<td>Acoustic beamforming: microphone phased array synthesis and development</td>
<td>Contributed</td>
<td>Mario Amoruso, University of Naples; Pietro Vinetti, University of Naples; Michele D’Urso, University of Naples; Vincenzo Quaranta, SELEX-SI; Vincenzo Quaranta</td>
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</table>
Tuesday, August 21, 2012

Industrial Noise:
9.06 Application of noise controls in the mining industry (joint INCE / ASME NCAD) Room: Gilbert
Session Chairs: Adam Smith, Hugo Camargo

15:20 457 The study of a continuous miner noise reduction by implementation of hydraulic conveyor tensioning system
Contributed in12_457.pdf
Authors: Marek L. Szary, Southern Illinois University; Peter Weber, Southern Illinois University; Joseph C. Hirschi, Illinois Clean Coal Institute

15:40 544 Development of a validated finite element model of a longwall cutting drum
Contributed in12_544.pdf
Authors: Hugo E. Camargo, NIOSH; David S. Yantek, NIOSH; Adam K. Smith, NIOSH

16:00 1502 Gyrotory rock crusher and asphalt plant sound power levels
Invited in12_1502.pdf
Authors: Henry A. Scarton, Rensselaer Polytechnic Institute; Kyle R. Wilt, Rensselaer Polytechnic Institute

16:20 1504 A drill rod Coulomb friction damper
Invited in12_1504.pdf ASME NCAD
Authors: Henry A. Scarton, Rensselaer Polytechnic Institute; Anne E. Guthry, Rensselaer Polytechnic Institute; Kyle R. Wilt, Rensselaer Polytechnic Institute

5th Floor:

Architectural Noise / Building Acoustics: 3.06 Acoustics of Lightweight Constructions Room: Salon 3
Session Chairs: Carl Hopkins, Trevor Nightingale

8:00 1230 On the accuracy of dynamic and acoustic analysis of lightweight panel structures: A comparison of ABAQUS and ANSYS
Contributed in12_1230.pdf ASME NCAD
Authors: Poul Henning Kirkegaard, Aalborg University; Lars Vabbersgaard Andersen, Aalborg University; Kristoffer Ahrens Dickow, Aalborg University

8:20 1281 Representation of flanking noise transmission within periodically distributed lightweight beam elements
Invited in12_1281.pdf
Authors: Parthkumar G. Domadiya, Aalborg University; Lars V. Andersen, Aalborg University; Sergey V. Sorokin, Aalborg University

8:40 1311 Holes interaction and heterogeneity effects for a multi-perforated plate
Contributed in12_1311.pdf
Authors: Rostand Tayong, Universite de Bourgogne; Philippe Leclaire, LRMA-DRIVE

9:00 1317 Vibro-acoustic prediction of flanking transmission in lightweight timber framed construction using SEA
Invited in12_1317.pdf
Author: Jean-Luc Kouyoumji, FCBA

9:20 1518 Prediction of sound transmission in complex timber-framed structures in the mid and high frequency range
Contributed in12_1518.pdf
Author: Gerard Borello, InterAC
<table>
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<th>Authors</th>
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<tr>
<td>10:00</td>
<td>734</td>
<td>Temporal and spectral characteristics of public address announcements in subway platforms with various finishing materials using computer simulation</td>
<td>Contributed in12_734.pdf Authors: Yong Hee Kim, National Institute of Advanced Industrial Science and Technology; Yoshiharu Soeta, Health Research Institute, National Institute of Advanced Industrial Science and Technology (AIST)</td>
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<tr>
<td>10:20</td>
<td>744</td>
<td>Investigations on multi-slope sound energy decays in domed structures</td>
<td>Contributed in12_744.pdf Authors: Zuhre Su Gul, Middle East Technical University; Ning Xiang, Graduate Program in Architectural Acoustics, School of Architecture, Rensselaer Polytechnic Institute, Troy, New York 12180; Mehmet Caliskan, Middle East Technical University, Department of Mechanical Engineering, Ankara, 06800, Turkey;</td>
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<td>10:40</td>
<td>748</td>
<td>Incorporation of double leaf micro perforated panels into Schroeder diffusers as a space absorber</td>
<td>Contributed in12_748.pdf Authors: Erinc Odabas, Middle East Technical University; Mehmet Caliskan, Middle East Technical University, Department of Mechanical Engineering, Ankara, 06800, Turkey</td>
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<td>11:00</td>
<td>824</td>
<td>Auditory spatial resolution studies of the Helsinki Music Centre</td>
<td>Invited in12_824.pdf Authors: Philip W. Robinson, Aalto University; Tapio Lokki, Aalto University; Antti Kuusinen, Aalto University; Jukka Patynen, Aalto University; Sakari Tervo, Aalto University; Lauri Savioja, Aalto University</td>
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<td>11:20</td>
<td>832</td>
<td>Absorption boundary conditions for geometrical acoustics</td>
<td>Invited in12_832.pdf Author: Cheol-Ho Jeong, Technical University of Denmark</td>
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<td>11:40</td>
<td>870</td>
<td>Lothar Cremer in Spain: His influence on the architect Garcia ed Paredes</td>
<td>Contributed in12_870.pdf Authors: Gonzalo Vallejo Ortega, Valladolid University; Jos Ignacio Sanchez Rivera, Department of Applied Physics. Architecture School. Valladolid (Spain)</td>
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<td>13:20</td>
<td>874</td>
<td>Acoustic study of Madrid Auditorio Nacional de ZMusica: Comparison between simulation and measurements</td>
<td>Contributed in12_874.pdf Authors: Gonzalo Vallejo Ortega, Valladolid University; Jos Ignacio Sanchez Rivera, Department of Applied Physics. Architecture School. Valladolid (Spain)</td>
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<tr>
<td>13:40</td>
<td>903</td>
<td>Measurements of sound absorption by seated orchestra in scale models</td>
<td>Invited in12_903.pdf Authors: Hyung Suk Jang, Hanyang University; Jin Yong Jeon, Health Research Institute, National Institute of Advanced Industrial Science and Technology, Osaka, Japan; Hanyang University, Department of Architectural Engineering</td>
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<td>14:00</td>
<td>964</td>
<td>Room impulse measurement and auralization with respect to source and receiver directivity</td>
<td>Gottfried K. Behler, Aachen University; Martin Pollow, RWTH Aachen University, Institute of Technical Acoustics; Pascal Dietrich, RWTH Aachen University, Institute of Technical Acoustics</td>
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<tr>
<td>14:20</td>
<td>1094</td>
<td>Auralization quality – Subjective and objective factors.</td>
<td>Pawel Malecki, AGH University of Science and Technology; Jerzy Wiciak, AGH University of Science and Technology; Jacek Wierzbicki, AGH University of Science and Technology; Roman Trojanowski, AGH University of Science and Technology</td>
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<tr>
<td>14:40</td>
<td>1500</td>
<td>Sound absorption characteristics of a discontinuous impedance plane composed of periodical absorptive and reflective strips</td>
<td>Kenichi Takebayashi, Kajima Technical Research Institute; Motoki Yairi, Kajima Technical Research Institute; Takashi Koga, Kajima Technical Research Institute</td>
</tr>
<tr>
<td>15:20</td>
<td>686</td>
<td>Acoustic and thermal insulation: A few points to beware of?</td>
<td>Marc Asselineau, Peutz and Associates; Aline Gaulupeau, PEUTZ &amp; Associates; Maud Serra, PEUTZ &amp; Associates</td>
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<tr>
<td>15:40</td>
<td>770</td>
<td>Acoustic waves accompanied with phase change at vapor-liquid interface</td>
<td>Takeru Yano, Osaka University</td>
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<tr>
<td>16:00</td>
<td>1062</td>
<td>Optimization of thermal and acoustical comfort: Study of the influence of the type of intelligent opening windows on the sound reduction index</td>
<td>Emmanuel Gourdon, DGCB-ENTPE</td>
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<td>16:20</td>
<td>1318</td>
<td>New energy efficient lightweight building technologies, acoustic and thermal interactions</td>
<td>Jean-Luc Kouyoumji, FCBA; Gilbert Achard, LOCIE - Université</td>
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<td>8:00</td>
<td>402</td>
<td>Measurement of outdoor sound propagation characteristics of municipal public address system using cross-spectrum method</td>
<td>Junichi Mori, Chiba Institute of Technology; Daisuke Yoshino, Graduate School, Chiba Institute of Technology; Fumiaki Satoh, Chiba Institute of Technology; Hideki Tachibana, Chiba Institute of Technology</td>
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</table>
8:20 403  On the improved point-to-point calculations for noise mapping in shielded urban areas
Invited in12_403.pdf
Authors: Maarten Hornikx, Chalmers University of Technology; Jens Forrsen, Applied Acoustics, Chalmers University of Technology, Sweden; Mikael Ogren, INTEC, Ghent University, Belgium; Dick Botteldooren, INTEC, Ghent University, Belgium; Timothy van Renterghem, INTEC, Ghent University, Belgium; Erik Salomons, VTI, Sweden; TNO Built Environment and Geosciences, the Netherlands

8:40 442  Outdoor sound propagation in complex 3D urban environments using a numerical hybrid method
Invited in12_442.pdf
Authors: Stephanie M. Pasareanu, Virginia Tech; Marcel C. Remillieux, Virginia Tech; Ricardo A. Burdisso, Virginia Tech

9:00 477  A case study on estimation technique of land cover classification using hyperspectral imaging data for outdoor acoustics simulations
Contributed in12_477.pdf
Authors: Yasuhiro Hiraguri, Tokyoyama College of Technology; Takuya Oshima, Faculty of Engineering, Niigata University, Japan; Kazuma Hoshi, Department of Construction, Nihon University Junior College, Japan; Masashi Imano, Graduate School of Engineering, The University of Tokyo, Japan

9:20 487  A basic investigation for prediction of outdoor sound propagation in large area using low-frequency FMBEM: Effect of shapes and distribution of objects on computational accuracy and efficiency
Contributed in12_487.pdf
Authors: Yosuke Yasuda, Kanagawa University; Kazutaka Higuchi, Faculty of Engineering, Kanagawa University; Hidehisa Sekine, Faculty of Engineering, Kanagawa University; Takuya Oshima, Faculty of Engineering, Niigata University

10:00 524  Measured ground effects influenced by meteorology
Contributed in12_524.pdf
Authors: Dieter Hohenwarter, TGM Institute of Technology; Erich Mursch-Radlgruber, Institute of Meteorology and Physics, University of Natural Resources and Applied Life Sciences, Vienna, Austria

10:20 568  An efficient approach to evaluate multiple scattering by foliage in a 3D-FDTD model
Contributed in12_568.pdf
Authors: L. Ding, Ghent University; T. Van Renterghem, Ghent University; D. Botteldooren, Ghent University

10:40 574  One-way approximation of the sound propagation in a urban canyon with irregular boundaries
Contributed in12_574.pdf
Authors: Jean-Baptiste Doc, Universite du Maine; Bertrand Lihoreau, Laboratoire d'Acoustique de l'Universit; Simon Felix, Laboratoire d'Acoustique de l'Universit

11:00 618  Comparison of different concepts to determine sound propagation conditions for measurements
Contributed in12_618.pdf
Authors: Christian Kirisits, University of Vienna; Helmut Kirisits, Kirisits Consulting Engineers
<table>
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<th>Type</th>
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<td>11:20</td>
<td>764</td>
<td><strong>Numerical predictions for sustainable development of cities: Acoustic propagation in presence of urban vegetation</strong></td>
<td>Invited</td>
<td>Gwenael Guillaume, Lunam Universite; Benoit Gauvreau, LUNAM Ifsttar; Nicolas Fortin, LUNAM Ifsttar</td>
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<td>11:40</td>
<td>932</td>
<td><strong>Report on the results of an experiment in a quarry in the western suburbs of Boston</strong></td>
<td>Invited</td>
<td>Roger Waxler, University of Mississippi; Xiao Di, Weston Geophysical Corporation; Carrick Talmadge, Defense Threat Reduction Agency; Claus Hetzer, National Center for Physical Acoustics at the University of Mississippi; Daniel Kleiner; National Center for Physical Acoustics at the University of Mississippi; Hank Buchanan, National Center for Physical Acoustics at the University of Mississippi; Jessie Bonner, National Center for Physical Acoustics at the University of Mississippi; Robert Reinke, National Center for Physical Acoustics at the University of Mississippi</td>
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<td>13:40</td>
<td>1024</td>
<td><strong>Sound propagation over an earthen noise barrier: Experiment and theory</strong></td>
<td>Invited</td>
<td>Santosh Parakkal, ERDC-CRREL-NH; Kenneth E. Gilbert, National Center for Physical Acoustics</td>
</tr>
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<td>14:00</td>
<td>1038</td>
<td><strong>A real-time sound propagation system for noise prediction in outdoor spaces</strong></td>
<td>Invited</td>
<td>Ravish Mehra, UNC Chapel Hill; Nikunj Raghuvanshi, Microsoft Research, Redmond; Lakulish Antani, Department of Computer Science, UNC Chapel Hill; Dinesh Manocha, Department of Computer Science, UNC Chapel Hill</td>
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<td>14:20</td>
<td>1044</td>
<td><strong>Numerical comparison of traditional noise screens and refractive graded index sonic crystal noise barriers in downwind sound propagation</strong></td>
<td>Contributed</td>
<td>Bart van der Aa, Chalmers University of Technology; Jens Forssen, Chalmers University of Technology</td>
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<td>14:40</td>
<td>1114</td>
<td><strong>Intelligent switching between different noise propagation algorithms: Analysis and sensitivity</strong></td>
<td>Contributed</td>
<td>Eric Boeker, U.S. Dept. of Transportation; Joyce Rosenbaum, Computer Sciences Corporation</td>
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<tr>
<td>15:00</td>
<td>1150</td>
<td><strong>Analysis of the outdoor noise propagation from a multipurpose ship, berthed near an urban residential area</strong></td>
<td>Contributed</td>
<td>Student Aglaia Badino, University of Genoa; Corrado Schenone, University of Genoa - DIME</td>
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<td>15:40</td>
<td>1163</td>
<td><strong>Fast computations of outdoor sound scattering using graphical processing hardware</strong></td>
<td>in12_1163.pdf</td>
<td>Donald G. Albert, US Army Engineer Research and Development Center; Lanbo Liu, University of Connecticut, Department of Civil and Environmental Engineering; Paul R. Eller, US Army Engineer Research and Development Center, Information Technology Laboratory; Jing-Ru C. Cheng, US Army Engineer Research and Development Center, Information Technology Laboratory</td>
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<tr>
<td>16:00</td>
<td>1177</td>
<td><strong>The effect of relative humidity on atmospheric attenuation calculation</strong></td>
<td>in12_1177.pdf</td>
<td>Huay Seen Lee, RWDI AIR Inc</td>
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**Industrial Noise: 9.02 Noise Control for Petrochemical and Process Plants**  
Room: Lyceum/Carnegie  
Session Chairs: Jim Cowling, Jon Richards

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<td>8:00</td>
<td>244</td>
<td><strong>Centrifugal compressor piping noise - Field measurements and accurate noise modeling for process plants</strong></td>
<td>in12_244.doc</td>
<td>Jim Cowling, KBR; Jon Richards, KBR</td>
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<tr>
<td>8:20</td>
<td>245</td>
<td><strong>An improved method For air cooled heat exchanger shop noise testing</strong></td>
<td>in12_245.pdf</td>
<td>Sonia Garza, KBR; Farhana Lamis, KBR; Arindam Ghosh, KBR</td>
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<td>8:40</td>
<td>257</td>
<td><strong>Cost and performance optimization of atmospheric vent silencer system in process plants</strong></td>
<td>in12_257.pdf</td>
<td>Parimala Desai, KBR; Charu Jain, KBR; Amy Hinojosa, KBR</td>
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<td>9:00</td>
<td>261</td>
<td><strong>A novel laboratory method to measure the efficiency of acoustic insulation for pipes</strong></td>
<td>in12_261.pdf</td>
<td>Mark J. Swift, Armacell UK Ltd; Kirill V. Horoshenkov, School of Engineering, University of Bradford; Anton Krynkin, School of Engineering, University of Bradford; Amir Khan, School of Engineering, University of Bradford; George F. Rosala, School of Engineering, University of Bradford</td>
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9:20 407  The noise of the plant for the production of pipes. Analysis of changes in the noise in the surrounding area after one of the sources of noise attenuation
Contributed in12_407.pdf
Authors: Dmitry V. Chugunkov, National Research University; Vladimir B. Tupov, National Research University “Moscow Power Engineering Institute”

10:00 450  Evaluating and controlling noise from a metal shredder system
Invited in12_450.pdf

10:20 512  The latest acoustic engineering in the industrial plant
Contributed in12_512.pdf
Authors: Takahiro Hida, JGC Corp; Koji Ando, JGC Corporation

10:40 597  Coherence based simulation of the pipe sound radiation transition from sound decay of 3dB to 6dB per doubling of distance
Contributed in12_597.pdf
Authors: J. Adin Mann III, Fisher Controls International LLC; Allesandro Guariento, Fisher Controls International LLC; Allen C. Fagerlund, Fisher Controls International LLC; Daniel Eilers, Fisher Controls International LLC

11:00 619  Sound testing and analysis of small vent systems and effectiveness of equipment
Invited in12_619.pdf
Authors: Daniel Eilers, Emerson Process Management Fisher Valves; Allen C. Fagerlund, Emerson Process Management Fisher Valves

11:20 1337  Low-frequency tonal components in Caterpillar 36 series engine exhausts
Contributed in12_1337.pdf
Authors: David M. Jones, HFP Acoustical Consultants Inc.; Ronald R. Spillman, El Paso Corporation; Bill Thomas, HFP Acoustical Consultants Inc.

Architectural Noise / Building Acoustics: 3.11 Computational Techniques in Room and Building Acoustics  Room: Lyceum/Carnegie
Session Chairs: AM: Julieta António, Yun Jing, Monika Rychtarikova; PM: Monika Rychtarikova, Yun Jing

13:20 316  TLM modelling for room acoustics
Invited in12_316.pdf
Authors: Gwenael Guillaume, Luman Universite; Judica Picaut

13:40 514  The Anisotropic Reverberation Model (ARM) - A simplified method to calculate the sound energy decay and derived properties
Contributed in12_514.pdf
Authors: Stefan Drechsler, HafenCity-University Hamburg

14:00 630  Bayesian filter design for time-domain impedance representation in acoustic finite difference methods
Contributed in12_630.pdf
Authors: Jonathan Botts, Rensselaer Polytechnic Institute; Ning Xiang, Graduate Program in Architectural Acoustics, Rensselaer Polytechnic Institute
14:20 756 Characterization of scattering coefficients of periodical surfaces by numerical analysis
Invited in12_756.pdf
Authors: Hyojin Lee, The University of Tokyo; Tetsuya Sakuma, Graduate School of Frontier Sciences, University of Tokyo

14:40 877 Front back localization in rooms with uniform distribution of sound absorption
Invited in12_877.pdf
Authors: Vojtech Chmelik, STU Bratislava; Monika Rychtarikova, STU Bratislava; Janina Fels, RWTH Aachen; Christ Glorieux, KU Leuven

15:20 953 An energy diffusion model for interior acoustics with structural coupling using the boundary element method
Contributed in12_953.pdf ASME NCAD
Authors: Joseph M. Corcoran, Virginia Tech; Ricardo A. Burdisso, Department of Mechanical Engineering, Virginia Tech

15:40 968 Numerical simulation of transmission loss test facilities
Invited in12_968.pdf
Authors: Rafael Piscoya, University of Applied Sciences; Martin Ochmann, University of Applied Sciences Berlin, Beuth Hochschule

16:00 1056 Acoustic insulation of multilayered walls when subjected to sound produced by moving sources
Invited in12_1056.pdf
Authors: Antonio Tadeu, University of Coimbra; Julieta Antonio, University of Coimbra; Luis Godinho, University of Coimbra

16:20 1057 Simulating the performance of 3D indoor barriers using a 3D traction boundary element formulation
Invited in12_1057.pdf
Authors: Prof. Julieta Antonio, University of Coimbra; Antonio Tadeu, University of Coimbra; Igor Castro, ITeCons

16:40 1100 Objective and subjective assessment of scattered sound in a virtual acoustical environment simulated with three different algorithms.
Invited in12_1100.pdf
Authors: Louena Shtrepi, Politecnico di Torino; Sonke Pelzer, Aachen University, Institute of Technical Acoustics; Monika Rychtarikova, K.U. Leuven, Laboratory of Acoustics and Thermal Physics; Renzo Vitale, Aachen University, Institute of Technical Acoustics; Arianna Astolfi, Politecnico di Torino, Energy Department; Michael Vorlander, Aachen University, Institute of Technical Acoustics

Psycioacoustic Aspects in Noise Evaluation: 21.05 Psychoacoustics
Session Chairs: David Towers, Shankar Rajaram

8:00 558 Preference and loudness of multi-tone sounds
Invited in12_558.pdf
Authors: Stephan Toepken, Oldenburg University; Jesko L. Verhey, Magdeburg University - Department of Experimental Audiology; Reinhard Weber, Oldenburg University - Institute of Physics - Acoustics Group
Comparison of short-term noise annoyance assessment methods
Invited in12_766.pdf
Authors: Catherine Marquis-Favre, University of Lyon; Julien Morel, University of Lyon, Labex Celya, ENPTDEGB. Now at French Ministry of Ecology, Sustainable Development and Energy/Noise Mission.; Antoine Richez, University of Lyon, Labex Celya, ENPT-DEGB. Now at French Ministry of Ecology, Sustainable Development and Energy/DDT Loiret

8:40  772  Loudness models in the very low frequency range: Application to the prediction of airplane cockpit noise comfort
Invited in12_772.pdf
Authors: Parizet, Laboratoire Vibrations Acoustique; F. Lerme, LVA, INSA-Lyon, F-69621, France; Y. Padayachi, LVA, INSA-Lyon, F-69621, France; O. Collery, Airbus Operations SAS, Toulouse, France

9:00  825  Loudness model extension improving predictions for broadband sounds
Contributed in12_825.pdf
Authors: Josef Schlittenlacher, TU Darmstadt; Wolfgang Ellermeier, TU Darmstadt; Takeo Hashimoto, Seikei University

9:20  1428  Auditory detection of infrapitch signals for several spatial configurations of pink noise maskers
Contributed in12_1428.pdf
Authors: Gregory H. Wakefield, The University of Michigan; Agnieszka Roginska, New York University; Thomas Santoro, Naval Submarine Medical Research Laboratory

Inverse Approaches in Vibro-Acoustics: 13.02 Beamforming
Room: Alvin/Edison
Session Chairs: Mingsian Bai

10:00  11  Binaural noise reduction based on widely linear filtering with multiple microphones
Invited in12_11.pdf
Authors: Jingdong Chen, Northwestern Polytechnical University; Jacob Benesty, INRS-EMT, University of Quebec

10:20  287  Convex optimization-based microphone array signal processing
Invited in12_287.pdf
Authors: Mingsian R. Bai, National Tsing Hua University; Ching-Cheng Chen, National Tsing Hua University

10:40  1375  Refined beamforming with increased spatial resolution
Invited in12_1375.pdf
Authors: Svend Gade, Brüel & Kjær Sound & Vibration Measurements A/S; Jorden Hald, Br; Bernard Ginn, Br

11:00  1391  Partial sound decomposition for beamforming in multiple incoherent sources
Invited in12_1391.pdf
Authors: Koo-Hwan Kim, KAIST; Jung-Woo Choi, Department of Mechanical Engineering, KAIST; Yang-Hann Kim, Department of Mechanical Engineering, KAIST

11:20  227  Sound source separation by using adaptive time reversal method
Invited in12_227.pdf
Authors: Gee-Pinn James Too, National Cheng Kung University; Bo-Hsien Wu, National Cheng Kung University
## Tuesday, August 21, 2012

### 11:40 183

**A hybrid scheme for localization and separation for multiple noise sources using microphone array**

Contributed in12_183.pdf

Authors: Pengxiao Teng, Chinese Academy of Sciences; Rilin Chen, Institute of acoustics, Chinese Academy of Sciences; Yichun Yang, Institute of acoustics, Chinese Academy of Sciences

### 15:20 722

**Uncertainty estimation of phase mapping technique by beamforming and monopole substitution**

Contributed in12_722.pdf

Authors: Paolo Castellini, Universita Politecnica delle Marche; Francesca Sopranzetti, DIISM, UNIVPM

### 15:40 967

**Application of noise separation techniques on sound source localization**

Contributed in12_967.pdf

Authors: Lanslots, LMS International; Karl Janssens, MICRODB; Olivier Minck, MICRODB; Lucille Lamotte, LMS

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### Psychoacoustic Aspects in Noise Evaluation:

#### 21.04 Psycho Acoustic Approach to Noise Problems in Daily Life

**Room: Alvin/Edison**

Session Chairs: Hugo Fastl, Sonoku Kuwano

#### 16:00 114

**Subjective responses to aircraft noise using picture frustration study**

Invited in12_114.pdf

Authors: Sonoko Kuwano, Osaka University; Seiichiro Namba, Osaka University; Ichiro Yamada, Airport Environment Improvement Foundation; Hisashi Yoshioka, Airport Environment Improvement Foundation; Makoto Morinaga, Defense Facilities Environment Improvement Association

#### 16:20 258

**Reduction effect of time interval between noise events on the noisiness of aircraft noise**

Invited in12_258.pdf

Authors: Makoto Morinaga, Defense Facilities Environment Improvement Association; Hidebumi Tsukioka, Defense Facilities Environment Improvement Association; Jiro Kaku, Kobayasi Institute of Physical Research; Sonoko Kuwano, Osaka University; Seiichiro Namba, Osaka University

#### 16:40 295

**Psychoacoustic evaluation of noises produced by propellers with asymmetrical blade spacing**

Invited in12_295.pdf

Authors: Hugo Fastl, TU München; Ingeborg Stemplinger, AG Technische Akustik

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### Railway Noise and Vibration: 19.01 Railway Noise and Vibration

**Room: Booth**

Session Chairs: Shankar Rajaram, David Towers

#### 8:00 1378

**The importance of vehicle throttle setting information for rail transit noise impact assessments**

Invited in12_1378.pdf

Authors: Timothy M. Johnson, Harris Miller Miller & Hanson Inc.; David A. Towers, Harris Miller Miller & Hanson Inc.
8:20 1174  Corrugation and rail noise
Invited in12_1174.pdf
Authors: Andrew Wong, ATS Consulting; Steven Wolf, ATS Consulting

8:40 151  German and European measurements to abate railway noise
Contributed in12_151.pdf
Authors: Rene Weinandy, Federal Environment Agency; Thomas Myck, Federal Environment Agency

9:00 1034  Standardization of damping technologies for the reduction of railway noise - STARDAMP
Contributed in12_1034.pdf
Authors: Helmut Venghaus, Schrey&Veit GmbH; , DB Systemtechnik; , Vibratec; , SNCF; , ISVR; , TATA Steel

9:20 102  Quantitative estimation of the influence of surrounding construction on wayside railway-noise level
Contributed in12_102.pdf
Authors: Hidetoshi Saito, West Japan Railway Company; Kiyoshi Nagakura, Railway Technical Research Institute; Yukie Ogata, Railway Technical Research Institute

10:00 315  Sound source model of rail-joint noise for noise prediction of conventional railways
Contributed in12_315.pdf
Authors: Tomohiro Kobayashi, Chiba Institute of Technology; Sakae Yokoyama, Institute of Industrial Science, the University of Tokyo; Hiroo Yano, Chiba Institute of Technology; Hideki Tachibana, Chiba Institute of Technology

10:20 1083  Procedures for estimating environmental impact from railway induced vibration: A review
Contributed in12_1083.pdf ASME NCAD
Authors: Jorge Avillez, URS; Matthew Frost, Loughborough University; Steve Cawser, URS; Chris Skinner, Loughborough University; Ashraf El-Hamalawi, Loughborough University; Paul Fleming, URS; Paul Shields, URS

10:40 186  Guideline for the evaluation of vibrations by rail transport in the Netherlands
Contributed in12_186.pdf
Author: Jan Van den Brink, ProRail

11:00 1136  Getting more with more: Leveraging project-available data to enhance groundborne noise and vibration predictions
Contributed in12_1136.pdf
Author: Gary M. Glickman, Wilson Ihrig & Associates

11:20 436  Railway floating slab track design: Review of specification for elastomeric springs
Contributed in12_436.pdf
Authors: Shankar Rajaram, ATS Consulting; Hugh Saurenman, ATS Consulting; David A. Dillard, Virginia Tech
Tuesday, August 21, 2012

11:40  143  RECYTRACK Project: Elastomeric eco-friendly material based on end-of-life tires blended with organic bind resin for railway applications
Contributed in12_143.pdf
Authors: Joan Cardona, AV Ingenieros; Rafael Torres, LEAM - Technical University of Catalonia; Montse Polo, AV Ingenieros; Robert Arcos, AV Ingenieros

Flow Induced Noise and Vibration: 24.01 Flow / Aero Acoustics (ASME NCAD)  
Room: Booth  
Session Chairs: Brent Paul, Kristin Cody

13:20  195  Wall pressure phase velocity measurements in a turbulent boundary layer
Contributed in12_195.pdf  ASME NCAD
Authors: Teresa S. Miller, Bombardier Learjet Inc; Mark J. Moeller, Bombardier Aerospace

13:40  581  Combined PIV-PLIF study of sinusoidal flow past a stationary heated circular cylinder
Contributed in12_581.pdf
Authors: Rani Taher, McGill University; Shahin Amiri, McGill University; Luc Guy Mongeau, McGill University

14:00  678  High and mid frequency wind noise load identification for statistical energy analysis
Contributed in12_678.pdf
Authors: Fumihiko Kosaka, Mitsubishi Motors Corp; Yasuhiko Okutsu, Mitsubishi motors corporation; Naoki Hamamoto, Mitsubishi motors corporation; Hirotaka Shiozaki, Mitsubishi motors corporation

14:20  749  Finite difference lattice Boltzmann simulations of flows past two circular cylinders in tandem arrangement
Contributed in12_749.pdf
Authors: Katsuji Akamatsu, Machinery Acoustics; Michihisa Tsutahara, Kobe University

2:40  838  Sound propagation in a sheared flow based on fluctuating total enthalpy as generalized acoustic variable
Contributed in12_838.pdf  ASME NCAD
Authors: Candidate Cesar Legendre, Free Field Technologies S.A.; Gregory Lielens, Free Field Technologies S.A.; Jean-Pierre Coyette, Free Field Technologies S.A.

15:00  1006  Acoustics of corrugated pipes using large-eddy simulation
Contributed in12_1006.pdf
Authors: B. Rajavel, Stevens Institute of Technology; M.G. Prasad, Stevens Institute of Technology

Flow Induced Noise and Vibration: 24.05 Piping and Duct Acoustics  
Room: Booth  
Session Chairs: Marehalli G. Prasad, Goran Pavlid

15:40  434  Numerical and experimental characterization of oscillatory flows over a flat spoiler in a duct
Contributed in12_434.pdf
Authors: Kaveh Habibi, McGill University; Yasser Rafat, Department of Mechanical Engineering, McGill University; Luc Mongeau, Department of Mechanical Engineering, McGill University; Rani Taher, Department of Mechanical Engineering, McGill University
An extension of the low reduced frequency model for viscothermal acoustic propagation within waveguides
Contributed in12_853.pdf ASME NCAD
Authors: Clement Sambuc, Free Field Technologies S.A.; Gregory Lielens, Free Field Technologies S.A.; Jean-Pierre Coyette, Free Field Technologies S.A.

Study of wall thickness and material effect on acoustic wave propagation in water-filled piping
Contributed in12_1131.pdf ASME NCAD
Authors: Alireza Mokhtari, University of Manitoba; Vijay Chatoorgoon, University of Manitoba

Acoustic propagation in a lined duct using a wave expansion method
Contributed in12_1299.pdf
Authors: Ciaran J. O’Reilly, KTH Royal Institute of Technology

Micro electro-mechanical devices used as vibration sensors. Measurements and comparison with traditional accelerometers.
Contributed in12_432.pdf
Author: Alessandro Sabato, Universita della Calabria

Acoustical design and qualification of reverberation rooms
Contributed in12_94.pdf
Author: Jerry Lilly, JGL Acoustics, Inc.

Source visualization by using statistically optimized near-field acoustical holography in conical coordinates
Contributed in12_214.pdf
Authors: Yong Thung Cho, Kyungil University; J. Stuart Bolton, Ray W. Herrick Labs, Purdue University

Measurement of vibrotactile thresholds on the fingertip to assess presentation of musical notes for people with and without a hearing impairment
Contributed in12_275.pdf
Authors: Carl Hopkins, University of Liverpool; Saul Mate-Cid, University of Liverpool; Gary Seiffert, University of Liverpool; Robert Fulford, RNCM; Jane Ginsborg, RNCM

Condition monitoring of slow rotating bearing using statistical approach
Contributed in12_383.pdf ASME NCAD
Author: Sylvester A. Aye, University of Pretoria

Loudspeakers designed for increased intelligibility despite lower sound pressure levels
Contributed in12_1553.pdf
Authors: Thomas Lago, QirraSound Technologies LLC; Tierry Budge, QirraSound Technologies; Alan Boyer, QirraSound Technologies; Arthur Osgatharp, QirraSound Technologies
10:20 520  Study on acoustic characteristics of lined duct (Comparison between experiment and BEM analysis using Impedance of absorbent measured by Impedance tube)
Contributed in12_520.pdf
Author: Kunihiko Ishihara, The University of Tokushima

10:40 788  Measurement of dynamic properties of jointed structures using flexural wave propagation
Contributed in12_788.pdf
Authors: Jeongwon Park, Hanyang University; Deokman Kim, Hanyang University; Junhong Park, Agency for Defense Development; Man Hoi Koo, Hanyang University

11:00 812  Experimental characterization of a car window excited by turbulent flow using scanning sound intensity techniques
Contributed in12_812.pdf  ASME NCAD
Authors: Daniel Fernandez Comesana, Microflown Technologies; Eduardo Latorre Iglesias, Institute of Sound and Vibration Research; Malcolm Smith, Institute of Sound and Vibration Research; Hans-Elias de Bree, Microflown Technologies

11:20 867  Measurement technique with portable and wireless measurement instruments for multi-point measurements and architectural acoustic.
Contributed in12_867.pdf
Authors: Yasutaka Nakajima, Rion Co., Ltd.; Yu Kurosawa, Rion Co., Ltd.; Naru Sato, Rion Co., Ltd.; Yuichi Yonemoto, Rion Co., Ltd.; Toshihiro Ueta, Rion Co., Ltd.; Ryota Hotta, Rion Co., Ltd.; Michinari Okazaki, Rion Co., Ltd.; Masaharu Ohya, Rion Co., Ltd.; Kiyokatsu Iwahashi, Rion Co., Ltd.

13:20 871  Method of determination of sound absorption properties of materials in frequency range above 4,000 Hz
Contributed in12_871.pdf
Authors: Dariusz Pleban, Central Institute for Labour Protection; Bozena Smagowska, Central Institute for Labour Protection-National Research Institute

13:40 1178  Design and performance of acoustical testing center of Cummins Power Generation
Invited in12_1178.pdf
Authors: Shashikant More, Cummins Power Generation; Martin Myers, Industrial Acoustics Company (IAC); Victor Clemente, Cummins Power Generation

14:00 1204  Methodology for identification of sound radiation patterns outside a refrigeration compressor
Contributed in12_1204.pdf
Authors: Daniel Chica Velasquez, Universidad Nacional de Colombia; John Alejandro Soto Gomez, Grupo de Investigaci

14:20 1223  InsSitu noise insulation determination of anechoic chamber partitions
Contributed in12_1223.pdf
Author: Charles Oppenheimer, Hewlett-Packard

14:40 1360  Impedance tube specimen preparation And mounting issues
Contributed in12_1360.pdf
Author: Dan R. Stanley, 3M EAR Specialty Composites
<table>
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<tr>
<th>Time</th>
<th>ID</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>15:00</td>
<td>1381</td>
<td>Determination of volume fractions in a two-phase flow from sound speed measurements</td>
<td>Authors: Anirban Chaudhuri, Los Alamos National Laboratory; Curtis F. Osterhoudt, Los Alamos National Laboratory; Dipen N. Sinha, Los Alamos National Laboratory</td>
</tr>
<tr>
<td>15:40</td>
<td>1425</td>
<td>Reverberation room conversion: Design and results</td>
<td>Authors: Michael A. Sanderson, Chrysler LLC; Taner Onsay, Chrysler LLC; Dilal Rhazi, Chrysler LLC</td>
</tr>
<tr>
<td>16:00</td>
<td>1429</td>
<td>Connecting the singular values of an input cross-spectral density matrix to noise sources in a diesel engine</td>
<td>Authors: Michael D. Hayward, Purdue University; J. Stuart Bolton, Ray W. Herrick Laboratories, Purdue University; Patricia Davies, Ray W. Herrick Laboratories, Purdue University</td>
</tr>
<tr>
<td>16:20</td>
<td>1496</td>
<td>Assessing sound directivity of ducts in a diffuse field</td>
<td>Authors: Andrey Ricardo da Silva, Federal University of Santa Maria; Eric Brandao Carneiro, Federal University of Santa Maria; Stephan Paul, Federal University of Santa Maria</td>
</tr>
<tr>
<td>16:40</td>
<td>465</td>
<td>Development of digital monitoring and diagnoses system of shafting torsional vibration</td>
<td>Authors: Yi-Bin Guo, Harbin Engineering University; Wan-You Li, Harbin Engineering University; Doug-Hua Wang, Harbin Engineering University; Peng-Fei Cai, China Satellite Maritime Tracking and Control Department</td>
</tr>
</tbody>
</table>

**Aircraft and Space System Noise & Vibration:**

2.05 Aircraft Interior Noise - applications, strategies and test  
Room: Palace  
Session Chairs: Pascale Neple, Mark Downing

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<tr>
<th>Time</th>
<th>ID</th>
<th>Title</th>
<th>Authors</th>
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</thead>
<tbody>
<tr>
<td>8:00</td>
<td>1265</td>
<td>Application of Aircraft SEA Model - Correlation with flight test data and noise troubleshooting</td>
<td>Authors: Tongan Wang, Gulfstream Aerospace Corporation; John Maxon, Gulfstream Aerospace Corporation</td>
</tr>
<tr>
<td>8:20</td>
<td>1268</td>
<td>Integrated reception-plate inverse-force test method for commercial airplane equipment structure-borne noise specification and qualification</td>
<td>Author: Kevin Lai, The Boeing Company</td>
</tr>
<tr>
<td>8:40</td>
<td>1291</td>
<td>Aircraft soft mounts efficiency: Sensitivity to temperature and preloading</td>
<td>Authors: Pascale Neple, Airbus Operations SAS; Noureddine Atalla, GAUS Sherbrooke University; Maxime Bolduc, GAUS Sherbrooke University</td>
</tr>
</tbody>
</table>
### Preliminary results on the modeling of aircraft vibroacoustic comfort

**Contributed in:** 12_1327.pdf

**Authors:** Raquel Fava de Bitencourt, University of Sao Paulo; Luiz Fernando de Oliveira Chamon, USP; Sideto Futatsugi, Embraer - SA; Jurandir Itizo Yanagihara, UFSC; Samir Nagi Yousri Gerges, USP

### Dynamic response of a thin curved plate with PZT and shunted circuits

**Contributed in:** 12_1238.pdf

**Authors:** Xiang Chen, Chinese Academy of Sciences; Daoqing Chang, Key Laboratory of Noise and Vibration Research, Institute of Acoustics, Chinese Academy of Sciences; Bilong Liu, Key Laboratory of Noise and Vibration Research, Institute of Acoustics, Chinese Academy of Sciences

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**Noise and Health: 15.08 Noise and Hearing Loss**

**Room:** Palace

**Session Chairs:** Thais Morata, Deepak Prasher

<table>
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<tr>
<th>Time</th>
<th>Code</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>10:00</td>
<td>89</td>
<td>Military noise limits: How much is too much?</td>
<td>Bruce E. Amrein, U.S. Army Research Laboratory; Tomasz R. Letowski, U.S. Army Research Laboratory</td>
</tr>
<tr>
<td>10:40</td>
<td>453</td>
<td>Changing children’s MP3 and I-pod listening habits to prevent long term hearing loss: The Noise Abatement Society Love Your Ears programme</td>
<td>Gloria Elliott, Noise Abatement Society UK</td>
</tr>
<tr>
<td>11:00</td>
<td>469</td>
<td>Aural architecture or acoustic architect - How to teach acoustics to architecture students</td>
<td>Nurgun Tamer Bayazit, Rice University; Alexander Hohman, Rice University, School of Architecture; Renne Reder, Rice University, School of Architecture</td>
</tr>
<tr>
<td>11:20</td>
<td>624</td>
<td>Towards evidence-based hearing loss prevention</td>
<td>Thais C. Morata, National Institute for Occupational Safety and Health</td>
</tr>
<tr>
<td>11:40</td>
<td>875</td>
<td>Industrial sources of noise in the frequency range 10-40 kHz</td>
<td>Smagowska Bozena, Central Institute for Labour Protection</td>
</tr>
</tbody>
</table>
13:20 754  Transportation noise (in particular railway noise) and blood pressure in REGICOR compared to SAPALDIA
Invited in12_754.pdf
Authors: Maria Foraster, Universitat Pompeu Fabra; Xavier Basagana, Swiss Tropical and Public Health Institute Basel, Switzerland; Inmaculada Aguilera, Swiss Tropical and Public Health Institute Basel, Switzerland; David Agis, Centre for Research in Environmental Epidemiology (CREAL), Hospital del Mar Research Institute (IMIM), CIBER Epidemiologia y Salud P; Laura Bouso, Centre for Research in Environmental Epidemiology (CREAL), Hospital del Mar Research Institute (IMIM), CIBER Epidemiologia y Salud P; Harish Phuleria, GREFEMA (Grup de Recerca en Enginyeria de Fluids, Energia i Medi Ambient), University of Girona (UdG), Girona, Spain; Maria Kunzli, Swiss Tropical and Public Health Institute Basel, Switzerland; Nino Kunzli, Swiss Tropical and Public Health Institute Basel, Switzerland

1:40 384  Road traffic noise and risk for stroke and myocardial infarction
Invited in12_384.pdf
Authors: Mette Sorensen, Danish Cancer Society; Zorana J. Andersen, Danish Cancer Society Research Centre, Strandboulevarden 49, 2100 Copenhagen; Rikke B. Nordsborg, Danish Cancer Society Research Centre, Strandboulevarden 49, 2100 Copenhagen; Anne Tjonneland, Ramb; Ole Raaschou-Nielsen, Danish Environmental Protection Agency, Copenhagen, Denmark; Kenneth G. Lillelund, Danish Cancer Society Research Centre, Strandboulevarden 49, 2100 Copenhagen; Jorgen Jakobsen, Department of Epidemiology, School of Public Health, Aarhus University, Aarhus, Denmark; Kim Overvad, Danish Cancer Society Research Centre, Strandboulevarden 49, 2100 Copenhagen

14:00 590  Cardiovascular effects of the combined exposure to noise and outdoor air pollution: A review
Invited in12_590.pdf
Authors: Jurgita Lekaviciute, European Commission; Yvonne de Kluizenaar, TNO, Department of Urban Environment, Delft, The Netherlands; Helga Elvira Laszlo, MRC-HPA Centre for Environment and Health, Department of Epidemiology and Biostatistics, Imperial College London, UK; Anna Hansell, MRC-HPA Centre for Environment and Health, Department of Epidemiology and Biostatistics, Imperial College London, UK; Sarah Floud, MRC-HPA Centre for Environment and Health, Department of Epidemiology and Biostatistics, Imperial College London, UK; Peter Lercher, Department of Hygiene, Microbiology and Social Medicine, Division of Social Medicine, Medical University Innsbruck, Austria; Wolfgang Babisch, Department of Environmental Hygiene, Federal Environmental Agency, Germany; Stylianos Kephalopoulos, European Commission - Joint Research Centre, Institute for Health and Consumer Protection, Chemical Assessment and Testing Unit, Ispra, Italy
14:20  526  Exposure modifiers of the relationships between road traffic noise and aircraft noise with high blood pressure (HYENA study)
Invited  in12_526.pdf
Authors: Wolfgang Babisch, Federal Environment Agency; Danny Houthuijs, The National Institute for Public Health and the Environment (RIVM), Bilthoven, The Netherlands; Wim Swart, The National Institute for Public Health and the Environment (RIVM), Bilthoven, The Netherlands; Konstantina Dimakopoulou, Imperial College London, London, United Kingdom; Panayota Sourtzi, National and Kapodistrian University of Athens (Medical School), Athens, Greece; Jenny Selander, National and Kapodistrian University of Athens (Nurses School), Athens, Greece; Gosta Bluhm, Karolinska Institute, Stockholm, Sweden; Ennio Cadum, Karolinska Institute, Stockholm, Sweden; Sarah Floud, Piedmont Regional Environmental Protection Agency, Grugliasco, Italy; Anna L Hansell, Imperial College London, London, United Kingdom

14:40  956  Environmental noise and cardiovascular disease - Observations on a well know dose-response relationship
Contributed  in12_956.pdf
Authors: H.E. Laszlo, Imperial College London; B.F. Berry, Berry Environmental Ltd, Shepperton, UK; P. Abbott, AECOM Ltd, Glasgow, UK; A.L. Hansell, Imperial College London, London, UK

Aircraft and Space System Noise & Vibration:
2.09 Launch and Space Vehicle Noise and Vibration  Room: Palace
Session Chairs: Haisam Osman, Micah Shepherd

15:20  158  Acoustic measurements of an uninstalled spacecraft cabin ventilation fan prototype
Contributed  in12_158.pdf
Authors: L. Danielle Koch, NASA Glenn Research Center; Clifford A. Brown, NASA Glenn Research Center; Tony D. Shoch, NASA Glenn Research Center; James Winkel, NASA Glenn Research Center; John S. Kolacz, NASA Glenn Research Center; Devin M. Podboy, Gilcrest, Inc.; Raymond A. Loew, Sierra Lobo, Inc.; Julius H. Loew, Sierra Lobo, Inc.

15:40  447  Mid-high frequency vibroacoustic modeling and correlation of Orion Ground Test Article
Contributed  in12_447.pdf
Author: Indranil Dandaroy, Lockheed Martin Space Systems Company

16:00  1127  Advanced acoustic measurement system for rocket noise source characterization
Invited  in12_1127.pdf
Authors: Michael M. James, Blue Ridge Research and Consulting, LLC; Kent L. Gee, Brigham Young University

16:40  1286  Sound transmission loss of orthotropic sandwich panels with soft core and noise control treatment
Invited  in12_1286.pdf
Authors: Sebastian Ghinet, National Research Council Canada; Haisam A. Osman, United Launch Alliance, System Analysis and Integration
Low Frequency Noise, Vibration and Shock: 10.01 Low Frequency Noise - Airborne, structure-borne, and ground (joint INCE / ASME NCAD)  
Room: Uris/Plymouth  
Session Chairs: Jeff Vipperman, Eric Myer

8:00  216  
Assessment of active electroacoustic absorbers as low frequency modal dampers in rooms  
Contributed: in12_216.pdf  
Authors: Herve Lissek, Ecole Polytechnique Federale de Lausanne; Romain Boulangert, Ecole Polytechnique Federale de Lausanne; Etienne Rivet, Ecole Polytechnique Federale de Lausanne; Iris Rigas, Ecole Polytechnique Federale de Lausanne

8:20  284  
Regression analysis on wind noise effects for low frequency sound measuring in natural wind  
Contributed: in12_284.pdf  
Authors: Noboru Kamiakito, Civil Engineering and Eco-Technology Consultants Co. Ltd.; Masayuki Shimura, Civil Engineering and Eco-Technology Consultants Co. Ltd.; Atushi Aoki, Civil Engineering and Eco-Technology Consultants Co. Ltd.; Kengo Tateishi, Civil Engineering and Eco-Technology Consultants Co. Ltd.; Hisashi Niwa, Civil Engineering and Eco-Technology Consultants Co. Ltd.; Takashi Nomura, Department of Civil Engineering, College of Science and Technology, Nihon University; Hiroshi Hasebe, Department of Civil Engineering, College of Science and Technology, Nihon University; Toshikazu Osafune, Nippon Expressway Research Institute Co. Ltd.; Shiniti Terazono, Aco Co. Ltd.; Yasuhiko Kawasaki, Sonic Corporation; Yoshiki Ito; Takaaki Hayashi; Yoshinori Iwai

8:40  421  
Mitigation of open-air explosions by blast absorbing barriers and foam  
Contributed: in12_421.pdf  
Authors: Frits van der Eerden, Netherlands Organisation for Applied Scientific Research; Erik Carton, TNO - Netherlands Organisation for Applied Scientific Research

9:00  1249  
Prediction of low frequency sound fields in buildings near railway lines  
Contributed: in12_1249.pdf  
Authors: Albano Neves e Sousa, Technical University of Lisbon; Isabel Lopes, UALG; Ana Carreira, UTL-IST

9:20  1490  
Vibrational and acoustical analysis of trussed railroad bridge under moving loads  
Contributed: in12_1490.pdf  
Authors: R. Daniel Costley, US Army Engineer Research & Development Center; Henry Diaz-Alvarez, US Army Engineer Research & Development Center; Mihan H. McKenna, US Army Engineer Research & Development Center

Architectural Noise / Building Acoustics: 3.09 Speech Privacy  
Room: Uris/Plymouth  
Session Chairs: Kenric Van Wyk, Jorge Patricio

10:00  1042  
Achieving speech privacy in challenging open office environments  
Contributed: in12_1042.pdf  
Authors: Erik J. Ryerson, Shen Milsom & Wilke, LLC; Thomas Rafferty, Shen Milsom & Wilke, LLC

10:20  1192  
Designing partial-height partitions for speech privacy using appropriate metrics  
Invited: in12_1192.pdf  
Authors: Benjamin M. Shafer, Conestoga-Rovers & Associates
10:40 1445 Open office acoustics: History, projects, and standards  
Invited: in12_1445.pdf  
Authors: R. Kring Herbert, Ostergaard Acoustical Associates

11:00 1481 Case study about speech privacy of integrated furniture in an open-plan office  
Invited: in12_1481.pdf  
Authors: Jean-Philippe Migneron, GRAP Universite Laval; Jean-Gabriel Migneron, GRAP Universite Laval

11:20 1484 Evaluating acoustical comfort and speech privacy in the design of small and large open space offices and industrial halls  
Invited: in12_1484.docx  
Authors: Giora Rosenhouse, Technion - Israel Inst. Technology

13:20 209 Dynamic sound source for simulating the Lombard effect in room acoustic modeling software  
Invited: in12_209.pdf  
Authors: Jens Holger Rindel, Odeon A/S; Claus Lynge Christensen, Odeon A/S; Anders Christian Gade, Gade & Mortensen Akustik

13:40 246 Inverse problems and auralization  
Invited: in12_246.pdf  
Author: Jason E. Summers, Applied Research in Acoustics LLC

14:00 391 Audible reflection density for different late reflection criteria in rooms  
Invited: in12_391.pdf  
Authors: Donata Krueger, Technical University of Denmark; Cheol-Ho Jeong, Department of Electrical Engineering, Acoustic Technology, Technical University of Denmark, DK-2800 Kongens Lyngby, Denmark; Jonas Brunskog, Department of Electrical Engineering, Acoustic Technology, Technical University of Denmark, DK-2800 Kongens Lyngby, Denmark; Jorg Buchholz, Department of Electrical Engineering, Acoustic Technology, Technical University of Denmark, DK-2800 Kongens Lyngby, Denmark

14:20 428 Spatial and temporal resolution in simulations with geometrical acoustics  
Invited: in12_428.pdf  
Authors: Michael Vorlaender, Aachen University; Soenke Pelzer, RWTH Aachen University;

14:40 652 Effective rendering of ambient sounds in virtual auditory display  
Invited: in12_652.pdf  
Authors: Yukio Iwaya, Tohoku Gakuin University; Makoto Otani, Shinshu University; Yoiti Suzuki, Tohoku University

15:20 978 An interactive auralization method using real-time sound sources  
Invited: in12_978.pdf  
Authors: Josefin Lindebrink, Tyrens AB; Jens Forssen, Division of Applied Acoustics, Chalmers University of Technology

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**Noise and Health: 15.06 Auralization of Source and Field in the Design Stage**  
Room: Uris/Plymouth  
Session Chairs: Cheol-Ho Jeong, Michael Vorlaender
### Aircraft and Space System Noise & Vibration:

#### 2.03 Aeroacoustics and Jet Noise - Measurement and control

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<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>8:00</td>
<td>Invited</td>
<td>Noise reduction in three-stream jets</td>
<td>Dimitri Papamoschou, University of California, Irvine; Andrew D. Johnson, University of California, Irvine</td>
</tr>
<tr>
<td>8:20</td>
<td>Invited</td>
<td>A laboratory framework for synchronous near/far-field acoustics and mHz PIV in high-temperature, shock-containing, jets</td>
<td>N. Murray, University of Mississippi; G. Lyons, U. of Mississippi - National Center for Physical Acoustics; C.E. Tinney, U. of Texas at Austin; B. Donald, U. of Texas at Austin; W.Baars, Auburn U.; B.Thurow, Auburn U.; H. Haynes, Combustion Research and Flow Technology, Inc.; P. Panickar</td>
</tr>
<tr>
<td>8:40</td>
<td>Invited</td>
<td>High subsonic jet flow physics and noise</td>
<td>Zachary P. Berger, Syracuse University; Kerwin R. Low, Syracuse University; Mark N. Glauser, Spectral Energies LLC; Stanislav Kostka, Institut PPRIME, CNRS, Universit de Poitiers; SivaramGogineni, Institut PPRIME, CNRS, Universit de Poitiers; Laurent Cordier, Spectral Energies LLC; Bernd R. Noack, Syracuse University</td>
</tr>
<tr>
<td>9:00</td>
<td>Invited</td>
<td>Noise measurements in the near field of a high-performance military jet aircraft</td>
<td>Alan T. Wall, Brigham Young University; Kent L. Gee, Brigham Young University Department of Physics and Astronomy; Tracianna B. Neilson, Brigham Young University Department of Physics and Astronomy; Michael M. James, Blue Ridge Research and Consulting; Kevin A. Bradley, Blue Ridge Research and Consulting; Sally A. Mclnerny, Blue Ridge Research and Consulting</td>
</tr>
<tr>
<td>9:20</td>
<td>Invited</td>
<td>Azimuthal mode decomposition of supersonic jets</td>
<td>Ching-Wen Kuo, The Pennsylvania State University; Christopher D. Gumke, Department of Aerospace Engineering, The Pennsylvania State University; Dennis K. McLaughlin, Department of Aerospace Engineering, The Pennsylvania State University</td>
</tr>
</tbody>
</table>
10:00 368 Using chevrons and fluidic injection to reduce supersonic jet noise
Invited in12_368.pdf
Authors: Jeff Kastner, University of Cincinnati; Nick Heeb, University of Cincinnati; Ephraim Gutmark, University of Cincinnati; Junhui Liu, Naval Research Laboratory; Kailas Kailasanath, Naval Research Laboratory

10:20 1194 Geometric near-field characteristics of supersonic jets: Full-scale and laboratory scales
Contributed in12_1194.pdf
Authors: Shanell C. Reynolds, Brigham Young University; Jazmin S. Myres, Brigham Young University Department of Physics and Astronomy; Tracianne B. Neilsen, Brigham Young University Department of Physics and Astronomy; Alan T. Wall, Brigham Young University Department of Physics and Astronomy; Kent L. Gee, Brigham Young University Department of Physics and Astronomy; Micheal M. James, Blue Ridge Research and Consulting

10:40 706 Outdoor noise test of revised notched nozzle
Contributed in12_706.pdf
Authors: Tatsuya Ishii, Japan Aerospace Exploration Agency; Nozomi Tanaka, IHI Corporation; Tsutomu Oishi, IHI Corporation; Hideshi Oinuma, Japan Aerospace Exploration Agency; Kenichiro Nagai, Japan Aerospace Exploration Agency; Satoru Nakamura, Tokyo University of Science; Yutaka Ishii, B&K Japan

11:00 798 Mixing Device by Sharp-Edge Nails
Contributed in12_798.pdf
Authors: Satoru Nakamura, Tokyo University of Science; Tatsuya Ishii, Japan Aerospace Exploration Agency; Hitoshi Ishikawa, Tokyo University of Science

11:20 704 The application of microphone array system and numerical fluid algorithm for jet propulsion wind tunnel noise prevention
Contributed in12_704.pdf
Authors: Zhao-Cheng Zhuo, National Chiao Tung University; Yu-Cheng Lin, Department of Mechanical Engineering, National Chiao Tung University; Wei-Hsiang Wang, Department of Mechanical Engineering, National Chiao Tung University; Stone Cheng, Department of Mechanical Engineering, National Chiao Tung University; Wu-Shung Fu, Department of Mechanical Engineering, National Chiao Tung University

13:20 124 Analytical prediction of sound power radiated ahead of a transonic compressor or turbofan
Contributed in12_124.pdf
Authors: Serge Lewy, ONERA; Cyril Polacsek, ONERA

13:40 235 Numerical simulation of turbulence interaction noise applied to a serrated airfoil
Contributed in12_235.pdf
Authors: Cyril Polacsek, ONERA; Vincent Clair, ONERA; Thomas Le Garrec, ONERA; Gabriel Reboul, ONERA

14:00 422 Numerical simulation of sound absorption by turbulent jet flows using the Lattice-Boltzmann method
Contributed in12_422.pdf
Authors: Kaveh Habibi, McGill University; Luc Mongeau, Department of Mechanical Engineering, McGill University
Tuesday, August 21, 2012

Noise Policy Development, Education, Economics and Implementation:

16.02 Stakeholder Education and Public Awareness

Room: Royale

Session Chairs: Christian Popp, Margit Bonacker

15:20 286 Interaction with stakeholders around urban and airport noise management solutions
Invited in12_286.pdf
Authors: Douglas Manvell, Bruel and Kjaer; Phil Stollery, Br; Jan Hansen, Br

15:40 418 Marketing interior architectural acoustical consulting services to architects
Invited in12_418.pdf
Authors: Samuel V. Diaquila, BASWA acoustic North America, LLC

16:00 820 Good practices of traffic noise reduction projects in Dutch cities
Invited in12_820.pdf
Authors: Nico Faber, Oranjewoud BV

16:20 1073 HARMONICA project (HARMOnised Noise Information for Citizens and Authorities)
Invited in12_1073.pdf
 Authors: Fanny Mietlicki, Bruitparif; Piotr Gaudibert, acoucite; Bruno Vincent, Bruitparif

16:40 1440 Dynamic noise maps as decision tool
Invited in12_1440.pdf
Authors: Christian Popp, Larmkontor GmbH; Sebastian Eggers, Larmkontor GmbH

City Noise: 8.06 Quiet Zones in Cities

Room: Broadway North

Session Chairs: Klaus Genuit, Sharon Paul Carpenter

8:00 1012 Enclosure design for muck handling system noise reduction
Contributed in12_1012.pdf
Authors: Ram Tirumala, Distinct Engineering Solutions, Inc.; Jinyung Chung, Distinct Engineering Solutions, Inc.; M.G. Prasad, Stevens Institute of Technology; B. Rajavel, Stevens Institute of Technology

8:20 1035 Quiet areas definition and management in action plans: General overview
Contributed in12_1035.pdf
Authors: Chiara Bartalucci, University of Florence; Francesco Borchì, University of Florence; Monica Carfagni, University of Florence; Lapo Governi, University of Florence; DCMR Environmental Protection Agency; DCMR Environmental Protection Agency

8:40 1067 Implemented comprehensive approach for the identification of quiet areas in the city of Paris
Contributed in12_1067.pdf
Authors: Patrick Duguet, Mairie de Paris; Fanny Mietlicki, Bruitparif; Rapha Da Silva, Bruitparif; Carlos Ribeiro, Bruitparif; EricGaucher, Acoustique et Conseil

9:00 1364 Subjective and physiological responses to road traffic noise in an urban recreational area
Invited in12_1364.pdf
Authors: Sabine A. Janssen, TNO; Erik M. Salomons, TNO; Henk Vos, TNO
**Tuesday, August 21, 2012**

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<th>Time</th>
<th>Session ID</th>
<th>Title</th>
<th>Authors</th>
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<tr>
<td>9:20</td>
<td>1549</td>
<td>Estimating the insulation of exterior walls regarding traffic noise in the City of Stockholm</td>
<td>Karin Carlsson, Tyrens AB; Gustave Grundfelt, Tyr</td>
</tr>
</tbody>
</table>

**Community / Environmental Noise:**

7.11 Airport and Community Noise Modeling and Monitoring  
Room: Broadway North

<table>
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<tr>
<th>Time</th>
<th>Session ID</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>10:00</td>
<td>718</td>
<td>Identification method for long-duration noise events due to ground activities for airport noise monitoring</td>
<td>Kenji Shinohara, RION Co., Ltd.; Norihito Sunago, RION Co., Ltd.; Keishi Sakoda, RION Co., Ltd.; Youichi Maruyama, RION Co., Ltd.</td>
</tr>
<tr>
<td>10:20</td>
<td>773</td>
<td>Aircraft noise monitoring in a changing environment</td>
<td>Keith Adams, Lochard/B&amp;K EMS</td>
</tr>
<tr>
<td>10:40</td>
<td>414</td>
<td>Aircraft noise monitoring: Threshold overstepping detection vs noise level shape and audio pattern recognition detection</td>
<td>Christophe Rosin, Aeroports de Paris; Bertrand Barbo, Aeroports de Paris</td>
</tr>
<tr>
<td>11:00</td>
<td>1052</td>
<td>An innovative approach for long-term environmental noise measurement : RUMEUR network</td>
<td>Christophe Mietlicki, Noise Observatory in Ile de France; Fanny Mietlicki, Bruitparif; Matthieu Sineau, Bruitparif</td>
</tr>
<tr>
<td>11:20</td>
<td>536</td>
<td>Noise measurement analysis during a noise abatement departure procedure trial</td>
<td>H.W. Veerbeek, National Aerospace Laboratory NLR; M.A. Brouwer, Amsterdam Airport Schiphol</td>
</tr>
<tr>
<td>11:40</td>
<td>138</td>
<td>Zero and 90 degree reference directions for a sound level meter</td>
<td>Daniel Vaucher de la Croix, ACOEM; Erik Aflalo, ACOEM</td>
</tr>
<tr>
<td>13:20</td>
<td>265</td>
<td>Noise impact assessment due to operational public transport system in Delhi</td>
<td>Rajeev Kumar Mishra, Delhi Technological University; M. Parida, Indian Institute of Technology, Roorkee; S. Rangnekar, Indian Institute of Technology, Roorkee</td>
</tr>
<tr>
<td>13:40</td>
<td>129</td>
<td>Challenges and best practices in traffic noise modeling</td>
<td>Ronald Ying, Parsons Brinckerhoff Americas; Scott Noel, Tetra Tech Inc.</td>
</tr>
<tr>
<td>14:00</td>
<td>461</td>
<td>Modelling road traffic noise using distributions for vehicle sound power level</td>
<td>Bert De Coensel, Ghent University; A.L. Brown, Griffith University; Deanna Tomerini, Griffith University; Dick Botteldooren, Ghent University</td>
</tr>
</tbody>
</table>
### 14:20 880
**A comparison between different traffic noise forecasting methods and experimental data**  
Contributed in12_880.pdf  
Authors: Adolfo Sabato, Universite della Calabria; Alessandro Sabato, Self-employed environmental engineer; Alfredo Reda, Lab ofTCA - Faculty of Engineering - Universit.

### 14:40 176
**Handling sound propagation attenuation over a housing area**  
Contributed in12_176.pdf  
Authors: Xuetao Zhang, SP Technical Research Institute of Sweden

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#### Community / Environmental Noise:  
**7.03 Environmental Noise Management and Mapping**  
Room: Broadway South  
Session Chairs: Doug Manvell, Gilles Daigle

<table>
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<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
<th>Contribution</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00</td>
<td>1454</td>
<td>Noise contour and noise impact: A challenge to manage conflicts</td>
<td>Tania Cristina de Menezes Caldas, Empresa Brasileira de Infraestrutura Aeroporto; Jules Ghislain Slama, Universidade Federal do Rio de Janeiro - UFRJ; Flavia dos Santos Ferreira, Universidade Federal do Rio de Janeiro - UFRJ</td>
<td>Contributed in12_1454.pdf</td>
<td>Tania Cristina de Menezes Caldas, Empresa Brasileira de Infraestrutura Aeroporto; Jules Ghislain Slama, Universidade Federal do Rio de Janeiro - UFRJ; Flavia dos Santos Ferreira, Universidade Federal do Rio de Janeiro - UFRJ</td>
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<tr>
<td>8:20</td>
<td>643</td>
<td>Research on the effect of the aircraft noise pollution on the noise environment of Okinawa due to the U.S. military bases</td>
<td>Takeshi Tokashiki, University of the Ryukyus</td>
<td>Contributed in12_643.pdf</td>
<td>Takeshi Tokashiki, University of the Ryukyus</td>
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<tr>
<td>8:40</td>
<td>906</td>
<td>Territorial coherence between environmental noise and air variables</td>
<td>B. Miege, DETE Lyon; B. Vincent, CETE Lyon; J. Vallet, Greater Lyon; X. Olney, CETE Lyon; M. Marquis, Air Rhone Alpes; S. Porcheron, acoucit; P. Olivier, acoucit; S. Carra, Air Rhone Alpes</td>
<td>Contributed in12_906.pdf</td>
<td>B. Miege, DETE Lyon; B. Vincent, CETE Lyon; J. Vallet, Greater Lyon; X. Olney, CETE Lyon; M. Marquis, Air Rhone Alpes; S. Porcheron, acoucit; P. Olivier, acoucit; S. Carra, Air Rhone Alpes</td>
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<tr>
<td>9:00</td>
<td>1116</td>
<td>Guidelines for participatory noise sensing based on spatial analysis of high quality mobile noise measurements</td>
<td>Luc Dekoninck, Ghent University; Dick Botteldooren, Ghent University; Luc Int Panis, University of Hasselt</td>
<td>Contributed in12_1116.pdf</td>
<td>Luc Dekoninck, Ghent University; Dick Botteldooren, Ghent University; Luc Int Panis, University of Hasselt</td>
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<tr>
<td>9:20</td>
<td>1046</td>
<td>Scalar analysis of urban quietness</td>
<td>Hakan Dilmen, Pro-Plan Ltd.; Muge Belek Fialho Teixeira, Istanbul Technical University; Ceylan Belek Ombregt, Istanbul Technical University</td>
<td>Contributed in12_1046.pdf</td>
<td>Hakan Dilmen, Pro-Plan Ltd.; Muge Belek Fialho Teixeira, Istanbul Technical University; Ceylan Belek Ombregt, Istanbul Technical University</td>
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<td>10:20</td>
<td>1403</td>
<td>Virtual sensing in local active suppression on pressure fluctuations</td>
<td>Hequn Min, Nanyang Technological University; Xiaoyang Huang, School of Mechanical and Aerospace</td>
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<td></td>
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<td>for controlling flow-induced vibration in hard disk drives</td>
<td>Engineering, Nanyang Technological University; Qide Zhang, Data Storage Institute</td>
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<tr>
<td>10:40</td>
<td>409</td>
<td>Model predictive vibration control of a mechanical structure using</td>
<td>Gergely Takacs, Slovak University of Technology in Bratislava; Boris Rohal-</td>
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<td>shape memory alloy actuation</td>
<td>Iliv, Faculty of Mechanical Engineering, Slovak University of Technology in Bratislava</td>
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<td>11:00</td>
<td>533</td>
<td>LOEWE-Zentrum AdRIA: Increasing the marketability of smart structure</td>
<td>Joachim Bos, Technische Universitat Darmstadt; Holger Hanselka, LOEWE-Zentrum AdRIA,</td>
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<td></td>
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<td>technology</td>
<td>Fraunhofer Institute for Structural Durability and System Reliability LBF; Thilo Bein,</td>
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<td>Fraunhofer Institute for Structural Durability and System Reliability LBF</td>
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<td>11:20</td>
<td>913</td>
<td>Feedforward control of sound transmission through a fuselage</td>
<td>Malte Misol, German Aerospace Center; Thomas Haase, German Aerospace Center (DLR);</td>
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<td>structure with active trim panels</td>
<td>Stephan Algermissen, German Aerospace Center (DLR); Christian Hesse, German Aerospace Center</td>
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<td>11:40</td>
<td>1369</td>
<td>An adaptive control for engine loudness and roughness</td>
<td>Leopoldo P. R. de Oliveira, University of Sao Paulo; Jaime A. Mosquera Sanchez, EESC-USP</td>
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<th>Time</th>
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<th>Title</th>
<th>Authors</th>
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<tr>
<td>13:20</td>
<td>1244</td>
<td>Research on reduction of structure-borne sound using perforated plate</td>
<td>Kazuki Tsugihashi, Kobe Steel Inc; Toshimitsu Tanaka, SEIKEI University</td>
</tr>
<tr>
<td>13:40</td>
<td>240</td>
<td>Hybrid noise control in duct by using micro-perforated plate</td>
<td>Xiao-nan Wang, The Hong Kong Polytechnic University; Yat-Sze Choy, The Hong Kong Polytechnic</td>
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<td>University; Li Cheng, The Hong Kong Polytechnic University</td>
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<td>14:00</td>
<td>1330</td>
<td>Design of a variable thickness plate to focus bending waves</td>
<td>Noah H. Schiller, NASA Langley Research Center; Sz-Chin Steven Lin, Pennsylvania State University; Randolph H. Cabell, NASA Langley Research Center; Tony Jun Huang, Pennsylvania State University</td>
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<td>Time</td>
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<td>14:20</td>
<td>1266</td>
<td>Numerical and experimental study of dynamic vibration absorber for double leaf wall</td>
<td>Toshimitsu Tanaka, Seikei University; Toshitsugu Ishihara, SEIKEI University; Keiko Inomata, SEIKEI University; Kazuki Tsugihashi, KOBE STEEL, LTD.</td>
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<tr>
<td>14:40</td>
<td>1208</td>
<td>Exploiting the complex plane: The Moebius transformation and vibro-acoustic optimization</td>
<td>D.W. Herrin, University of Kentucky; Y. Zhang, University of Kentucky; J. Liu, University of Kentucky</td>
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### Noise and Health: 15.01 Hearing Protection

**Room: Gotham/Chelsea**

**Session Chairs:** Elliott Berger, Samir Gerges

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<tr>
<th>Time</th>
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<th>Authors</th>
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<tbody>
<tr>
<td>8:00</td>
<td>1525</td>
<td>Hearing protectors and people</td>
<td>Warwick Williams, National Acoustics Laboratories</td>
</tr>
<tr>
<td>8:20</td>
<td>636</td>
<td>Hearing protection with integrated in-ear dosimetry: A noise dose study</td>
<td>Melissa A. Theis, Oak Ridge Institute for Science and Education; Hilary L. Gallagher, Air Force Research Laboratory; Richard L. Mckinley, Oak Ridge Institute for Science and Education; Valerie S. Bjorn, Naval Air Systems Command</td>
</tr>
<tr>
<td>8:40</td>
<td>1184</td>
<td>Development of an individual dosimetric hearing protection device</td>
<td>Kuba Mazur, Universite du Quebec; Jeremie Voix</td>
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<tr>
<td>9:00</td>
<td>145</td>
<td>Performance of new acoustical test fixtures complying with ANSI S12.42-2010, with particular attention to the specification of self Insertion loss</td>
<td>Elliott H. Berger, 3M Occupational Health and Environmental Safety Division; Ronald W. Kieper, 3M Occupational Health and Environmental Safety Division; Michael E. Stergar, 3M Occupational Health and Environmental Safety Division</td>
</tr>
<tr>
<td>9:40</td>
<td>970</td>
<td>Hearing protectors and the possibility to detect noise-induced hearing damage using otoacoustic emissions in situ</td>
<td>Annelies Bockstael, Ghent University; Dick Botteldooren, Ghent University; Hannah Keppler, Ghent University; Bart Vinck, Ghent University; , Ghent University</td>
</tr>
<tr>
<td>10:20</td>
<td>161</td>
<td>Acoustic finite element modeling of hearing protection devices</td>
<td>Franck Sgard, IRSST; Martin Brummund, Ecole de Technologie Superieure; Guilhem Viallet, Ecole de Technologie Superieure; Sylvain Boyer, Ecole de Technologie Superieure; Yvan Petit, Ecole de Technologie Superieure; Frederic Laville, Ecole de Technologie Superieure; Jerome Boutin, IRSST</td>
</tr>
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</table>
10:40 463 Vibration of an earmuff hearing protector structure subject to high-amplitude impulse noise
Contributed in12_463.pdf
Authors: Robert S. Birch, University of Liverpool; Erasmo Felipe Vergara, Federal University of Santa Catarina, Laboratory of Vibration and Acoustics, Brazil; Samir Nagi Yousri Gerges, Federal University of Santa Catarina, Laboratory of Vibration and Acoustics, Brazil

11:00 1029 Measurement and calculation of impulse noise parameters under hearing protectors
Contributed in12_1029.pdf
Authors: Rafal Mlynski, Central Institute for Labour Protection; Emil Kozlowski, Central Institute for Labour Protection

11:20 623 Reliability of hearing protector sound attenuation measurements at 63 Hz
Contributed in12_623.pdf
Authors: Magnus Johansson, 3M Svenska AB

11:40 778 Effect of wearing earplugs by musicians in solo and ensemble performances
Contributed in12_778.pdf
Authors: Emil Kozlowski, Central Institute for Labour Protection; Rafal Mlynski, Institute of Radioelectronics, Warsaw University of Technology; Frederic Chopin University of Music; Jan Zera, Central Institute for Labour Protection

7th Floor:
Community / Environmental Noise: 7.10 Sonic Boom Noise (joint INCE / ASME NCAD) Room: Gotham/Chelsea
Session Chairs: Vic Sparrow, Joe Gavin

13:20 319 Near-real time assessment of the annoyance of sonic booms
Invited in12_319.pdf
Authors: Richard Horonjeff, RDH Acoustics; Sanford Fidell, Fidell Associates, Inc.; Consultant in Systems Engineering

13:40 458 Pressure loading due to sonic booms around residential and office buildings
Invited in12_458.pdf
Authors: Marcel C. Remillieux, Virginia Tech; Joseph M. Corcoran, Virginia Tech; Ricardo A. Burdisso, Virginia Tech

14:00 482 Aerial and ground measurement of sonic booms in D-SEND#1 and ABBA Test#2-2 flight tests
Invited in12_482.pdf
Authors: Yusuke Naka, Japan Aerospace Exploration Agency; Yoshikazu Makino, Japan Aerospace Exploration Agency; Shigemi Shindo, Japan Aerospace Exploration Agency; Hiroki Kawakami, Japan Aerospace Exploration Agency

14:20 562 Recent progress on sonic boom research at NASA
Invited in12_562.pdf
Authors: Alexandra Loubeau, NASA Langley Research Center

14:40 656 Sonic boom propagation in urban canyons
Invited in12_656.pdf ASME NCAD
Authors: Kimberly A. Riegel, Lewis S. Goodfriend & Associates; Victor W. Sparrow, Pennsylvania State University
15:20  845  Effect of long-term time-varying loudness and duration on subjects’ ratings of startle evoked by shaped sonic booms and impulsive sounds  
Invited  in12_845.pdf  
Authors: Andrew Marshall, Purdue University; Patricia Davies, Purdue University

15:40  935  Propagation of nonlinear N-waves in fully developed turbulence: Laboratory scale experiments and theoretical analysis.  
Invited  in12_935.pdf  
Authors: Petr Yuldashev, Ecole Centrale de Lyon; Mikhail Averjanov, Ecole Centrale de Lyon; Vera Khokhlova, Ecole Centrale de Lyon, Department of Acoustics, Moscow State University; Philippe Blanc-Benon, Ecole Centrale de Lyon, Universit; Sebastian Olivier, Physics Faculty, Department of Acoustics, Moscow State University; Edouard Salze, Ecole Centrale de Lyon; Daniel Juve, Physics Faculty, Department of Acoustics, Moscow State University

16:00  1121  Numerical validation of a computer code developed to study sonic boom focusing modeled by the Khokhlov-Zabolotskaya-Kuznetsov equation  
Contributed  in12_1121.pdf  
Authors: Joe Salamone, Pennsylvania State University

16:20  1468  Preamplifier with ultra low frequency cutoff for infrasonic condenser microphone  
Contributed  in12_1468.pdf  ASME NCAD  
Authors: Rasmus Trock Kinnerup, DTU Elektro; Arnold Knott, Department of Electrical Engineering, Technical University of Denmark; Kresten Marbjerg, Department of Electrical Engineering, Technical University of Denmark; Ole Cornelius Thomsen, G.R.A.S. Sound & Vibration A/S; Per Rasmussen, G.R.A.S. Sound & Vibration A/S

16:40  1552  Loudspeakers designed for accurate sonic boom and low frequency sound reproduction  
Contributed  in12_1552.pdf  
Authors: Thomas Lago, QirraSound Technologies LLC; Tierry Budge; Alan Boyer; Arthur Osgatharp

Architectural Noise / Building Acoustics: 3.08 Sound Propagation in Buildings  Room: Hudson/Empire  
Session Chairs: Adam C. Jenkins, Jack B. Evans

8:00  474  The improvement on the sound insulation of small openings for natural ventilation by the internal cavity of the sleeve  
Contributed  in12_474.pdf  
Authors: Eng. Takako Ouchi, Tokyo City University; Akihisa Imai, Faculty of Knowledge Engineering, Tokyo City University

8:20  1093  Influence of wall surface and air modelling in finite-element analysis of sound transmission between rooms in lightweight buildings  
Contributed  in12_1093.pdf  ASME NCAD  
Authors: Lars Vabbersgaard Andersen, Aalborg University; Poul Henning Kirkegaard, Department of Civil Engineering, Aalborg University, Aalborg, Denmark; Kristoffer Ahrens Dickow, Department of Civil Engineering, Aalborg University, Aalborg, Denmark; Nikolaj Kiel, Department of Civil Engineering, Aalborg University, Aalborg, Denmark; Kent Persson, Structural Mechanics, Lund University, Lund, Sweden
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<th>Time</th>
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<th>Contributors</th>
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<tr>
<td>8:40</td>
<td>664</td>
<td>An alternative image theory for indoor sound propagation</td>
<td>Byunghak Kong, Seoul National University; Kyuho Lee, School of Mechanical and Aerospace Engineering, Seoul National University; Soogab Lee, Institute of Advanced Aerospace Technology and School of Mechanical and Aerospace Engineering, Seoul National University</td>
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<tr>
<td>9:00</td>
<td>896</td>
<td>Sound transmission class ratings as part of building codes</td>
<td>Ryan Bessey, Golder Associates Ltd</td>
</tr>
<tr>
<td>9:20</td>
<td>1517</td>
<td>Investigation of the environment sound impact in a multifamily residential building in the instrumental music practice in Brazil</td>
<td>Renato Carvalho Menezes, UFAL; Maria Lucia G. da R. Oiticica, Faculty of Architecture and Planning-UfAL</td>
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</table>

### Numerical and Analytical Techniques: 17.01 Numerical Methods in Vibration and Acoustics (FEM, BEM, IFEM) (joint INCE / ASME NCAD)

Room: Hudson/Empire

Session Chairs: AM: Bryce Gardner, Rui Botelho; PM: Rui Botelho, Jeffrey L. Cipolla

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<th>Contributors</th>
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<tr>
<td>10:00</td>
<td>84</td>
<td>Acoustic modeling by BEM-FEM iterative coupling procedures</td>
<td>Delfim Soares Jr., Federal University of Juiz de Fora</td>
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<td>10:20</td>
<td>121</td>
<td>Coupling between multiple acoustic domains through elastic structures: Rapid solutions using Fast Multipole BEM</td>
<td>Vijaya Kumar Ambarisha, Advanced Numerical Solutions LLC</td>
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<tr>
<td>10:40</td>
<td>291</td>
<td>Vibration analysis of a Japanese traditional stringed instrument called Shamisen</td>
<td>Kosuke Fujitsuka, Hosei University; Keisuke Kokubun, Hosei university; Koji Oe, Hosei University; Mitsuo Iwahara, Hosei University; YutakaTanaka, Hosei University; Galu Minorikawa, Hosei University</td>
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<tr>
<td>11:00</td>
<td>339</td>
<td>Numerical simulation of reflection factor measurement on a cylindrical impedance body in an enclosed volume</td>
<td>Lurii Popov, Krylov Shipbuilding Research Institute</td>
</tr>
<tr>
<td>13:20</td>
<td>592</td>
<td>An approach for structural-acoustic optimization of ribbed panels using component mode synthesis</td>
<td>Micah R. Shepherd, Penn State University; Stephen A. Hambric, Graduate Program in Acoustics / Applied Research Laboratory, Penn State University</td>
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Fourier spectral element method for the dynamic analysis of complex systems
Contributed in12_616.pdf
Authors: Hongan Wu, Volvo Construction Equipment; Xuefeng Zhang, Chrysler; Wen L. Li, Wayne State University

Evaluation of timbre with sawari mechanism of shamisen
Contributed in12_746.pdf
Authors: Arata Yamada, Hosei University; Mitsuo Iwahara, Hosei University; Gaku Minorikawa, Hosei University; Yutaka Tanaka, Bihoudou; TakanoriTogawa, Hosei University

Modeling, modal analyses and validation of riveted helicopter structures
Contributed in12_782.pdf
Authors: Hasan Koruk, Istanbul Technical University; Kenan Y. Sanliturk, Istanbul Technical University

Numerical evaluation of the compact Green's function for the solution of acoustic flows
Contributed in12_785.pdf ASME NCAD
Authors: Adrian R.G. Harwood, The University of Manchester; Iain D.J. Duprere, The University of Manchester

Singular mode characteristics of fluid-structure interaction modal formulations
Contributed in12_1113.pdf ASME NCAD
Author: Jeffrey L. Cipolla, Weidlinger Associates, Inc.

Predicting the acoustic performance of lined ducts across a broad frequency range
Contributed in12_1185.pdf
Authors: Vincent Cotoni, ESI Group; Alexandre Gallet, Alstom Transport; Fabienne Guerville, ESI group; Martin Glessier, Alstom Transport; Alstom Transport

Optimizing the spatial distribution of damping in structures with boundary damping
Invited in12_1206.pdf ASME NCAD
Authors: J. Gregory McDaniel, Boston University; Andrew S. Wixom, Boston University

Implementation and validation of a symmetric reduced order formulation for vibroacoustic modal analysis
Contributed in12_1295.pdf
Authors: J-S. Schotte, Italian Aerospace Research Center; M. Ciminello, ONERA, Structural Dynamics and Coupled Systems Dep., Chatillon, France; R. Ohayon, CNAM, Structural Mechanics and Coupled Systems Lab., Paris, France

Analysis of commercial solutions to audible tire cavity and rim coupling resonance noise
Contributed in12_113.pdf
Authors: Sameul Sainty, RMIT University; Anthony Tawaf, RMIT University; Jonathan Richard, RMIT University; Zamri Mohamed, RMIT University; XuWang, RMIT University;
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<th>Time</th>
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<tr>
<td>8:20</td>
<td>116</td>
<td>Using simple arrays to track vibration energy flow in a fluid loaded structure</td>
<td>Author: Richard H. Lyon, Self</td>
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<td>8:40</td>
<td>266</td>
<td>Indirect methods to determine the mobility of structure-borne sound sources</td>
<td>Authors: Christoph Holler, University of Liverpool; Barry M. Gibbs, University of Liverpool</td>
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<tr>
<td>9:00</td>
<td>321</td>
<td>Vibroacoustic characterization of a new hybrid wing-body fuselage concept</td>
<td>Authors: Albert Allen, NASA LaRC; Adam Przekop, Analytical Services &amp; Materials, Inc.</td>
</tr>
<tr>
<td>9:20</td>
<td>430</td>
<td>Experimental study on the vibro-acoustic properties of fibre-reinforced composites with integrated viscoelastic Ethylene-Propylene-Dien-Monomer (EPDM) rubber</td>
<td>Authors: Werner A. Hufenbach, Leichtbau-Zentrum Sachsen GmbH; Martin Dannemann, Leichtbau-Zentrum Sachsen GmbH; Stefan Friebe, Leichtbau-Zentrum Sachsen GmbH; Frank Kolbe, Leichtbau-Zentrum Sachsen GmbH; Olaf Tager, Volkswagen AG, Konzernforschung K-EFW/K; Thomas Fiedler, Volkswagen AG, Konzernforschung K-EFW/K</td>
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<tr>
<td>10:00</td>
<td>670</td>
<td>Noise control in the exhaust port of a vacuum cleaner</td>
<td>Authors: Jiancheng Tao, Nanjing University; Ping Wang, Key Laboratory of Modern Acoustics (MoE), Institute of Acoustics, Nanjing University; Xiaojun Qiu, Key Laboratory of Modern Acoustics (MoE), Institute of Acoustics, Nanjing University; Ning Han, Key Laboratory of Modern Acoustics (MoE), Institute of Acoustics, Nanjing University</td>
</tr>
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<td>10:20</td>
<td>710</td>
<td>On the use of the coupled velocity for the estimation of transmitted mechanical power</td>
<td>Authors: Lasse Lamula, VTT Technical Research Centre of Finland; Kari Saarinen, VTT Technical research centre of Finland</td>
</tr>
<tr>
<td>10:40</td>
<td>920</td>
<td>Lightweight design analysis vased on a coupled structural-acoustic model for rectangular enclosures</td>
<td>Authors: Yu Du, Dalian University of Technology; Jun Zhang, State Key Laboratory of Vehicle NVH and Safety Technology; Weidong Li, Dalian University of Technology; Ping Hu, Dalian University of Technology</td>
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<tr>
<td>11:00</td>
<td>1016</td>
<td>Transfer path analysis of body panel vibration using a structural-acoustic finite element model</td>
<td>Authors: Shung H. Sung, General Motors Research Center; Donald J. Nefske, General Motors Research Ctr. (Retired)</td>
</tr>
</tbody>
</table>
11:20 180  The significance of balcony acoustic treatments in mitigating urban road traffic noise
Invited  in12_180.pdf  ASME NCAD
Authors: Andy C.C. Tan, Queensland University of Technology; Daniel A. Naish, Queensland University of Technology; F. Nur Demirbilek, Queensland University of Technology

11:40 259  Some tips on sound insulation measurement using long Swept-Sine signal
Invited  in12_259.pdf
Authors: Fumiaki Satoh, Chiba Institute of Technology; Daisuke Yoshino, Chiba Institute of Technology; Ryuta Furuta, Chiba Institute of Technology

13:20 298  Development of a practical design guide for balcony acoustic treatments
Contributed  in12_298.pdf ASME NCAD
Authors: Daniel A. Naish, Queensland University of Technology; Andy C.C. Tan, Queensland University of Technology; F. Nur Demirbilek, Queensland University of Technology

13:40 342  Wave analysis of soundproofing air ventilation grille
Invited  in12_342.pdf
Authors: Quang Huy Nguyen, Kumamoto University; Takashi Yano, Sojo University; Yusuke Takashima, Kumamoto National College of Technology; Sohie Nishimura, Kumamoto National College of Technology; Yuya Nishimura, Kumamoto University

14:00 377  Preliminary investigation of active noise control technique by applying the neural network for residential ventilation openings
Invited  in12_377.pdf
Authors: Ken Anai, Kyushu Institute of Technology; Kazutoshi Fujimoto

14:20 393  Reverberation time in outdoor spaces of apartment complexes: A parametric study
Invited  in12_393.pdf
Authors: Hong-Seok Yang, University of Sheffield; Myung-Jun Kim, Department of Architectural Engineering, University of Seoul; Jian Kang, School of Architecture, University of Sheffield; Sun-Eung Jung, Department of Architectural Engineering, University of Seoul

14:40 398  The acoustical insertion loss of ventilation window - On site test
Invited  in12_398.pdf
Authors: S.K. Tang, The Hong Kong Polytechnic University

15:00 757  Traffic noise reduction at balconies on a high-rise building facade
Contributed  in12_757.pdf
Authors: Takashi Ishizuka, Shimizu Corp; Kyoji Fujiwara, Kyushu University

15:40 1080  A numerical investigation of enhancing the acoustic attenuation of double skin facades using a broadband three dimensional technique
Invited  in12_1080.pdf
Authors: Carl R. Hart, University of Nebraska–Lincoln; Siu-Kit Lau, Durham School of Architectural Eng. and Construction, Univ. of Nebraska–Lincoln
16:00 1483  Sound transmission testing of historical facades of New Orleans
Contributed in12_1483.pdf
Author: David S. Woolworth, Oxford Acoustics, Inc

16:20 232  Ventilated window design with multiple resonators and panel absorbers
Contributed in12_232.pdf
Authors: Zhihong Wang, The Hong Kong Polytechnic University; C.F. Ng, The Hong Kong Polytechnic University; Edith Ngai, Chu Hai College

Noise Control Products: 14.01 Acoustic Wave Propagation in Porous Media (joint INCE / ASME NCAD)
Room: Herald/Soho
Session Chairs: Nicolas Dauchez, Sue Sung, Kirill Horoshenkov

8:00 642  Propagation of sound over porous materials with random distributions of semi-cylindrical profiling
Contributed in12_642.pdf
Authors: Siu-Kit Lau, University of Nebraska - Lincoln; Kai-Ming Li, Purdue University

8:20 759  Propagation of acoustic wave in one-dimensional macroscopically inhomogeneous porous material under the rigid frame approximation
Invited in12_759.pdf
Authors: Jean-Philippe Groby, Universite du Maine; Clement Lagarrigue, Laboratoire d'Acoustique de l'Universite du Maine, UMR6613 CNRS/Univ. du Maine, Avenue Olivier Messiaen, F-72085 Le Mans Cedex 9, France; Olivier Dazel, Laboratoire d'Acoustique de l'Universite du Maine, UMR6613 CNRS/Univ. du Maine, Avenue Olivier Messiaen, F-72085 Le Mans Cedex 9, France; Alan Geslain, Laboratoire d'Acoustique de l'Universite du Maine, UMR6613 CNRS/Univ. du Maine, Avenue Olivier Messiaen, F-72085 Le Mans Cedex 9, France; S.Mahasaranon, School of Engineering, University of Bradford, Bradford, West Yorkshire, BD7 1DP, UK; K.V. Horoshenkov, School of Engineering, University of Bradford, Bradford, West Yorkshire, BD7 1DP, UK; A. Khan, School of Engineering, University of Bradford, Bradford, West Yorkshire, BD7 1DP, UK

8:40 800  Parametric study of a metaporous made of solid inclusions embedded in a rigid frame porous material backed by a rigid backing
Contributed in12_800.pdf
Authors: Clement Lagarrigue, Universite du Maine; Olivier Dazel, LAUM; Jean-Philippe Groby, LAUM; Vincent Tournat, LISMMA; LAUM; ATF, KULeuven

9:00 1118  Influence of boundary conditions on the prediction accuracy of a Biot-based poroelastic model for melamine foam
Contributed in12_1118.pdf
Authors: Ryan A., Schultz, Purdue University; J. Stuart Bolton, Purdue University

9:20 1122  The prediction of sound fields near a hard-backed layer sound absorption material
Contributed in12_1122.pdf
Authors: Hongdan Tao, Purdue University; Kai Ming Li, Purdue University

9:40 1302  The asymptotic behaviour of some models for the acoustical properties of rigid frame porous media
Invited in12_1302.pdf
Authors: Kirill V. Horoshenkov, University of Bradford; Olivier Dazel, Jean-Philippe Groby
<table>
<thead>
<tr>
<th>Time</th>
<th>Code</th>
<th>Title</th>
<th>Type</th>
<th>Authors</th>
</tr>
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<tbody>
<tr>
<td>10:20</td>
<td>1040</td>
<td>Transfer matrix modeling and numerical verification of locally reacting acoustic mosaics</td>
<td>Invited</td>
<td>Raymond Panneton, Universite de Sherbrooke</td>
</tr>
<tr>
<td>10:40</td>
<td>117</td>
<td>Effects of constructions of resonators in a cavity to sound insulation of thin double-leaf panels</td>
<td>Contributed</td>
<td>Shinsuke Nakanishi, Hiroshima International University</td>
</tr>
<tr>
<td>11:00</td>
<td>166</td>
<td>Sound absorption properties of functionally graded polyurethane foam</td>
<td>Invited</td>
<td>Olivier Doutres, Universite de Sherbrooke; Noureddine Atalla, GAUS, University</td>
</tr>
<tr>
<td>11:20</td>
<td>200</td>
<td>Broad band membrane-type metamaterial panels for sound attenuation in the 50-1000 Hz regime</td>
<td>Invited</td>
<td>Guancong Ma, HKUST; Min Yang, Department of Physics, HKUST; Jun Mei, Department of Physics, HKUST; Zhiyu Yang, Department of Physics, HKUST; PingSheng, Department of Physics, HKUST</td>
</tr>
<tr>
<td>11:40</td>
<td>210</td>
<td>Recent solutions for noise &amp; vibration control in vehicles</td>
<td>Invited</td>
<td>Thilo Bein, Fraunhofer LBF; Dirk Mayer, Fraunhofer LBF; Joachim Bos, TU Darmstadt</td>
</tr>
<tr>
<td>13:20</td>
<td>431</td>
<td>Experimental investigation of the acoustic attenuation by monolithic polyurea aerogels</td>
<td>Contributed</td>
<td>Cameron Fackler, Rensselaer Polytechnic Institute; Ning Xiang, Graduate Program in Architectural Acoustics, School of Architecture, Rensselaer Polytechnic Institute; Gitogo Churu, Department of Mechanical Engineering, University of Texas at Dallas; Dhairyashil P. Mohite, Department of Chemistry, Missouri University of Science and Technology, Rolla; Nicholas Leventis, Department of Chemistry, Missouri University of Science and Technology; Chariklia Sotiriou-Leventis, Department of Chemistry, Missouri University of Science and Technology; Hongbing Lu, Department of Mechanical Engineering, University of Texas at Dallas</td>
</tr>
<tr>
<td>13:40</td>
<td>694</td>
<td>Numerical investigation on the support condition of layered poroelastic materials in tube-based absorption/insulation measurements</td>
<td>Contributed</td>
<td>Naohisa Inoue, University of Tokyo; Tetsuya Sakuma</td>
</tr>
<tr>
<td>14:00</td>
<td>728</td>
<td>Absorption of a poroelastic material with lateral air gaps</td>
<td>Invited</td>
<td>Nicolas Dauchez, Institut Superieur de Mechanique de Paris; Benoit Nennig, SUPMECA</td>
</tr>
</tbody>
</table>
14:20 750 Accurate poro-elastic models for designing innovative lightweight sound packages
Invited in12_750.pdf
Authors: Francois-Xavier Becot, MATELYS; Luc Jaouen, MATELYS; Fabien Chevillotte, MATELYS

14:40 927 Replacement of damping pads by using soft visco-elastic foam while maintaining high insulation properties
Invited in12_927.pdf
Authors: Lars Bischoff, Faurecia Acoustics and Soft Trim Product Line; Christian Morgenstern, Faurecia Acoustics and Soft Trim Product Line, Center of Acoustic Technology, 38524 Sassenburg, Germany; Werner Berhard, Adam OPEL AG, 65423 R; Alexander Zopp, Adam OPEL AG, 65423 R; Stefan Schreck, Adam OPEL AG, 65423 R

15:20 939 The use of tuned resonators to obtain low frequency global vibration reduction for finite periodic panels
Contributed in12_939.pdf
Authors: Claus C. Claeyss, KU Leuven; Karel Vergote, KU Leuven; Paul Sas, KU Leuven; Wim Desmet, KU Leuven;

15:40 974 Analytical prediction of resonance effects for lightweight acoustic packages with increased insulation
Invited in12_974.pdf
Authors: Marco Seppi, Autoneum Management AG; Claudio Castagnetti, Autoneum Management AG; Claudio Castagnetti, Autoneum Management AG

16:00 1085 CFD modeling of tapered hole microperfoated panel
Contributed in12_1085.pdf
Authors: Nicholas N. Kim, Purdue University; J. Stuart Bolton, Purdue University

16:20 1262 Development of bio-based foams with improved acoustic and mechanical performance
Invited in12_1262.pdf ASME NCAD
Authors: Shahrazad Ghaffari Mosanenzadeh, University of Toronto; Hani E. Naguib, University of Toronto; Chul B. Park, University of Toronto; Noureddine Atalla, University of Sherbrooke
Noise Pollution

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- Construction
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- Entertainment Venues
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www.acopacific.com sales@acopacific.com
Tel:(1) 650-595-8588 Fax (1)650-591-2891

ACOustics Begins With ACO™
<table>
<thead>
<tr>
<th>ROOM</th>
<th>8:00</th>
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<tr>
<td>Hart</td>
<td></td>
<td></td>
<td>3.04</td>
<td>Noise in Green / Sustainable Buildings</td>
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<td>O’Neill</td>
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<td>3.05</td>
<td>Impact noise - Building Acoustics</td>
<td>3.10</td>
<td>Measurements in Rooms and Building Acoustics</td>
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<td>Odets</td>
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<td>4.07</td>
<td>Vehicle NVH modeling and simulation</td>
<td>4.13</td>
<td>Longevity, costs and sacrifices related to quiet pavements</td>
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<td>Wilder</td>
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<td>7.05</td>
<td>National Park Noise / Quiet Parks</td>
<td>1.02</td>
<td>Algorithms and Systems for Active Control and Acoustic Echo Cancellation</td>
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<td>Ziegfeld</td>
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<td>17.02</td>
<td>Statistical Energy Analysis and Energy Methods</td>
<td>17.04</td>
<td>Mid frequency vibroacoustic methods</td>
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<td>Gilbert</td>
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<td>Wind turbines and renewable energy noise</td>
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<td>Salon 3</td>
<td>7.06</td>
<td>Public outreach workshop on community noise</td>
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<td>Salon 4</td>
<td>3.14</td>
<td>Vertical transmission of noise and vibration</td>
<td>12.02</td>
<td>Sound Power / Intensity Determination for Noise Sources</td>
<td>3.11</td>
<td>Computational Techniques in Room and Building Acoustics</td>
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<td>Healthcare noise</td>
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<td>Lyceum/ Carnegie</td>
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<td>Passive Noise and Vibration Control (joint INCE / ASME NCAD)</td>
<td>7.02</td>
<td>Recreational / Entertainment Noise</td>
<td>21.04</td>
<td>Psycho acoustic approach to noise problems in daily life</td>
<td>10.03</td>
<td>Indoor Response to Sonic Boom and Low Frequency Noise Sources (joint INCE / ASME NCAD)</td>
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<td>Alvin/ Edison</td>
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<td>Booth</td>
<td>24.07</td>
<td>Fatigue due to Acoustical Induced Vibration in Piping Systems</td>
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<td>Broadway North Center</td>
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<td>Low Frequency Human Perception and Measurement</td>
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<td>Broadway South Center</td>
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<td>Music Box/ Winter Garden</td>
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<td>15.09</td>
<td>Understanding speech in noise</td>
<td>16.01</td>
<td>Legislation, Implementation and Noise Control Policies</td>
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<td>Palace</td>
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<td>11.04</td>
<td>Underwater and Marine Structure Noise / Vibration (joint INCE / ASME NCAD)</td>
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<td>Uris/ Plymouth</td>
<td>2.06</td>
<td>Noise Source Characterization in Aircraft</td>
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<td>Royale</td>
<td>4.03</td>
<td>Noise control requirements for vehicles and tires</td>
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<td>Gotham/ Chelsea</td>
<td>3.12</td>
<td>Indoor acoustic comfort and building acoustics assessment and classification</td>
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<td>Hudson/ Empire</td>
<td>5.04</td>
<td>Buy Quiet Policies: Encouraging Demand for Low-Noise Products</td>
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<td>Olmstead/ Grammercy</td>
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<td>9.04</td>
<td>Fan Noise and Aeroacoustics (joint INCE / ASME NCAD)</td>
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<td>Soho</td>
<td>14.06</td>
<td>Noise Barriers and associated devices</td>
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**LUNCH (ON YOUR OWN)**

**Wednesday:** Coffee & Tea will be available from 9:30 – 11:30 a.m. in the Exhibit Area (Westside Ballroom) and 2-4 p.m. on the 4th, 5th and 7th floors.
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
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<tbody>
<tr>
<td>13:20</td>
<td>23.09 Soundscapes and urban area design</td>
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<tr>
<td></td>
<td>4.08 Vehicle noise measurement</td>
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<td></td>
<td>12.07 Source-Path Contribution / Transfer Path Analysis</td>
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<td></td>
<td>15.04 Sleep Disturbance</td>
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<td></td>
<td>5.01 Consumer Product Noise - General Topics</td>
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<td></td>
<td>22.01 General Structural Acoustics and Vibration</td>
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<tr>
<td>16:00</td>
<td>Closing Plenary &amp; Ceremony</td>
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<tr>
<td>17:00</td>
<td>Closing Reception</td>
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</table>

Wednesday: Coffee & Tea will be available from 9:30 – 11:30 a.m. in the Exhibit Area (Westside Ballroom) and 2-4 p.m. on the 4th, 5th and 7th floors.
### TECHNICAL PROGRAM DETAIL

**Wednesday, August 22, 2012**

**4th Floor:**

**Architectural Noise / Building Acoustics: 3.04 Noise in Green / Sustainable Buildings**

Session Chairs: Greg Coudriet, Jeff Fullerton

<table>
<thead>
<tr>
<th>Time</th>
<th>Session No.</th>
<th>Title</th>
<th>Type</th>
<th>Authors/Details</th>
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<tbody>
<tr>
<td>8:00</td>
<td>317</td>
<td>Sustainable acoustics from theory to practice</td>
<td>Invited</td>
<td>in12_317.pdf Author: Alexis D. Kurtz, The Sextant Group</td>
</tr>
<tr>
<td>8:20</td>
<td>1157</td>
<td>Green acoustics - How sustainable design is radically changing acoustics in buildings</td>
<td>Invited</td>
<td>in12_1157.pdf Authors: Joseph F. Bridger, Stewart Acoustical Consultants</td>
</tr>
<tr>
<td>9:00</td>
<td>1393</td>
<td>Acoustic performance of louvered facades for Brisbane Domestic Airport. An integrated approach</td>
<td>Contributed</td>
<td>in12_1393.pdf ASME NCAD Authors: Frank Butera, ARUP; Keith Hewett</td>
</tr>
<tr>
<td>9:20</td>
<td>443</td>
<td>Acoustical improvements within Liu building with natural air ventilation</td>
<td>Contributed</td>
<td>in12_443.pdf Authors: Zohreh Razavi, Stantec Consulting Ltd.</td>
</tr>
<tr>
<td>10:20</td>
<td>1380</td>
<td>Thinking outside (or inside) the box: Sustainability considerations with respect to location of sound traps for controlling air handling unit noise</td>
<td>Invited</td>
<td>in12_1380.pdf Authors: Mark Storm, URS Corporation</td>
</tr>
<tr>
<td>10:40</td>
<td>1001</td>
<td>Investigation into the acoustical performance of single stud steel wall assemblies</td>
<td>Invited</td>
<td>in12_1001.pdf Authors: John LoVerde, Veneklasen Associates; Wayland Dong, Veneklasen Associates; Aaron Betit, Acentech</td>
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<tr>
<td>11:00</td>
<td>660</td>
<td>Field tests of demountable partitions</td>
<td>Invited</td>
<td>in12_660.pdf Authors: Michael R. Yantis, Sparling</td>
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<tr>
<td>11:20</td>
<td>1245</td>
<td>LEED for schools acoustics: Case studies and critique of the requirements, submittal, and approval process</td>
<td>Invited</td>
<td>in12_1245.pdf Author: Joseph F. Bridger, Stewart Acoustical Consultants</td>
</tr>
<tr>
<td>11:40</td>
<td>397</td>
<td>Case study on acoustic improvement by refurbishment with natural elements in a courtyard</td>
<td>Invited</td>
<td>in12_397.pdf Authors: Hong-Seok Yang, University of Sheffield; Myung-Jun Kim, Department of Architectural Engineering, University of Seoul; Jian Kang, School of Architecture, University of Sheffield</td>
</tr>
</tbody>
</table>
Wednesday, August 22, 2012

**Soundscape: 23.09 Soundscapes and urban area design**

Session Chairs: Luis Bento Coelho, Gary Siebein

Room: Hart

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13:20 1324  **Soundscapes of justice, trial courtrooms**

Invited  
in12_1324.pdf

Authors: Cory Nickchen von Crawford, University of Florida

---

13:40 816  **Sonic engagement and the sound skyscraper**

Invited  
in12_816.pdf

Author: Lorenzo Beretta, Birmingham City University

---

14:00 954  **Soundcape analysis of urban public parks in the Brazilian Amazon**

Invited  
in12_954.pdf

Authors: Antonio Carlos Lobo Soares, Museu Paraense Em; Thmys Conceicao Costa Coelho, Instituto Superior Tecnico; Felipe Melo da Costa, Museu Paraense Emilio Goeldi; J. Luis Bento Coelho, Museu Paraense Emilio Goeldi

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14:20 962  **The soundscape topography, The case study of Jardin d’Estrela**

Invited  
in12_962.pdf

Authors: Mohammed Boubezari, Instituto Superior Tecnico; J.L. Bento Coelho, CAPS-Instituto Superior T

---

14:40 662  **Analysis on how to create a comfortable soundscape for commercial open space**

Contributed  
in12_662.pdf

Authors: Jianwei Song, Tianjin University; Boya Yu, School of Architecture, Tianjin University, China; Sen Zhang, School of Architecture, Tianjin University, China; Hui Ma, School of Architecture, Tianjin University, China

---

15:00 1486  **Propositional soundscapes**

Invited  
in12_1486.pdf

Authors: Gary W. Siebein, University of Florida

---

15:20 99  **Redevelopment of an urban open public space using the soundscape approach: A case study in Citta Di Castello, Italy**

Invited  
in12_99.pdf

Authors: Francesco Asdrubali, University of Perugia; Francesco D’Alessandro, Technische Universit; Achille Sberna, Universit; Giorgio Baldinelli, University

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**Architectural Noise / Building Acoustics: 3.05 Impact noise - Building Acoustics**

Room: O’Neill

Session Chairs: Delphine Bard, Berndt Zeitler

---

8:00 486  **Prediction of heavy-weight floor impact noise in the multiple dwellings**

Contributed  
in12_486.pdf

Authors: Sung-Kon Yum, Korea Advanced Inst. of Science and technology; Su-Ho Park, Korea Advanced Inst. of Science and technology; Jeong-Guon Ih, Korea Advanced Inst. of Science and technology; Hae-Won Jang, Korea Advanced Inst. of Science and technology

---

8:20 467  **Prediction of vibration characteristics of floor slabs excited by heavy impact source in steel structure buildings**

Invited  
in12_467.pdf

Authors: Hikari Tanaka, Taisei Corporation; Kiyoshi Masuda, Taisei Corporation
### Wednesday, August 22, 2012

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
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<tr>
<td>8:40</td>
<td>212</td>
<td>The importance of resonant frequency on impact isolation and transmission loss</td>
<td>Invited in12_212.pdf Authors: Peter D’Antonio, RPG Diffusor Systems, Inc.</td>
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<tr>
<td>9:00</td>
<td>103</td>
<td>New seat and seat+person absorptions data in a concert hall</td>
<td>Contributed in12_103.pdf Authors: Andras Kotschy, Kotschy and Partners Ltd.; Attil Balazs Nagy, Kotschy and Partners Ltd.; Ferenc Tamas, Kotschy and Partners Ltd.</td>
</tr>
<tr>
<td>9:20</td>
<td>193</td>
<td>Sound absorption of church pews</td>
<td>Contributed in12_193.pdf Authors: Antonio P.O. Carvalho, University of Porto; Joana S.O. Pino, University of Porto, Portugal</td>
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<td>10:00</td>
<td>327</td>
<td>The propagated uncertainty of the calculated sound reduction index</td>
<td>Invited in12_327.pdf Authors: Jeffrey Mahn, University of Canterbury; John Pearse</td>
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<tr>
<td>10:20</td>
<td>583</td>
<td>Influence of a lightweight acoustic shell with diffusive surface in a multiple use theater at audience area</td>
<td>Contributed in12_583.pdf Authors: Alexandre Virginelli Maiorino, University of Campinas; Stelamaris Rolla Bertoli, School of Civil Engineering and Architecture - University of Campinas (UNICAMP)</td>
</tr>
<tr>
<td>10:40</td>
<td>608</td>
<td>Sound transmission through facade walls designed for sound, heat and moisture control using brick with attached gypsum board</td>
<td>Contributed in12_608.pdf Authors: Sevtap Yilmaz, Istanbul Technical University; Mine Ascigil Dincer, Istanbul Technical University Faculty of Architecture; Gulten Manioglu, Istanbul Technical University Faculty of Architecture; Leyla Tanacan, Istanbul Technical University Faculty of Architecture</td>
</tr>
<tr>
<td>11:00</td>
<td>690</td>
<td>How to match building acoustic measurements with subjective judgements?</td>
<td>Invited in12_690.pdf Authors: Fredrik Ljunggren, Lulea University of Technology; Anders Agren, Lule</td>
</tr>
<tr>
<td>11:20</td>
<td>901</td>
<td>On the reproducibility of measuring random incidence sound absorption</td>
<td>Contributed in12_901.pdf Author: Anthony Nash, Charles M. Salter Associates</td>
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<tr>
<td>11:40</td>
<td>938</td>
<td>Measurement and prediction of structure-borne sound power in plate-shaped building elements</td>
<td>Contributed in12_938.pdf Authors: Albert Vogel, Bauhaus-Universit; Olivier Kornadt, Physikalisch-Technische Bundesanstalt; Volker Wittsock, Bauhaus-University; Werner Scholl, Physikalisch-Technische Bundesanstalt</td>
</tr>
</tbody>
</table>
13:20 944 Prediction of the sound pressure level caused by technical equipment in buildings by analyzing transfer functions
Contributed in12_944.pdf
Authors: Oliver Kornadt, Bauhaus-Universitaet Weimar; Joerg Arnold, Bauhaus-Universitaet Weimar; Volker Wittstock, Physikalisch-Technische Bundesanstalt; Werner Scholl, Physikalisch-Technische Bundesanstalt;

13:40 950 Survey of animal shelter noise level
Contributed in12_950.pdf
Authors: Eric C. Myer, Pennsylvania State University; Stephen C. Conlon, Pennsylvania State University

14:00 1120 Improving the visitor experience – A noise study and treatment design for the Smithsonian National Zoological Park’s Great Ape House
Contributed in12_1120.pdf
Authors: Ryan A. Schultz, Purdue University; J. Stuart Bolton, Purdue University; Jonathan H. Alexander, 3M Company; Stephanie Castiglione, Smithsonian National Zoological Park; Tom P. Hanschen, 3M Company; Ed Bronikowski, 3M Company

14:20 1231 Generic noise criterion curves for sensitive equipment
Contributed in12_1231.pdf
Author: Micheal L. Gendreau, Colin Gordon Associates

14:40 1241 Swiss pendling hammer for decoupling measurement of Swiss methodology for decoupling measurement of service equipment in buildings
Contributed in12_1241.pdf
Authors: Delphine Bard, EcoAcoustique SA; Victor Desamaulds, EcoAcoustique SA; Herve Lissek, EPFL - Swiss Federal Institute of Technology; Robert Beffa, Hepia University, Geneva

15:00 760 Evaluate the sound diffusion performance by impulse response
Invited in12_760.pdf
Authors: Chih Chien Liao, Taiwan University; Rong Ping Lai, Dept. of Architecture, National Cheng Kung University, Tainan, Taiwan.; Po Hung Yeh, Dept. of Architecture, National Cheng Kung University, Tainan, Taiwan.; Chuan Wen Chou, Dept. of Architecture, National Cheng Kung University, Tainan, Taiwan.

Motor Vehicle Noise, Interior and Exterior: 4.07 Vehicle NVH modeling and simulation Room: Odets
Session Chairs: Gabriella Cerrato, Pranab Saha

8:00 705 Traffic noise prediction model for bus stop
Contributed in12_705.pdf
Authors: Lu Wang, Sun Yat-sen University; Ming Cai, School of Engineering, Sun Yat-sen University, China; Jing Fang Zou, School of Engineering, Sun Yat-sen University, China

8:20 963 Use of full vehicle noise, vibration & harshness (NVH) simulator in the development of power-train mounting systems
Contributed in12_963.pdf
Authors: Paul R. Kennings, Bentley Motors Limited; Uday Senapati, Bentley Motors Limited; David J. Fothergill, Sound and Vibration Technology; Frank R. Syred, Sound and Vibration Technology
Wednesday, August 22, 2012

8:40 991 Correlation and use of SEA model for NVH design studies based on vehicle windowing tests
Contributed in12_991.pdf
Authors: Chadwyck T. Musser, Cambridge Collaborative, Inc.; Melzak Marques da Silva, MSX International; Renato Kempt, Ford Motor Company

9:00 1292 Predicting the detectability of gas vs. diesel vehicles
Invited in12_1292.pdf
Authors: Glenn Pietila, Sound Answers Inc.; Gabriella Cerrato, Sound Answers Inc.

9:20 1542 Measuring and predicting noise source contributions during pass-by noise measurements
Invited in12_1542.pdf
Authors: Anthony Komarek, Polaris Industries Inc.

Motor Vehicle Noise, Interior and Exterior:
4.13 Longevity, costs and sacrifices related to quiet pavements Room: Odets
Session Chairs: Paul Donavan, Rob Rasmussen

10:00 206 Long time effect of noise reducing thin layer pavements
Contributed in12_206.pdf
Authors: Hans Bendtsen, Danish Road Directorate; Bent Andersen, Danish Road Directorate; Jens Odershede, Danish Road Directorate; Lykke Moller Iversen, Danish Road Directorate

10:20 857 Pavement acoustic ageing - Road surface noise performance over time
Invited in12_857.pdf
Authors: Jorgen Kragh, Danish Road Directorate/Road Institute; Bent Andersen, Danish Road Directorate/Road Institute; Rob Hofman, Dutch Centre for Transport and Navigation; Willem Jan van Vliet, Dutch Centre for Transport and Navigation; Fabienne Anfosso-Ledee, French institute of science and technology for transport, development and networks

10:40 931 Longevity of noise reducing thin surface layers on urban and regional roads
Invited in12_931.pdf
Author: Ronald van Loon, M+P - raadgevende ingenieurs

11:00 1156 A statistical evaluation of one-third octave band frequencies measured using the on-board sound intensity method
Invited in12_1156.pdf
Authors: Edwin Hass, Rutgers University; John Henken, The Center for Advanced Infrastructure and Transportation/ Rutgers University; Thomas Bennert, The Center for Advanced Infrastructure and Transportation/ Rutgers University

11:20 1310 Relations between tire/road noise and tire rolling resistance on different road pavements
Invited in12_1310.pdf
Authors: Jerzy Ejsmont, Technical University of Gdansk; Grzegorz Ronowski, Technical University of Gdansk; Stanislaw Taryma, Technical University of Gdansk; Piotr Mioduszewski, Technical University of Gdansk; Sylwia Sobiesczyk, Technical University of Gdansk; Beata Swieczyko Zurek, Technical University of Gdansk
### Motor Vehicle Noise, Interior and Exterior: 4.08 Vehicle noise measurement

**Room: Odets**

**Session Chairs: Paul Donavan, Chad Musser**

<table>
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<tr>
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<th>Number</th>
<th>Title</th>
<th>Authors</th>
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<tr>
<td>13:20</td>
<td>320</td>
<td>Indoor pass-by noise testing on a roller test bench in a small anechoic chamber with an isotropic source</td>
<td>Gerhard Robens, Institute of Product Engineering at KIT; Albers Albert, IPEK - Institute of Product Engineering at KIT</td>
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<td>13:40</td>
<td>517</td>
<td>Extrapolation of maximum noise levels from near-field measurement to far-field positions</td>
<td>Teresa Bravo, Consejo Superior de Investigaciones Cientificas; David Ibarra, Consejo Superior de Investigaciones Cientificas (CSIC); Pedro Cobo, Consejo Superior de Investigaciones Cientificas (CSIC)</td>
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<tr>
<td>14:00</td>
<td>601</td>
<td>Vehicle noise emission levels in Bogota city</td>
<td>Jose A. Pacheco, Universidad de los Andes; Miguel A. Ortiz, Universidad de los Andes; Santiago J. Arango, Universidad de los Andes; Eduardo Behrentz, Universidad de los Andes</td>
</tr>
<tr>
<td>15:00</td>
<td>1109</td>
<td>Applying DFSS method in NVH measurement to optimize vehicle wind noise treatment</td>
<td>Wei Wei, Chrysler Group, LLC; Frank Falzetta, Chrysler Group, LLC.</td>
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</table>

### Community / Environmental Noise: 7.05 National Park Noise / Quiet Parks

**Room: Wilder**

**Session Chairs: Karen Travino, Truis Gjestland**

<table>
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<th>Time</th>
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<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>8:00</td>
<td>1015</td>
<td>National Park Service mandates and Authorities on protection of natural sounds</td>
<td>Karen Trevino, National Park Service; Frank Turina, National Park Service</td>
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<tr>
<td>8:20</td>
<td>1060</td>
<td>Framework for addressing noise generated by National Park operations</td>
<td>Frank Turina, National Park Service; Karen Trevino, NPS Natural Sounds and Night Skies Division</td>
</tr>
</tbody>
</table>
Protecting wildlife from noise impacts: A review of legislation and legal precedents in New England and by the Federal Government
Contributed  in12_1130.pdf
Author: Eddie Duncan, Resource Systems Group, Inc.

Rapid noise mapping and display methods to support planning processes in U. S. National Parks.
Invited  in12_1149.pdf
Authors: Kurt M. Fristrup, U. S. National Park Service; Cynthia Lee, Volpe National Transportation Center

Ozark National Scenic Riverways - Boat noise measurement summary report
Contributed  in12_1557.pdf
Authors: Gerald R. Stanley, National Park Service

Active and Passive Noise & Vibration Control:
1.02 Algorithms and Systems for Active Control and Acoustic Echo Cancellation
Room: Wilder
Session Chairs: AM: Jing Lu, Muhammad Akhtar; PM: Jing Lu, Xiaojun Qiu

New proportionate affine projection algorithm
Contributed  in12_134.pdf  ASME NCAD
Authors: Felix Albu, Valahia University of Targoviste

A hybrid ANC system with a sinusoidal noise canceller equipped with a variable step-size LMS algorithm
Invited  in12_169.pdf
Authors: Yegui Xiao, Prefectural University of Hiroshima; Kazunari Doi, Prefectural University of Hiroshima; Boyan Huang, Prefectural University of Hiroshima; Jing Wang, BeiHang University

Adaptive active control of acoustic intensity in flow
Contributed  in12_417.pdf
Author: F. Simon, ONERA

An efficient RLS algorithm for stereophonic acoustic echo cancellation with the widely linear model
Invited  in12_565.pdf
Authors: Cristian Stanciu, University Politehnica of Bucharest; Constantin Paleologu, University Politehnica of Bucharest, Romania; Jacob Benesty, INRS-EMT, University of Quebec, Montreal, Canada; Tomas Gaensler, mh Acoustics, Summit, NJ, USA; SilviuCiochina, University Politehnica of Bucharest, Romania

Multichannel active noise control system using a GPU accelerator
Invited  in12_571.pdf
Authors: Jorge Lorente, Universitat Politecnica de Valencia; Jose A. Belloch, Universitat Politecnica; Miguel Gonzalez, Universitat Politecnica; Maria de Diego, Universitat Politecnica; GemaPenero, Universitat Politecnica; Antonio Vidal, Universitat Politecnica

Performance of a multi-channel adaptive Kalman algorithm for active noise control of non-stationary sources
Invited  in12_735.pdf
Authors: Sjoerd van Ophem, University of Twente; Arthur Berkhoff, University of Twente, TNO
13:20  767  Active control for variable frequency tonal noises using fixed parameter notch neural network  
Contributed in12_767.pdf  
Authors: Krukowicz Tomasz, Central Institute for Labour Protection

13:40  794  On the application of adaptive combination of adaptive filters to acoustic echo cancellation  
Invited in12_794.pdf  
Authors: Luis Antonio Azpicueta-Ruiz, Universidad Carlos III de Madrid; Aníbal Figueiras-Vidal, Universidad Carlos III de Madrid; Jerónimo Arenas-García, Universidad Carlos III de Madrid

14:00  1379  Multi-channel hybrid active noise control systems for infant incubators  
Contributed in12_1379.pdf  
Authors: Lichuan Liu, Northern Illinois University; Kapila Beemanpally, Northern Illinois University; Sen Maw Kuo, Northern Illinois University

14:20  1388  Enhanced inverse model LMS algorithm for active control of harmonic response clusters  
Contributed in12_1388.pdf  
Authors: Mingfeng Li, University of Cincinnati; Jie Duan, University of Cincinnati; Teik C. Lim, University of Cincinnati

14:40  982  Optimal sensor and actuator placement for active vibration control systems  
Contributed in12_982.pdf ASME NCAD  
Authors: Britta Spah, Technische Universität; Rudolf Sebastian Schittenhelm, Institute for Mechatronic Systems, Technische Universität; Stephan Rinderknecht, Institute for Mechatronic Systems, Technische Universität

15:00  528  Analysis of performance of feedforward active noise control systems in noncausality circumstances  
Invited in12_528.pdf  
Authors: Jing Lu, Nanjing University; Haishan Zou, Institute of Acoustics, MOE key lab of modern acoustics, Nanjing University, China; Jiancheng Tao, Institute of Acoustics, MOE key lab of modern acoustics, Nanjing University, China

Numerical and Analytical Techniques:
17.02 Statistical Energy Analysis and Energy Methods  
Room: Ziegfeld

8:00  1  Transient dynamics of three-dimensional beam trusses using higher order kinematics  
Contributed in12_1.pdf ASME NCAD  
Authors: Yves LeBuennec, ONERA; Eric Savin, ONERA

8:20  126  Comparison of SEA and TPA for input source and contribution rates  
Contributed in12_126.pdf  
Authors: Katsuhiro Kuroda, Nagasaki Institute of Applied Science; Toru Yamazaki, Department of Mechanical Engineering, Faculty of Engineering, Kanagawa University

8:40  560  The effect of acoustic modeling and damping loss coefficient to ship cabin noise  
Contributed in12_560.pdf  
Author: Dongyan Shi, Harbin Engineering University; Lv Sheng, ; Xianjie Shi
Wednesday, August 22, 2012

9:00  768  Damping loss factor estimation method by using finite element method in statistical energy analysis
Contributed in12_768.pdf
Authors: Takayuki Koizumi, Doshisha University; Nobutaka Tsujiuchi; Katsuyoshi Honsho; Hilmi Bin Hela Ladin; Hiroyuki Wada; Mitsugu Kaneko

9:20  1180  Efficient models of small acoustic cavities coupled to flexible panels
Contributed in12_1180.pdf
Authors: Vincent Cotoni, ESI Group; Maguelone Pontet, ESI Group; Sascha Merz, ESI group

Numerical and Analytical Techniques: 17.04 Mid frequency vibroacoustic methods  Room: Ziegfeld
Session Chairs: Wim Desmet, Steve Conlon

10:20  338  Dissipation of acoustic pulses on multi-layered cylindrical impedance shells
Contributed in12_338.pdf
Authors: Alexander Kleshchev, Krylov Shipbuilding Research Institute; Vitalii Chizhov, Krylov Shipbuilding Research Institute

10:40  675  Frequency responses for vibroacoustics problems by the method of fundamental solutions
Contributed in12_675.pdf
Authors: Der-Liang Young, National Taiwan University; Ching-Sen Wu, National Taiwan University

11:00  893  Lorentzian-weighted frequency averaging for the evaluation of the input power into one-dimensional structural dynamic systems
Contributed in12_893.pdf
Authors: R. D’Amico, Katholieke Universiteit Leuven; K. Vergote, Katholieke Universiteit Leuven; W. Desmet, Katholieke Universiteit Leuven

11:20  946  Evaluation of the partition of unity finite element method for the analysis of poroelastic materials
Contributed in12_946.pdf
Authors: Jean-Daniel Chazot, Universite de Technologie de Compiègne; Emmanuel Perrey-Debain, Laboratoire d; Benoit Nemmig, Laboratoire Roberval, Universite de Technologie de Compiègne

11:40  1436  Robust sound transmission loss prediction of complex planar structures with a hybrid finite element-statistical energy analysis method
Contributed in12_1436.pdf
Authors: Edwin Reynders, KU Leuven; Robin Langley, University of Cambridge; Arne Dijckmans, University of Leuven (KU Leuven); Gerrit Vermeir, University of Leuven (KU Leuven)

Renewable Energy System Noise: 20.02 Wind turbines and renewable energy noise  Room: Gilbert
Session Chairs: PM: Mark Bastasch, Pari Tathavadekar, Brent Paul

8:00  344  Synthetic research program on wind turbine noise in Japan
Invited in12_344.pdf
Authors: Hideki Tachibana, Chiba Institute of Technology; Hiroo Yano, Chiba Institute of Technology; Shinichi Sakamoto, Institute of Industrial Science, The University of Tokyo; Shinichi Sueoka, Institute of Noise Control Engineering, Japan
8:20 635  On the characterization of the secondary windscreens used in wind turbine noise measurements
Contributed in12_635.pdf
Authors: Valentin Buzduga, Scantek, Inc.; Sarah Taubitz, DNV KEMA Energy & Sustainability for DNV Renewables (USA) Inc.

8:40 780  Noise source identification with blade tracking on a wind turbine
Contributed in12_780.pdf
Authors: Jesper Gomes, Bruel and Kjaer

9:00 141  Phased array measurement and simulation of vertical axis wind turbine noise
Contributed in12_141.pdf
Authors: Charlie Pearson, Cambridge University; Will Graham, Cambridge University Engineering Department; Tamas Bertenyi, QuietRevolution Ltd.

9:20 395  Variations of sound from wind turbines during different weather conditions
Contributed in12_395.pdf
Authors: Conny Larsson, Uppsala University; Olof, Uppsala University

10:00 1043  Noise from wind turbines under non-standard conditions
Contributed in12_1043.pdf
Author: Lars S. Sondergaard, DELTA Acoustics

10:20 1117  Development of a pre-construction acoustic methodology for wind energy projects
Invited in12_1117.pdf
Authors: Peter McPhee, Massachusetts Clean Energy Center; Amy Barad, Massachusetts Clean Energy Center; Tyler Studds, Massachusetts Clean Energy Center; Leigh Cameron, Massachusetts Clean Energy Center; Martha Broad, Massachusetts Clean Energy Center; Nils Bolgen, Massachusetts Clean Energy Center; Peter Guldberg, Tech Environmental

10:40 160  Analysis of background low frequency sound levels at four wind energy sites
Contributed in12_160.pdf
Authors: Peter Guldberg, Tech Environmental, Inc.

11:00 1264  Large eddy simulation of airfoil self noise
Contributed in12_1264.pdf
Authors: Lawrence Cheung, GE Global Research; Giridhar Jothiprasad, GE Global Research; Hao Shen, Boeing Research & Technology

11:20 109  Development and validation of turbulence ingestion prediction capability of TONBROD
Contributed in12_109.pdf ASME NCAD
Authors: Brent S. Paul, Alion Science and Technology Corp; James S. Uhlman, Alion Science and Technology Corporation

11:40 382  Wind turbine noise reduction by means of serrated trailing edges
Contributed in12_382.pdf
Authors: Seunghoon Lee, Seoul National University; Soogab Lee, Seoul National University

13:20 552  Noise from the shaft-bearing-circular plate system with speed increasing helical gears
Contributed in12_552.pdf
Author: Chan IL Park, Gangneung-Wonju National University
Wednesday, August 22, 2012

13:40  1385  Influence of blade solidity and trailing edge shape on marine hydrokinetic turbines
Contributed  in12_1385.pdf  ASME NCAD
Authors: Michael Jonson, Pennsylvania State University; John Fahnline, Penn State University Applied Research Laboratory; Erick Johnson, Sandia National Laboratories; Matthew Barone, Sandia National Laboratories; Arnold Fontaine, Penn State University Applied Research Laboratory

14:00  492  Investigation, projection and evaluation of wind turbine noise and infra-sound in Japan
Contributed  in12_492.pdf
Authors: Takashi Ohmura, Ministry of the Environment, Japan (MOEJ); Masamitsu Nakanishi, Ministry of the Environment, Japan; Nozomi Sakurai, Ministry of the Environment, Japan; Akira Shimada, Ministry of the Environment, Japan; Atsushi Kawabara, Ministry of the Environment, Japan

14:20  323  Evaluation of wind turbine-related noise in western New York State
Invited  in12_323.pdf
Authors: Martin T. Schiff, Lally Acoustical Consulting; Shannon R. Magari, Colden Corporation; Clinton E. Smith, Colden Corporation; Annette C. Rohr, Electric Power Research Institute (EPRI)

14:40  306  Wind turbines can harm humans: A case study
Contributed  in12_306.pdf
Authors: Carmen M.E. Krogh, Self; Roy D. Jeffery, Independent; Jeff Aramini, President and Chief Executive Officer Intelligent Health Solutions; Brett Horner, Independent

15:00  1551  Health impacts and exposure to wind turbine noise: Research design and noise exposure assessment
Contributed  in12_1551.pdf
Authors: David S. Michaud, Health Canada; Stephen E. Keith; Katya Feder; Tara Bower

15:20  Evaluation of the structural response of typical wind turbines by stochastic methods
Contributed  in12_980.pdf
Authors: Francisco de Assis Leandro Filho, Federal University of Ceara; Francisco Ilson da Silva Jr, Department of Mechanical Engineering, Federal University of Ceara (UFC)

5th Floor:

Community / Environmental Noise: 7.06 Public outreach workshop on community noise
Room: Salon 3
Session Chairs: Larry Finegold, David Sykes

8:00 – 13:45  Papers to be presented:

1431  Managing community noise at the local level
Lawrence Finegold

1539  How did the NYC DEP develop the NYC code?
Charles Shamoon, Esq. & Gerry Kelpin, DEP/BEC Director of Enforcement

1545  Elkhart IN: a new and successful approach for implementing noise codes
Bradley Vite, adviser to the mayor and lead developer of Elkhart’s self-funding noise ordinance
In pursuit of silence

Professionals, public officials and citizens join together to stop the noise
Arlene Bronzaft PhD, Mayor’s council on the environment of NYC and co-author of the book, Why Noise Matters (Routledge, 2011)

The National Academy of Engineering report “Technology for a Quieter America”
George Maling, lead author

What I learned listening to noise
Garret Keizer, author of the book The Unwanted Sound of Everything We Want (Public Affairs 2010)

Proposed ANSI Standard: guidance for developing state noise regulations and local noise ordinances
Bennett Brooks, co-chair, ANSI S12 WG41

The shot heard...managing the impacts of noise on an iconic Revolutionary War town
Douglas Adams AIA, Chair (retired) planning commission, Lincoln MA

The turning point was 2011: the next decade has begun
David Sykes, co-chair ANSI S12 WG44, editor of Sound & Vibration...2.0 (Springer 2012)

Architectural Noise / Building Acoustics: 3.14 Vertical Transmission of Noise and Vibration
Session Chairs: Jack B. Evans, Marc Asselineau

8:00 655  Investigation of vertical sound transmission problems in a Ketchum, Idaho condominium
Invited  in12_655.pdf
Authors: Kerrie G. Standlee, Daly-Standlee & Associates, Inc.

8:20 684  Vertical transmission of noise and vibrations: A few problems
Invited  in12_684.pdf
Authors: Marc Asselineau, Peutz and Associates; Aline Gaulupeau, PEUTZ & Associates; Maud Serra, PEUTZ & Associates

8:40 791  Which approach for aero-acoustic problem associated to façade elements?
Invited  in12_791.pdf
Authors: Jean Baptiste Chene, Center for Building Science and Technology; Pierre Kerdudou, Centre Scientifique et Technique du B; Catherine Guigou-Carter, Centre Scientifique et Technique du B
### Measurement and Signal Processing Techniques:

**12.02 Sound Power / Intensity Determination for Noise Sources**  
**Room: Salon 4**

**Session Chairs:** Eric Myer, Micah Shepherd

<table>
<thead>
<tr>
<th>Time</th>
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<th>Title</th>
<th>Authors</th>
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<tr>
<td>10:00</td>
<td>446</td>
<td>ISO standards for the measurement of noise emission from machinery - Do they meet their goals?</td>
<td>Jean R. Jacques, I.N.R.S.; Patrick Kurtz, BAuA, Germany</td>
</tr>
<tr>
<td>10:20</td>
<td>531</td>
<td>Procedure to estimate the in-duct sound power in the high frequency range with non-plane waves</td>
<td>Antti Hynninen, VTT Technical Research Centre of Finland; Mats Abom, KTH Competence Centre for Gas Exchange, Marcus Wallenberg Laboratory</td>
</tr>
<tr>
<td>10:40</td>
<td>572</td>
<td>ISO 9295 measurement of high frequency sound power level (16 kHz octave band) from all types of products</td>
<td>Robert D. Hellweg, Hellweg Acoustics; Egons Dunens, Hewlett-Packard Company; Ikuo Kimizuka, IBM Japan, Ltd. Yamato Laboratory</td>
</tr>
<tr>
<td>11:00</td>
<td>1045</td>
<td>A proposal for a new background noise correction procedure in noise emission measurement standards</td>
<td>Seth Bard, IBM Hudson Valley Acoustics Lab; Matthew A. Nobile, IBM Hudson Valley Acoustics Lab</td>
</tr>
<tr>
<td>11:20</td>
<td>1112</td>
<td>Investigation of the variation in transmission loss in enclosures of different volumes, through measurements of sound power</td>
<td>A. Esquivel-Dlegado, Centro Nacional de Metrologia; A.E. Perez Matzumoto, Centro Nacional de Metrolog; S.J. Perez Ruiz, Universidad Nacional Aut</td>
</tr>
<tr>
<td>11:40</td>
<td>1170</td>
<td>Sound power measurement in the near field of transformers</td>
<td>Michael Ertl, Siemens Transformers; Hermann Landes, SIMetris GmbH</td>
</tr>
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### Architectural Noise / Building Acoustics: 3.11 Computational Techniques in Room and Building Acoustics

**Room: Lyceum/Carnegie**

**Session Chairs:** Julieta António, Yun Jing

<table>
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<th>Title</th>
<th>Authors/Institutions</th>
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<tr>
<td>8:00</td>
<td>1134</td>
<td>Different assumptions - Different reverberation formulae</td>
<td>Invited, in12_1137.pdf, Uwe M. Stephenson, HafenCity University</td>
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<td>8:20</td>
<td>1137</td>
<td>Are there simple reverberation time formulae also for partially diffusely reflecting surfaces?</td>
<td>Invited, in12_1137.pdf, Uwe M. Stephenson, HafenCity University</td>
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<tr>
<td>8:40</td>
<td>1141</td>
<td>Estimation of absorption and scattering coefficients of room surfaces by least-squares matching simulated to measured energy decay curves</td>
<td>Invited, in12_1141.pdf, Sonke Pelzer, RWTH Aachen University; Michael Vorlander, Institute of Technical Acoustics - RWTH Aachen University</td>
</tr>
<tr>
<td>9:00</td>
<td>1176</td>
<td>IPL SDK: Software development kit for efficient acoustics simulation</td>
<td>Invited, in12_1176.pdf, Anish Chandak, Impulsonic, Inc.; Lakulish Antani, Univeristy of North Carolina at Chapel Hill; Dinesh Manocha, University of North Carolina at Chapel Hill</td>
</tr>
<tr>
<td>9:20</td>
<td>1349</td>
<td>A new method of curve fitting for calculation of reverberation time from impulse responses with insufficient length</td>
<td>Contributed, in12_1349.pdf, ASME NCAD, Caglar Firat Ozgenal, Middle East Technical University; Arzu Gonenc Sorguc, Middle East Technical University, Department of Architecture</td>
</tr>
<tr>
<td>9:40</td>
<td>374</td>
<td>Extraction and identification of location of source signals embedded in noise and reflected signals using BSS</td>
<td>Contributed, in12_374.pdf, Megumi Yanai, Tokyo University of Science; Fumio Sasaki, Tokyo University of Science; Osamu Tanaka, Tokyo University of Science; Masahito Yasuoka, Tokyo University of Science</td>
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### Architectural Noise / Building Acoustics: 3.02 Healthcare Noise

**Room: Lyceum/Carnegie**

**Session Chairs:** David Sykes, Kenric Van Wyk, Dave Holger

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<tr>
<td>10:20</td>
<td>683</td>
<td>Comparing equivalent noise levels and percentile levels in healthcare spaces</td>
<td>Invited, in12_683.pdf, Arun K. Mahapatra, Wilson Ihrig &amp; Associates; Erica E. Ryherd, Woodruff School of Mechanical Engineering, Georgia Institute of Technology; Howard K. Pelton, Pelton Associates</td>
</tr>
<tr>
<td>10:40</td>
<td>912</td>
<td>Speech privacy measurements in an outpatient healthcare facility</td>
<td>Contributed, in12_912.pdf, Benjamin Davenny, Acentech Incorporated</td>
</tr>
</tbody>
</table>
### Wednesday, August 22, 2012

#### 11:00  1491

**Subjective experiment for speech privacy in pharmacy focusing on the effect of partition design at counters**  
Contributed in12_1491.pdf  
Authors: Hyojin Lee, University of Tokyo; Kanako Ueno, Meiji University; Shinichi Sakamoto, Institute of Industrial Science, The University of Tokyo

#### 11:20  1507

**Strategies for measuring in-situ hospital noise**  
Invited in12_1507.pdf  

#### 11:40  1508

**A rank order methodology to improve acoustical comfort for patients in existing facilities**  
Invited in12_1508.pdf  

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**Measurement and Signal Processing Techniques:**  
**12.07 Source-Path Contribution/Transfer Path Analysis**  
**Room: Lyceum/Carnegie**  
Session Chairs: Gary Newton, John Fahnline

#### 13:20  185

**Consideration of accuracy evaluation index for operational Transfer Path Analysis**  
Contributed in12_185.pdf  
Authors: Junji Yoshida, Osaka Institute of Technology; Yoichi Onishi

#### 13:40  389

**Operational transfer path analysis predicting contributions to the vehicle interior noise for different excitations from the same sound source**  
Contributed in12_389.pdf  
Authors: Jakob Putner, AG Technische Akustik, MMK; Hugo Fastl, Mueller-BBM VibroAkustik Systeme; Martin Lohrmann, AG Technische Akustik, MMK, TU Muenchen; Albert Kaltenhauser, BMW Group; Frank Ullrich, BMW Group

#### 14:00  801

**Operational transfer path analysis, Some practical pitfalls.**  
Contributed in12_801.pdf  
Authors: Prof. dr. ir. N.B. Roozen, Delft University of Technology; Q. Leclere, Laboratoire Vibrations Acoustique, INSA Lyon, France

#### 14:20  1018

**Development of particle velocity transfer path analysis**  
Contributed in12_1018.pdf  
ASME NCAD  
Authors: Akira Inoue, Hitachi America, Ltd.; Yosuke Tanabe, Hitachi America, Ltd.
## Psychoacoustic Aspects in Noise Evaluation:

**21.04 Psycho Acoustic Approach to Noise Problems in Daily Life**

**Session Chairs:** Hugo Fastl, Dongxing Mao

**Room:** Alvin/Edison

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Code</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00</td>
<td>882</td>
<td>The application of psychoacoustics to environmental noise issues</td>
<td>Invited, Klaus Genuit, HEAD acoustics GmbH; Andre Fiebig, HEAD acoustics GmbH</td>
</tr>
<tr>
<td>8:20</td>
<td>1053</td>
<td>Noise assessment on the basis of the perception threshold concerning</td>
<td>Invited, Otto Martner, Muller-BBM GmbH; Mirko Djukic, University of Applied Sciences Deggendorf, Germany</td>
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<td></td>
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<td>the noise phenomenon “ear-pressure”</td>
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<tr>
<td>8:40</td>
<td>732</td>
<td>Annoyance criterion for subway induced low frequency noise in buildings</td>
<td>Invited, Dongxing Mao, Tongji University; Zhiyue Shao, Institute of Acoustics, Tongji University</td>
</tr>
<tr>
<td>9:00</td>
<td>551</td>
<td>Loudness of double impulsive sounds</td>
<td>Invited, Takeo Hashimoto, Seikei University; Kenji Sekiguchi, Seikei University; Shigeko Hatano, Seikei University; Toshimitsu Tanaka, Osaka University; Seiichiro Namba, Osaka University; Sonoko Kuwano, Seikei University</td>
</tr>
<tr>
<td>9:20</td>
<td>334</td>
<td>Does teenagers’ hearing ability affect the unpleasant feeling of the</td>
<td>Invited, Tomomi Yamada, Osaka University; Sonoko Kuwano, Osaka University; Shigeyuki Ebisu, Osaka University</td>
</tr>
<tr>
<td></td>
<td></td>
<td>sound of a dental drill?</td>
<td></td>
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<tr>
<td>9:40</td>
<td>1524</td>
<td>Subjective tests on listening difficulty of public address</td>
<td>Invited, Sakae Yokoyama, The University of Tokyo; Hideki Tachibana, Chiba Institute of Technology</td>
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<tr>
<td></td>
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<td>announcement in public spaces</td>
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</table>

## Low Frequency Noise, Vibration and Shock: 10.03 Indoor Response to Sonic Boom and Low Frequency Noise Sources (joint INCE / ASME NCAD)

**Session Chairs:** Jake Klos, Joe Gavin

**Room:** Alvin/Edison

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Code</th>
<th>Title</th>
<th>Authors</th>
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</thead>
<tbody>
<tr>
<td>10:20</td>
<td>1240</td>
<td>Models for window rattle caused by structural vibration induced by</td>
<td>Contributed, Louis C. Sutherland, LCS- Acoustics; Natalia Sizov, FAA AEE; Chris Hobbs, Wyle</td>
</tr>
<tr>
<td></td>
<td></td>
<td>sonic booms</td>
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<tr>
<td>10:40</td>
<td>740</td>
<td>Study on methods for simulating sonic booms outdoors</td>
<td>Invited, Tetsuya Doi, Kobayasi Institute of Physical Research; Yusuke Naka, Japan Aerospace Exploration Agency</td>
</tr>
<tr>
<td>11:00</td>
<td>1335</td>
<td>Overview of an indoor sonic boom simulator at NASA Langley Research</td>
<td>Invited, Jacob Klos, NASA Langley Research Center</td>
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<td></td>
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<td>Center</td>
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</table>
Wednesday, August 22, 2012

11:20 902  Uncertainty analysis of sonic boom levels measured in a simulator at NASA Langley
Invited  in12_902.pdf
Authors: Jonathan Rathsam, NASA Langley Research Center; Jeffry Ely, Structural Acoustics Branch, NASA Langley Research Center

11:40 955  Prediction of high frequency sonic boom noise transmission into buildings using a hybrid analytical-ray tracing approach
Invited  in12_955.pdf ASME NCAD
Authors: Joseph M. Corcoran, Virginia Tech; Marcel C. Remillieux, Department of Mechanical Engineering, Virginia Tech; Ricardo A. Burdisso, Department of Mechanical Engineering, Virginia Tech

Flow Induced Noise and Vibration:
24.07 Fatigue due to Acoustical Induced Vibration in Piping Systems Room: Booth
Session Chairs: Bob Bruce, Kim Riegel

8:00 628  Solving AIV problems in the design stage
Invited  in12_628.pdf
Authors: Robert D. Bruce, CSTI acoustics; Arno S. Bommer, CSTI acoustics; Thomase E. LePage, CSTI acoustics

8:20 243  Design strategies for acoustically induced vibration in process piping
Invited  in12_243.pdf
Author: James Cowling, KBR

8:40 930  AIV results from 30 years applying the Mueller and Carucci method for evaluating acoustic induced vibration
Invited  in12_930.pdf
Authors: Thomas Mc Mahon, Hoover & Keith, Inc.

9:00 1323  Practical application of AIV analysis methods for screening, qualification, and redesign of complex piping systems
Contributed  in12_1323.pdf
Authors: Neal Evans, Southwest Research Institute; David Arnett, Fluor; Tim Allison, Southwest Research Institute

9:20 1540  Investigation of pipe size effect against AIV
Invited  in12_1540.pdf
Authors: Masato Nishiguchi, Chiyoda Advanced Solutions Corp; Hisao Izuchi, Chiyoda Advanced Solutions Corporation; Itsuro Hayashi, Chiyoda Advanced Solutions Corporation; Gaku Minorikawa, Department of Mechanical Engineering, Hosei University

10:20 254  Acoustically induced vibration - Development and sse of the ‘Energy Institute’ screening method
Invited  in12_254.pdf
Authors: Robert Swindell, Xodus Group Limited

10:40 444  An efficient finite element method for acoustic induced vibration analysis
Invited  in12_444.pdf
Authors: Timothy C. Allison, Southwest Research Institute; Neal Evans, Southwest Research Institute; Nathan Poerner, Southwest Research Institute
Wednesday, August 22, 2012

11:00  332  An assessment of the state of acoustic-induced vibration (AIV) management technology while presenting a possible alternative static approach
Contributed  in12_332.pdf
Authors: Michael S. Shelton, Jacobs Engineering; Robert G. Brown, West Virginia University; David Tucker, National Energy Technology Laboratory; Jacky Prucz, Jacobs Engineering Group

11:20  555  A finite element modal analysis approach to assess piping failures due to acoustically induced vibration
Invited  in12_555.pdf
Authors: Bill Skailes, Plant Asset Management (Petrofac); Shi-Song Ngiam, Plant Asset Management (Petrofac)

11:40  1309  Operator experience with using Energy Institute piping vibration guidelines to prevent acoustic induced vibration fatigue failures
Contributed  in12_1309.pdf
Authors: Geoff Evans, BP Exploration; Jonathan Baker, Petrofac; Rob Swindell, Xodus Group Ltd

13:40  359  Fatigue life design for acoustic-induced vibration in high-capacity flare systems
Invited  in12_359.pdf
Authors: Denis Karczub, ConocoPhillips; Al Fagerlund, Fisher Controls International

14:00  595  Predicting pipe internal sound field and pipe wall vibration using statistical energy approaches for AIV
Invited  in12_595.pdf
Authors: J. Adin Mann III, Fisher Controls International LLC; Daniel Eilers, Fisher Controls International LLC; Allen C. Fagerlund, Fisher Controls International LLC

14:20  1418  Acoustic induced vibration: A need for harmony and cooperation
Invited  in12_1418.pdf
Authors: Kimberly A. Riegel, Lewis S. Goodfriend & Associates; Robert D. Bruce, CSTI Acoustics; Karl Reichard, Applied Research Laboratory

6th Floor:

Noise and Health: 15.09 Understanding speech in noise  Room: Music Box/Winter Garden
Session Chairs: Jerker Ronnberg, Deepak Prasher

8:00  144  Speech understanding in noise: The role of working memory capacity
Invited  in12_144.pdf
Authors: Jerker Ronnberg, Linnaeus Centre HEAD; Orjan Dahlstrom, Linnaeus Centre HEAD, Swedish Institute for Disability Research, Link; Mary Rudner, Linnaeus Centre HEAD, Swedish Institute for Disability Research, Link; Patrik Sorqvist, Linnaeus Centre HEAD, Swedish Institute for Disability Research, Link; Ingrid Johnsrude, Linnaeus Centre HEAD, Swedish Institute for Disability Research, Link; Thomas Lunner, Department of Behavioural Sciences and Learning, Link; Stefan Stenfelt, Linnaeus Centre HEAD, Swedish Institute for Disability Research, Link

8:20  485  Privacy protection for speech based on concepts of auditory scene analysis
Contributed  in12_485.pdf
Authors: Masato Akagi, Japan Advanced Institute of Science and Technology; Yoshihiro Irie, Glory Ltd.
Wednesday, August 22, 2012

8:40  554  The application of pupillometry to assess processing load during listening to speech in challenging conditions
Invited  in12_554.pdf
Authors: Adriana A. Zekveld, VU University Medical Center; Thomas Koelewijn, Audiology / ENT & EMGO+ Institute for Health and Care Research, VU University medical center, Amsterdam; Karen Mortier, Audiology / ENT & EMGO+ Institute for Health and Care Research, VU University medical center, Amsterdam; Joost M. Festen, Audiology / ENT & EMGO+ Institute for Health and Care Research, VU University medical center, Amsterdam; Hansvan Beek, Audiology / ENT & EMGO+ Institute for Health and Care Research, VU University medical center, Amsterdam; Sophia E. Kramer, Audiology / ENT & EMGO+ Institute for Health and Care Research, VU University medical center, Amsterdam

9:00  699  Robust speech recognition based on emphasis filtering on formant regions in mobile noise environment
Contributed  in12_699.pdf
Authors: Hwa Jeon Song, ETRI; Kiyoung Park, ETRI, Spoken Language Processing Team; Yunkeun Lee, ETRI, Spoken Language Processing Team

9:20  836  Evaluation of speech intelligibility in open-plan offices
Contributed  in12_836.pdf
Authors: Patrick Chevret, INRS; Ange Ebissou, INRS; Etienne Parizet, INSA, Lyon

10:00  1301  Investigating the effects of active noise cancelling headphones on speech intelligibility in aviation
Contributed  in12_1301.docx
Authors: Marion Burgess, UNSW; Brett Molesworth, School of Aviation, UNSW, Kensington, Australia

10:20  1526  Modulation sensitivity in the perception of speech
Invited  in12_1526.pdf
Authors: Robert E. Remez, Columbia University

Noise Policy Development, Education, Economics and Implementation:
16.01 Legislation, Implementation and Noise Control Policies
Room: Music Box/Winter Garden
Session Chairs: Miriam Weber, Colin Grimwood

10:40  98  An overview of Dutch aircraft legislation
Invited  in12_98.pdf
Authors: Jan Jabben, National Institute for Public Health and Environment (RIVM)

11:00  207  Integration of noise in Danish road planning - Methods and cost benefit
Invited  in12_207.pdf
Authors: Hans Bendtsen, Danish Road Directorate; Jakob Fryd, Danish Road Directorate

11:20  411  Holistic approach for rolling sound mitigation
Invited  in12_411.pdf
Authors: Ernst-Ulrich Saemann, Continental Reifen Deutschland GmbH

11:40  498  EUROCITIES position paper on urban transport noise
Invited  in12_498.pdf
Authors: Henk Wolfert, EUROCITIES
<table>
<thead>
<tr>
<th>Time</th>
<th>Session No.</th>
<th>Title</th>
<th>Type</th>
<th>Authors</th>
</tr>
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<tbody>
<tr>
<td>13:20</td>
<td>507</td>
<td>Electric heroes “Go smart go electric”</td>
<td>Invited</td>
<td>Erik Roelofsen, Dutch Noise Abatement Society; Roderik Schaepman, R&amp;D dept; Lisanne Roelofsen, Dutch noise abatement society</td>
</tr>
<tr>
<td>13:40</td>
<td>1005</td>
<td>Quiet Urban Areas: Repositioning local noise policy approaches - Questioning visitors on soundscape and environmental quality</td>
<td>Contributed</td>
<td>Miriam Weber, DCMR Environmental Protection Agency</td>
</tr>
<tr>
<td>14:00</td>
<td>1011</td>
<td>Reinstatement of Article 10 in New York State: Siting and licensing of power plants in New York City</td>
<td>Contributed</td>
<td>Damien Bell, ATCO Noise Management</td>
</tr>
<tr>
<td>14:20</td>
<td>1159</td>
<td>Analysis of the “plainly audible” standard for noise ordinances</td>
<td>Contributed</td>
<td>Eric M. Zwerling, Rutgers University; Amy E. Myers, Harrison Sale McCloy, Chtd.; Charles Shamoon, New York City Department of Environmental Protection</td>
</tr>
<tr>
<td>14:40</td>
<td>1314</td>
<td>Introducing clear policy objectives for noise management in England</td>
<td>Invited</td>
<td>Colin Grimwood, Bureau Veritas; Stephen Turner, Defra;</td>
</tr>
</tbody>
</table>

**Marine Vehicles, Structures and Underwater Noise:**

**11.04 Underwater and Marine Structure Noise / Vibration (joint INCE / ASME NCAD)**

**Room: Palace**

**Session Chairs: Joe Cushieri, Ab Kirwan**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session No.</th>
<th>Title</th>
<th>Type</th>
<th>Authors</th>
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<tbody>
<tr>
<td>8:00</td>
<td>278</td>
<td>A study on the excitation force induced by the coupling of torsional and axial vibrations in marine propulsion shafting system</td>
<td>Contributed</td>
<td>Chan-Hui Lee, Hyundai Heavy Industries, Co., Ltd.; Heui-Won Kim, Hyundai Maritime Research Institute, R&amp;D Division, Hyundai Heavy Industries, Co., Ltd.; Won-Ho Joo, Hyundai Maritime Research Institute, R&amp;D Division, Hyundai Heavy Industries, Co., Ltd.</td>
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<tr>
<td>8:20</td>
<td>337</td>
<td>Monitoring of ship underwater radiated noise using artificial neural networks</td>
<td>Contributed</td>
<td>Valeriy Kalyu, Krylov Shipbuilding Research Institute; Ludmila Dmitrieva, Saint Petersburg State University; Yury Kuperin, Saint Petersburg State University</td>
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<tr>
<td>Time</td>
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<td>Title</td>
<td>Authors</td>
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<tr>
<td>8:40</td>
<td>821</td>
<td>The case study of whirling vibration caused by 1st order excitation in small marine vessel</td>
<td>Jin-Hee Kim, Mokpo National Maritime University; Don-Chooi Lee, Division of Marine Engineering, Mokpo National Maritime University, Korea; Tae-un Kim, Busan Branch, Korea Ship Safety Technology Authority, Korea</td>
<td></td>
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<tr>
<td>9:00</td>
<td>883</td>
<td>Prediction of underwater sound due to pile driving for offshore wind farms - A challenge for numerical simulation</td>
<td>Stephan Lippert, Hamburg University of Technology; Tristan Lippert, Hamburg University of Technology; Otto von Estorff, Hamburg University of Technology; Marius Milatz, Hamburg University of Technology; Katja Reimann, Hamburg University of Technology</td>
<td></td>
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<tr>
<td>9:20</td>
<td>993</td>
<td>Passive characterization of underwater acoustic waveguides through interferometry of diffuse ambient noise</td>
<td>Oleg A. Godin, University of Colorado</td>
<td></td>
</tr>
<tr>
<td>10:00</td>
<td>1216</td>
<td>An analytical study of the low frequency structural responses of a submerged hull</td>
<td>Cong Zhang, The University of New South Wales; Nicole Kessissoglou, The University of New South Wales; Mauro Caresta, The University of New South Wales; Meixia Chen, Huazhong University of Science and Technology</td>
<td></td>
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<tr>
<td>10:20</td>
<td>1303</td>
<td>Measurements and modelling of turbulent boundary layer excitation and induced structural response on a ship: PART I Full scale wall pressure fluctuations</td>
<td>Francesca Magionesi, CNR-INSEAN; Elena Ciappi, CNR-INSEAN; Francesco La Gala, CNR-INSEAN; Fabrizio Ortolani, CNR-INSEAN; Roberto Ortolani, CNR-INSEAN; Andrea Di Mascio, CNR-IAC; Jose Manuel Fernandez Hernando, ACCIONA-Trasmediterranea</td>
<td></td>
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<tr>
<td>10:40</td>
<td>1304</td>
<td>Measurements and modelling of turbulent boundary layer excitation and induced structural response on a ship: PART II Full scale structural response</td>
<td>Elena Ciappi, CNR-INSEAN; Francesca Magionesi, CNR-INSEAN; Mirko Bassetti, CETENA S.p.A.; Diego D’Orazio, University of Rome; Jose Manuel Fernandez Hernando, ACCIONA-Trasmediterranea</td>
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<tr>
<td>11:00</td>
<td>1340</td>
<td>Using broadband, ship-radiated noise in shallow water environments to perform physics-based localization</td>
<td>Alexander W. Sell, Penn State University; R. Lee Culver, Penn State Graduate Program in Acoustics</td>
<td></td>
</tr>
<tr>
<td>11:20</td>
<td>1424</td>
<td>Effects of damping on the structural acoustics response of a partially submerged steel pile to an impact force</td>
<td>Shima Shahab, Georgia Institute of Technology; Mardi Hastings, Georgia Institute of Technology</td>
<td></td>
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### 2.06 Noise Source Characterization in Aircraft

**Room:** Uris/Plymouth

**Session Chairs:** Carsten Spehr, Todd Rook

<table>
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<th>Title</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>8:00</td>
<td>408</td>
<td>Development of a ground based and aerial sonic boom measurement system</td>
<td>Authors: Michael Denton, National Instruments; Kurt Veggeberg, Japan Aerospace Exploratory Agency (JAXA); Yusuke Naka, National Instruments</td>
</tr>
<tr>
<td>8:20</td>
<td>1098</td>
<td>Simple-source model of military jet aircraft noise</td>
<td>Authors: Jessica Morgan, Brigham Young University; Tracianne B. Neilsen, Dept. of Physics and Astronomy, Brigham Young University; Kent L. Gee, Dept. of Physics and Astronomy, Brigham Young University; Alan T. Wall, Dept. of Physics and Astronomy, Brigham Young University; Michael M. James, Blue Ridge Research and Consulting</td>
</tr>
<tr>
<td>8:40</td>
<td>575</td>
<td>Localization of sound sources on aircraft in flight</td>
<td>Authors: Henri A. Siller, German Aerospace Center</td>
</tr>
<tr>
<td>9:00</td>
<td>703</td>
<td>Microphone array applications in cabins</td>
<td>Authors: Judith Kokavec, German Aerospace Center (DLR); Lasse Seemann, Technische Universit; Carsten Spehr, German Aerospace Center (DLR)</td>
</tr>
<tr>
<td>9:20</td>
<td>1081</td>
<td>An analytical-numerical aerodynamic formulation for efficient aeroacoustics analysis of rotorcraft</td>
<td>Authors: Massimo Gennaretti, University ROMA TRE; Claudio Testa, CNR-INSEAN Italian Ship Model Basin - Propulsion Dept.; Giovanni Bernardini, University ROMA TRE - Mechanical &amp; Industrial Eng. Dept.; Alessandro Anobile, University ROMA TRE - Mechanical &amp; Industrial Eng. Dept.</td>
</tr>
<tr>
<td>9:40</td>
<td>998</td>
<td>Pressure gradient effects on turbulent pressure spectrum</td>
<td>Authors: Richard G. DeJong, Calvin College; Isaac J. Kuiper, Calvin Engineering</td>
</tr>
<tr>
<td>10:20</td>
<td>689</td>
<td>Computational and experimental study on noise generation from flap side-edge of a simplified high-lift wing model</td>
<td>Authors: Mitsuhiro Murayama, Japan Aerospace Exploration Agency; Yuzuru Yokokawa, Japan Aerospace Exploration Agency; Kazuomi Yamamoto, Japan Aerospace Exploration Agency; Taro Imamura, Japan Aerospace Exploration Agency; Hiroki Ura, Japan Aerospace Exploration Agency</td>
</tr>
<tr>
<td>10:40</td>
<td>570</td>
<td>Wall pressure fluctuation models through wavenumber-frequency spectra measurements</td>
<td>Authors: Massimo Miozzi, CNR-INSEAN; Elena Ciappi</td>
</tr>
</tbody>
</table>
Acoustic resonances in a 3D open cavity: Comparison of experimental and numerical results  
Contributed in12_132.pdf  
Authors: Santiago Ortiz, Centro de Ac; Pedro Cobo, Centre for applied acoustics and non-destructive evaluation, CAEND, CSIC; Leo Gonzalez, School of Naval Engineering (UPM); Daniel Rodriguez, School of Aerospace Engineering (UPM); Vassilis Theofilis, School of Aerospace Engineering (UPM)

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<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>11:00</td>
<td>132</td>
<td>Noise and Health: 15.04 Sleep Disturbance</td>
<td>Authors: A.L. Brown, Griffith University; Dibyendu Bannerjee, Department of Environment, B.B.College, Asansol, West Bengal, India; Deanna Tomerini, Urban Research Program/ Griffith School of Environment, Griffith University</td>
</tr>
<tr>
<td>12:00</td>
<td>250</td>
<td>Effect of objective road traffic noise and noise annoyance on subjective and objective sleep quality in men and women</td>
<td>Authors: Martin Roosli, Swiss Tropical and Public Health Institute (Swiss TPH); Evelyn Mohler, Swiss Tropical and Public Health Institute (Swiss TPH); Patrizia Frei, Swiss Tropical and Public Health Institute (Swiss TPH)</td>
</tr>
<tr>
<td>12:30</td>
<td>375</td>
<td>Design for a US field study on the effects of aircraft noise on sleep</td>
<td>Invited Authors: Mathias Basner, University of Pennsylvania</td>
</tr>
<tr>
<td>13:00</td>
<td>406</td>
<td>A review of potential mechanisms in the genesis of long-term health effects due to noise-induced sleep disturbances</td>
<td>Invited Authors: Mark Brink, ETH Zurich</td>
</tr>
<tr>
<td>13:30</td>
<td>476</td>
<td>Introducing faster dynamics into a nonlinear model that can predict effects of aircraft noise on sleep</td>
<td>Invited Authors: Sarah McGuire, Purdue University; Patricia Davies, Ray W. Herrick Laboratories, Purdue University</td>
</tr>
<tr>
<td>14:00</td>
<td>531</td>
<td>Noise sensitivity and sleep disturbance</td>
<td>Contributed Authors: H.E. Laszlo, Imperial College London; S.A. Janssen, The Netherlands Organization for Applied Scientific Research (TNO); W. Babisch, Federal Environment Agency (UBA), Germany; A.L. Hansell, MRC-HPA Centre for Environment and Health, London UK</td>
</tr>
</tbody>
</table>
Consumer Product Noise: 5.04 Buy Quiet Policies: Encouraging Demand for Low-Noise Products

Session Chairs: Jean Tourret, Matt Nobile

8:00 268 Development of the UK - ‘Buy Quiet’ - Project to promote production and purchase of quiet industrial machinery
Contributed in 12_268.doc
Authors: Sarah Haynes, Health & Safety Executive (HSE); Paul Brereton, Health & Safety Executive (HSE); Jacqueline Patel, Health & Safety Laboratory

8:20 435 Determination of the Product Noise Rating (PNr) for hair dryers: A test case
Invited in 12_435.pdf
Authors: Matthew A. Nobile, IBM Hudson Valley Acoustics Laboratory

8:40 451 Quiet Mark: Giving consumers the choice to buy quiet
Invited in 12_451.pdf
Authors: Gloria Elliott, Noise Abatement Society

9:00 1173 Advanced tools for buying quiet products
Contributed in 12_1173.pdf
Authors: Charles Hayden, NIOSH; Edward Zechmann, Tier 1 Performance Solutions; CDC/NIOSH

9:20 1448 Preparation of noise emission specifications for buy quiet programs
Invited in 12_1448.pdf
Author: George C. Maling Jr, Self

Motor Vehicle Noise, Interior and Exterior:
4.03 Noise control requirements for vehicles and tires

Session Chairs: Truis Berge, Klaus Genuit

10:00 271 Acoustic assessment of a passing-by hybrid distribution truck
Invited in 12_271.pdf
Authors: Marie-Agnes Pallas, University of Lyon; Roger Chatagnon, University of Lyon, IFSTTAR; Joel Lelong, University of Lyon, IFSTTAR

10:20 217 Source–transfer–receiver modeling approaches – A historical review of methods
Invited in 12_217.pdf
Authors: Patrick Van de Ponseele, LMS International NV; Karl Janssens, LMS International NV; Laurent De Ryck, LMS International NV

10:40 790 Vehicle exterior noise reduction using operational TPA during simulated pass-by tests
Invited in 12_790.pdf
Authors: Juha Plunt, Muller-BBM; Kjetil Vedholm, M; William Easterling, M; Kaj Bodlund, Volvo Group Trucks Technology

11:00 150 Introduction of tire road noise regulation in Japan
Invited in 12_150.pdf
Authors: Seiji Takai, Ministry of the Environment, Japan; Toshiyuki Nishimoto, Ministry of the Environment, Japan; Takayuki Fujimoto, Ministry of the Environment, Japan

11:20 394 Development of cars specified for tire-road noise measurement
Invited in 12_394.pdf
Author: J-W. Biermann, Institut f; Jens Viehofer
Wednesday, August 22, 2012

11:40 1298  Tyre/road noise testing on various road surfaces - Report from the NordTyre project
Invited in12_1298.pdf
Author: Truis Berge, SINTEF

Consumer Product Noise: 5.01 General Topics Room: Royale
Session Chairs: Chuck Hayden, Matt Nobile

13:20 179  Noise generated by portable masonry saws operating in construction
Contributed in12_179.pdf
Authors: Adriano A.R. Barbosa, UNICAMP/ IFSP; Stelamaris R. Bertoli, UNICAMP

13:40 1119  Noise source identification and assessment of two noise controls on light towers
Invited in12_1119.pdf
Authors: Andrew Hemmelgarn, NIOSH; Edward Zechmann, CDC/NIOSH; Charles Hayden, CDC/NIOSH

14:00 1129  Assessment of a chisel noise control for jack and chipping hammers
Contributed in12_1129.pdf
Authors: Edward Zechmann, NIOSH; Charles Hayden, NIOSH

14:20 1181  Sound quality evaluation of powered riding toy noises by children
Contributed in12_1181.pdf
Authors: Gema Pinero, Universitat Politecnica de Valencia; Laura Fuster, Telecom. Multimedia Applications (iTEAM) - Universitat Politecnica de Valencia; Alberto Gonz, Telecom. Multimedia Applications (iTEAM) - Universitat Politecnica de Valencia; Maria de Diego, Telecom. Multimedia Applications (iTEAM) - Universitat Politecnica de Valencia; Miguel Ferrer, Telecom. Multimedia Applications (iTEAM) - Universitat Politecnica de Valencia; Karina Pernias, AIJU; Maite Romero, AIJU

14:40 1351  Investigation of refrigerator noise on the prototype designs
Contributed in12_1351.pdf
Authors: Hasan Koruk, Istanbul Technical University; H. Temel Belek, Istanbul Technical University; Murat Alparslan, EDA Ltd.; Necati Bilgin, INDESIT Company; Onur Akaydin, INDESIT Company; Alper Akgul, Proplan Ltd.

Community / Environmental Noise: 7.02 Recreational / Entertainment Noise Room: Broadway N
Session Chairs: Paul Burge, Chris Menge, Bob Brosdon

10:20 194  Investigating the source characteristics of gunshot noise
Contributed in12_194.pdf
Authors: Andrew Barnard, Penn State University; H. John Camin, Penn State University; David M. Kiger, Penn State University

10:40 561  Noisy large events: Overview of regulations of different countries
Contributed in12_561.pdf
Authors: Jan H. Granneman, Peutz bv

11:00 366  SPARC (Cooper Park) race track noise analysis and abatement
Invited in12_366.pdf
Authors: Christopher Menge, Harris Miller Miller & Hanson Inc.

11:20 222  Noise prediction and assessment of transient screaming events
Contributed in12_222.pdf
Authors: Hans Forschner, Navcon Engineering Network
Using historical sound level recordings to assess community noise exposure

Contributed in12_1283.pdf

Authors: Daniel A. Foley, Foley & Associates; Patrick Romero, Parsons Brinckerhoff; Kevin Keller, Parsons Brinckerhoff

**Active and Passive Noise & Vibration Control: 1.01 Passive Noise and Vibration Control**

**Room: Broadway South**

Session Chairs: Noah Schiller, Franck Marrot

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00</td>
<td>373</td>
<td>Reduction of sound radiation by using force radiation modes: Effect of a rigid wall near a vibrating object</td>
<td>Zenzo Yamaguchi, Kobe Steel, Ltd.; Shinji Ishibashi, Kobe University; Kimihiro Sakagami, Kobe University; Masayuki Morimoto, Kobe University; J. Stuart Bolton, Purdue University</td>
</tr>
<tr>
<td>8:20</td>
<td>866</td>
<td>Helicoidal resonators for passive noise control in ducted systems with practical application</td>
<td>Wojciech Lapka, Poznan University of Technology</td>
</tr>
<tr>
<td>8:40</td>
<td>355</td>
<td>The theoretical investigation of Helmholtz resonators array for broad-band noise control in ventilation systems</td>
<td>Xu Wang, The Hong Kong Polytechnic University; Cheuk-Ming Mak, Department of Building Services Engineering, The Hong Kong Polytechnic University</td>
</tr>
<tr>
<td>9:00</td>
<td>294</td>
<td>Development of a light sound insulation structure with variable insulation performance by using air pressure</td>
<td>Professor Masaharu Nishimura, Tottori University; Yuhei Kuwahara, Department of Mechanical Engineering, Tottori University; Syutaro Kasuya, Department of Mechanical Engineering, Tottori University; Tomonobu Goto, Department of Mechanical and Aerospace Engineering, Tottori University</td>
</tr>
<tr>
<td>9:20</td>
<td>538</td>
<td>Numerical prediction of absorbing materials via computational aeroacoustics</td>
<td>Marie Escouflaire, ONERA; Stephane Redonnet, ONERA; CNRS / LAUM</td>
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**7th Floor:**

**Low Frequency Noise, Vibration and Shock:**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00</td>
<td>270</td>
<td>Low frequency noise from open window in a moving car and its effect on human beings</td>
<td>Stanislav Ziaran, Slovak University of Technology</td>
</tr>
<tr>
<td>8:20</td>
<td>325</td>
<td>Falmouth, Massachusetts wind turbine infrasonic and low frequency noise measurements</td>
<td>Stephen E. Ambrose, S.E. Ambrose and Associates; Robert W. Rand, INCE Member; Carmen M.E. Krogh, Independent</td>
</tr>
</tbody>
</table>
Wednesday, August 22, 2012

8:40 737 Perception of loudness and roughness of low frequency sounds
Invited in12_737.pdf
Authors: Roland Sottek, HEAD acoustics GmbH; Fabian Kamp, HEAD acoustics GmbH; Andre Fiebig, HEAD acoustics GmbH

9:00 802 System For determination of hazardous areas for blind people using wave-vibration markers - Final conclusions
Contributed in12_802.pdf
Authors: Jerzy W. Wiciak, AGH - University of Science and Technology

9:20 886 A pilot study on the threshold levels for the perception of vibration in the head of subjects exposed to complex low-frequency tones
Contributed in12_886.pdf
Authors: Yukio Takahashi, National Institute of Occupational Safety and Health

9:40 1432 What makes low-frequency noise annoying?
Invited in12_1432.pdf
Authors: Dr. Detlef Krahe, University of Wuppertal

Architectural Noise / Building Acoustics: 3.12 Indoor Acoustic Comfort and Building Acoustics Assessment and Classification Room: Gotham/Chelsea
Session Chairs: Jorge Patricio, Antonio di Bella

10:20 976 Acoustic demands in a new building code in Iceland
Invited in12_976.pdf
Author: Steindor Gudmundsson, Verkis Consulting Engineers

10:40 191 The Portuguese policy for building acoustics assessment
Invited in12_191.pdf
Author: Jorge Patricio, LNEC/SPA

11:00 201 Research project on “Program for Development of Indoor Noise Determination in Public Places (Stations and carriages of the Land Transportation System)” of the Republic of China (Taiwan)
Contributed in12_201.pdf
Authors: I-Chun Lin, Environmental Protection Administration; Li-Chung Chou, Environmental Protection Administration, R.O.C. (Taiwan); Ping-Fei Shieh, Environmental Protection Administration, R.O.C. (Taiwan); Hui-Chen Chien, Environmental Protection Administration, R.O.C. (Taiwan); Yein-Rui Shieh, Environmental Protection Administration, R.O.C. (Taiwan)

11:20 171 Acoustic comfort in airport terminals
Contributed in12_171.pdf
Authors: Carsten Lemvigh Fog, COWI A/S; Jens Niros, COWI A/S; Frode Bye, COWI Norway; Lars Odemark, COWI Norway; Robin Thomas Helland, COWI Norway

11:40 599 Rating airborne sound insulation in terms of time structure of the signal
Invited in12_599.pdf
Authors: Reinhard O. Neubauer, University of Sheffield; Jian Kang, University of Sheffield UK
Wednesday, August 22, 2012

13:20 885  **Evaluation of speech intelligibility on subway platforms from horizontally positioned line-array loudspeakers**
Contributed in12_885.pdf
Authors: Acoustic consultant Philip Zalyaletdinov, Tyrens AB

13:40 844  **Italian experiences on acoustic classification of buildings**
Invited in12_844.pdf
Authors: Antonino Di Bella, University of Padua; Patrizio Fausti, Department of Engineering, University of Ferrara; Fabio Scamoni, Construction Technologies Institute of Italian National Research Council, Milan; Simone Secchi, Department of Architecture, Technology and Design, University of Florence

**Motor Vehicle Noise, Interior and Exterior: 4.09 Enclosures, mufflers and silencers**
Room: Hudson/Empire
Session Chairs: AM: Tama Elnady, Mark Storm, Francisco D. Denia; PM: Mark Storm, Francisco D. Denia

8:00 311  **A test and simulation based approach for measuring and predicting enclosure acoustic modes at low frequencies**
Contributed in12_311.pdf
Authors: Harvind Raman, Caterpillar Inc.; David C. Copley, Caterpillar Inc.

8:20 449  **High performance genset enclosures enhance US border security while maintaining the critical acoustic environment required by nearby endangered Pronghorn Sheep**
Invited in12_449.pdf
Authors: Mark A. Rubino, Industrial Noise Control, Inc.; Noel W. Hart, CSTI Acoustics; Robert D. Bruce, CSTI Acoustics

8:40 510  **Enclosure insertion loss simulations: on the performances of different simulation methods**
Invited in12_510.pdf
Authors: Koen De Langhe, LMS International

9:00 922  **On variation of absorption factor due to measurement method and correction factors for conversion between methods**
Contributed in12_922.pdf
Authors: Anna Farm, Scania CV AB; Ragnar Glav, Scania CV AB; Susann Boij, KTH Royal Institute of Technology

9:20 154  **Noise suppression of a dipole source by tensioned membrane housing**
Contributed in12_154.pdf
Authors: Y. Liu, The Hong Kong Polytechnic University; Y.S. Choy, The Hong Kong Polytechnic University; L. Cheng, The University of Hong Kong; L. Huang, The Hong Kong Polytechnic University

9:40 1479  **Estimation of temperature drop in exhaust systems**
Contributed in12_1479.pdf
Authors: Tamer Elnady, Ain Shams University; Weam Elsahar, Ain Shams University; Mats Abom, Royal Institute of Technology

10:20 289  **Numerical modelling of thermal effects on the acoustic attenuation of dissipative mufflers**
Invited in12_289.pdf
Authors: Francisco D. Denia, Universidad Polit; F. Javier Fuenmayor, Universidad Politecnica de Valencia; Antonio J. Torregrosa, Universidad Politecnica de Valencia; Ahmet Selamet, The Ohio State University
10:40  423  
**Acoustic analysis of dissipative silencers**
Contributed in12_423.pdf
Authors: Nilson Barbieri, PUCPR; Renato Barbieri, PUCPR; Key Fonseca de Lima, PUCPR

11:00  984  
**Simulation of diesel particulate filters in large exhaust systems**
Contributed in12_984.pdf
Authors: X. Hua, University of Kentucky; D. W. Herrin, University of Kentucky; T. W. Wu, University of Kentucky; T. Elnady, Ain Shams University

11:20  1478  
**Modeling DPF units beyond the plane wave range**
Contributed in12_1478.pdf
Authors: Weam Elsahar, Ain Shams University; Tamer Elnady, Ain Shams University; D. W. Herrin, University of Kentucky

11:40  187  
**Low frequency damping from turbulence with application to charge air coolers**
Invited in12_187.pdf
Authors: Magnus Knutsson, Volvo Car Corporation; Mats Abom, KTH CCGEX, The Marcus Wallenberg Laboratory

13:20  174  
**Enhancement of acoustic performance of central inlet and side outlet mufflers**
Contributed in12_174.pdf ASME NCAD
Authors: Ajay P. Bhattu, College of Engineering; Anel D. Sahasrabudhe, College of Engineering Pune, Maharashtra, India

13:40  437  
**Determination of acoustic performance of cross flow-Extended closed end muffler element**
Contributed in12_437.pdf
Authors: Sinem Ozturk, Istanbul Technical University; Haluk Erol

14:00  566  
**Acoustic response of non-concentric perforated duct filters**
Invited in12_566.pdf
Authors: Antonio J. Torregrosa, Universidad Politecnica de Valencia; Alberto Broath, CMT-Motores; Xandra Margot, CMT-Motores; David Moreno, CMT-Motores

14:20  1144  
**Analytical and BEM solutions of sound attenuation in bar silencers**
Contributed in12_1144.pdf
Authors: L. Zhou, University of Kentucky; T. W. Wu, University of Kentucky; D. W. Herrin, University of Kentucky; C. Y. R. Cheng, Aero Systems Engineering

14:40  1344  
**Cooling fan noise control using micro-perforates**
Invited in12_1344.pdf
Authors: Sabry Allam, The Royal Institute of Technology; Mats Abom, KTH-Compeence Centre for Gas Exchange (CCGE)

15:00  1464  
**Effects of system parameters on muffler performance**
Invited in12_1464.pdf
Authors: M. G. Prasad, Stevens Institute of Technology; B. Rajavel, Stevens Institute of Technology
8:00 370 An experimental study for cooling fan noise reduction of large induction motor
Contributed in12_370.pdf
Authors: Hyung-Taek Kim, Hyundai Heavy Industries Co., Ltd.; Jin-tae Jun, Hyundai
Heavy Industries Co., Ltd.; Won-ho Joo, Hyundai Heavy Industries Co., Ltd.

8:20 426 Acoustic measurement under one operating condition AIRION for handled electric
blower
Invited in12_426.pdf
Authors: Thibault Remy, Pellenc Co; Alain Pondant, ; Simon Du Crest

8:40 646 Investigation of inflow condition effects on the ANCF aeroacoustics radiation using
LBM
Contributed in12_646.pdf
Authors: Franck Perot, Exa Corporation; Adrien Mann, Exa Corporation; Min-Suk Kim,
Exa Corporation; Damiano Casalino, Exa Corporation; Ehab Fares, Exa Corporation

9:00 860 Synopsis of noise & vibrations of fans & blowers: Practical analyses & test methods
Invited in12_860.pdf
Author: Niranjan Humbad, Behr America

9:20 892 Aeroacoustical investigations on skewed axial fans for automotive cooling systems
Contributed in12_892.pdf
Authors: Mohamed Zayani, Karlsruhe Institute of Technology; Saban Caglar, Institute of
Fluid Machinery (FSM) / Karlsruhe Institute of Technology (KIT); Martin Gabi, Institute
of Fluid Machinery (FSM) / Karlsruhe Institute of Technology (KIT)

10:00 1021 Acoustic performance prediction of a residential purposed mixed-flow fan using
Ffowcs-Williams & Hawings’ analogy and Amiet’s theory
Contributed in12_1021.pdf
Authors: Dominic Lallier-Daniels, Universite de Sherbrooke; Marlene Sanjose,
Universite de Sherbrooke; Stephane Moreau, Universite de Sherbrooke; Jerone de
Laborderie, Universite de Sherbrooke; Universite de Sherbrooke

10:20 1284 Computational aeroacoustics of the aft fan noise emission by a lined realistic exhaust
Invited in12_1284.pdf
Authors: Stephane Redonnet, ONERA

10:40 1422 Metric balance technique for the sound quality development of cooling fans
Invited in12_1422.pdf
Authors: Graham D. Evans, Bentley Motors Ltd; Uday Senapati, Bentley Motors
Limited

11:00 1527 Blower fan noise reduction using the interblade flow improvement technology
Invited in12_1527.pdf
Authors: Masaharu Sakai, Denso Corp; Yasushi Mitsuishi, NIPPON SOKEN, INC.
13:20 1165  Array-measurement-based Aalgorithm for detecting debonded regions between concrete matrices and steel reinforced bars in concrete samples
Contributed in12_1165.pdf
Authors: Je-Heon Han, Texas A&M University; Yong-Joe Kim, Department of Mechanical Engineering, Texas A&M University; Alex Pagnotta, Department of Civil Engineering, Texas A&M University; Paolo Gardoni, Civil and Environmental Engineering, University of Illinois at Urbana-Champaign

13:40 1215  Flexural vibration and the perception of sting in hand-held sports implements
Contributed in12_1215.pdf
Authors: Daniel A. Russell, Penn State University

14:00 1255  Generation and its control of impact sound by stick-slip phenomenon in buildings - (1)
Property of impace sound and vibration
Contributed in12_1255.pdf
Authors: Yasuaki Hayashi, Urban Acoustic Corporation; Hidemaro Shimoda, Acoustic Planning Corporation

14:20 1261  Application of the beam-forming technique for damage detection in composite plate
Contributed in12_1261.pdf ASME NCAD
Authors: Ernesto Monaco, University of Napoli; Fabrizio Ricci, University of Napoli - ITALY - Department of Aerospace Engineering; Leonardo Lecce, University of Napoli - ITALY - Department of Aerospace Engineering; Natalino Daniele Boffa, University of Napoli - ITALY - Department of Aerospace Engineering

14:40 1501  Effects, detection, and mitigation of voids beneath slabs-on-ground
Contributed in12_1501.pdf
Authors: Hal Amick, Colin Gordon Associates; Steven Lank, Colin Gordon Associates; Ning Tang, Colin Gordon Associates; Michael Gendreau, Colin Gordon Associates; Colin Gordon Associates
Wednesday, August 22, 2012

9:00  898  Determination of the sound reflection index of noise barriers: Guidelines to improve the measurement accuracy
Invited  in12_898.pdf
Authors: Monika Rychtarikova, KU Leuven; Vojtech Chmelik, KU Leuven, Belgium; Gert Geentjens, STU Bratislava, Slovakia; Willy Bruyninckx, KU Leuven, Belgium; Elisabeth Wursten, KU Leuven, Belgium; Roald Frederickx, KU Leuven, Belgium; Christ Glioreux, KU Leuven, Belgium;

9:20  302  Investigations on the influence of source directivity for measurements of in-situ sound absorption
Invited  in12_302.pdf
Authors: Reinhard Wehr, AIT Austrian Institute of Technology; Manfred Haider, AIT Austrian Institute of Technology; Marco Conter, AIT Austrian Institute of Technology

10:00  300  Structure and use of a new database for the acoustic performance of noise barriers in Europe
Invited  in12_300.pdf
Authors: Marco Conter, AIT Austrian Institute of Technology; Manfred Haider, AIT Austrian Institute of Technology; Simon Breuss, AIT Austrian Institute of Technology; Martin Czuka, AIT Austrian Institute of Technology

10:20  264  Holistic optimization of noise barriers from acoustical and non-acoustical parameters
Invited  in12_264.pdf
Authors: Jerome Defrance, CSTB; Thomas Leissing, CSTB; Francis Grannec, CSTB; Philippe Jean, CSTB; Dorien Lutgendorf, TNO; Christophe Heinkele, LRPC; Jean-Pierre Clairbois, A-Tech

10:40  525  Generic database of sustainability criteria values per main noise reducing device type for EU project QUIESST
Invited  in12_525.pdf
Authors: Crina Oltean-Dumbrava, University of Bradford; Greg Watts, University of Bradford, Bradford Centre for Sustainable Environments; Abdul Miah, University of Bradford, Bradford Centre for Sustainable Environments

11:00  727  Application of admittance optimization to the design of a low-height tramway noise barrier
Invited  in12_727.pdf
Authors: Alexandre Jolibois, Universite Paris-Est; Denis Duhamel, Universit; Victor W. Sparrow, The Pennsylvania State University - Graduate Program in Acoustics; Jerome Defrance, Centre Scientifique et Technique du B; Philippe Jean, Centre Scientifique et Technique du B

11:20  541  Control of the absorption and directivity properties of noise barriers using periodic surfaces
Invited  in12_541.pdf
Authors: Miguel Moleron, Universite du Maine; Simon Felix, LAUM, CNRS, Universit; Vincent Pagneux, LAUM, CNRS, Universit; Olivier Richoux, LAUM, CNRS, Universit

11:40  429  Increased absorption due to localized resonances
Invited  in12_429.pdf
Authors: Viacheslav Kubytskyi, Ecole Polytechnique; Marcel Filoche, Ecole Polytechnique; Bernard Sapoval, Ecole Polytechnique
13:20 239  On the acoustical properties of hemp concrete
Invited  in12_239.pdf
Authors: Mr Philippe Gle, Universite of Lyon; Emmanuel Gourdon, DGCB, ENTPE - Universite de Lyon; Laurent Arnaud, DGCB, ENTPE - Universite de Lyon

13:40 1438  Analysis of the efficiency and usefulness of top devices in noise barriers
Contributed  in12_1438.pdf
Authors: Itxasne Diez, Tecnalia Research and Innovation; Pilar Fernandez, Tecnalia Research & Innovation; Itziar Aspuru, Tecnalia Research & Innovation

14:00 1555  Barrier with a wedge-shaped composed of wells on the top plane
Invited  in12_1555.pdf
Author: Masaki Hasebe, Hokkaido University
POSTER PRESENTATIONS

Tuesday, August 21, 2012

Morning Session – 10:00 – 12:00

Abstract 107  Activities working group noise EUROPE
Henk Wolfert

Abstract 146  Order determination for the feedback path estimator in hearing aid
Soudeh Ardestani Khoubrouy, Issa M.S. Panahi, Vahid Montazeri

Abstract 165  Design of a three-channel feedback ANC system to cancel noise in a 3-dimentional enclosure
Alan Wisler, Issa Panahi

Abstract 170  Sound insulation performance of edge-effect suppression barriers
Yasuhito Kawai, Masahiro Toyoda

Abstract 468  Study on the high efficiency low noise centrifugal fan for vacuum cleaner
Young-Gyu Jung, Jeong-Ho Lee, Joon-Sik Choi, Wan-Ho Jeon

Abstract 479  Interaction between torsional waves propagating in an elastic pipe and an adjacent viscous fluid
Jin O. Kim, Chunguang Piao

Abstract 480  The upper bound of step size for FDPANC algorithm with nonlinear secondary path
Ming Wu, Jun Yang

Abstract 496  A study on the acoustic performance prediction and evaluation of lattice type noise reducing device installed on the top of noise barrier
Je-Won Yoon, Young-Chan Kim, Kang-Yong Jang, Chan-Yong Choi

Abstract 519  HUSH project contribution to environmental noise directive implementation and revision, focusing on noise management and public information tools
Salvatore Curcuruto, Rosalba Silvaggio, Romualdo Amadio, Luca De Rinaldis, Enrico Mazzocchi, Francesca Sacchetti, Massimo Stortini

Abstract 593  3D acoustic modelling of multichamber silencers with microperforated and constant impedance ducts
Francisco D. Denia, Eva M. Sanchez-Orgaz, F. Javier Fuenmayor, David J. Busquets

Abstract 614  Refurbishment of a bar improving acoustic comfort with no additional costs
Enrico Reatti

Abstract 702  Development of ultrasonic wireless power transmitter
Gunn Hwang, WooSub Youm, WooSeok Yang, Sung O. Lee

Abstract 784  Analysis of the vibroacoustic parameters of an energy power transformer without any damages and with defects simulated in the core
Sebastian Borucki, Andrzej Cichon, Tomasz Boczar, Dariusz Zmarzly

Abstract 786  The possibilities of using acoustic signals generated by the on load tap changer
Andrzej Cichon, Sebastian Borucki, Tomasz Boczar, Dariusz Zmarzly

Abstract 795  The analysis of the disturbances in the measurements of the acoustic partial discharges
Tomasz Boczar, Andrzej Cichon, Sebastian Borucki, Dariusz Zmarzly

Abstract 840  Measurement and analysis of acoustic wave in fluid-filled viscoelastic pipes
Matjaz Prek

Abstract 854  Sound quality in urban environments and its relationship with some acoustic parameters,
ASME NCAD
Juan M. Barrigon Morillas, Valentín Gomez Escobar, Guillermo Ray Gozalo, Rosendo Vilchéz-Gomez, Juan Antonio Mendez Sierra, Jose Trujillo Carmona, Carlos Prieto Gajardo, F. Javier Carmona del Rio

Abstract 891  Beampattern design for spherical array via convex optimization
Rilin Chen, Pengxiao Teng, Yichun Yang
Abstract 1107  Assessment of the passive school buildings envelopment in the northeast of Brazil as an integrating element between the acoustic, thermal and efficient energy
Jordana Teixeira da Silva, Maria Lucia Gondim da Rosa Oiticica

Abstract 1406  Analysis of sound absorption characteristics of laminated panels using fractional derivative viscoelastic model
Shuichi Akasaka, Takahisa Kato, Shigeo Asai

Abstract 1413  An active noise cancelling system for moving noise source
Iwao Fujino

Abstract 1442  Study of noise inside a mechanical shovel cabin from a sound perception approach
Nacer Hamzaoui

Abstract 1476  Experimental diagnostic methods for vibration piezoelectric sensors
Stanislav Klusacek, Zdenek Havranek

Abstract 1477  Experiment research on 3D sound reproduction with reflection boundary
Shenguang Li, Sifa Zheng, Bo Peng, Xiaomin Lian

Abstract 1495  A numerical study and model scale measurement of large commercial vessel’s propeller noise
Hnashin Seol, Cheolsoo Park, Gun Do Kim, Young Ha Park

Abstract 1499  Interplay of noise and non-noise aspects in the quality of life of an airbase neighborhood
Anallu Rosa Barbosa, Stephan Paul

Abstract 1516  Comparison of Hand-Arm Vibration Syndrome (HAVS) among foresters between tropical and temperate climate
Jun Fukumoto, Shigeki Takemura, Kouichi Yoshimasu, Kazuhisa Miyashita, Setsuo Maeda, Ting Anselm Su, Ryuichi Nakajimag, Makoto Tateno, Kyoji Yoshikawa, Nobuyuki Miyai, Yoshiro Nasu

Abstract 1558  Objective evaluation of the width of source ensemble in virtual halls, ASME NCAD
Salvador Cerda, Alicia Gimenez, Roas Cibrian, Jaume Segura, Radha Montell, Arturo Barba

Afternoon Session – 15:20 – 17:00

Abstract 119  A forward-backward data processing method for the experimental results of reciprocating motion, ASME NCAD
Hsiao-Yeh Chu, Jen Fin Lin, Yi-Ting Li, Hung-Tai Hsieh, Guan-Lin Chen, Ping-Hsueh Tsai

Abstract 133  Air bubbles in water: A study on their nonlinear effects on the ultrasonic field
Christian Vanhille, Cleof Campos-Pozuelo

Abstract 155  Classroom acoustics and hearing support system for disabled
Manabu Ishihara, Shin-nosuke Suzuki, Jun Shirataki, Kazutaka Itako

Abstract 157  Previsional acoustic impact of the site work of the new metro line in Copenhagen, Cityringen project
Vittorio Pisani, Paolo Cristina Cpaennai, Orsola Sivera, Massimo Provenzano, Francesco Asdrubali, Samuele Schianvoni, Giorgio Baldinelli

Abstract 175  A study on quality improvement of bone conducted speech
Tomohiro Minami, Shigeaki Aoki

Abstract 231  Assessment of ground vibration influence distance for Taiwan high-speed rail
Yit-Jin Chen, Song-Wei Lin, Shue-Hsien Wei

Abstract 234  Noise measurements on the Oslo tram
Atle Stensland, Tore Fodnes Killengreen, Sigmund Olafsen

Abstract 252  Experimental study of an automatic dynamic balancer for vibration control of vehicles
Maria Alzira A. Nunes, Carla T. Mota Anflor, Israel A. Marcedo de Lima

Abstract 292  Noise assessment of bioethanol fuelled hybrid and electric postal vehicles equipped with a kinetic energy recovery system, ASME NCAD
Michele Goretti, Andrea Nicolini, Frederico Rossi, Franco Cotana

Abstract 331  Case Study: Recording studio isolation in adaptive re-use of historical building
Emily Lally, Jonathan Lally, Martin Schiff

Abstract 357  Duct-borne noise control using active adaptive Helmholtz resonators array
Xu Wang, Cheuk-Ming Mak, Yi Yun
Abstract 379  Improvement plan of managing noise monitoring system in Korea  
Young-Min Park, Hyosung Sun

Abstract 424  Measurements analysis for impulsive events individuation  
Adolfo Sabato, Alessandro Sabato, Alfredo Reda

Abstract 493  A study on the development of core soundproof devices for reduction of the environment noise in 400km/h high speed railway  
Hyo-Sun Seo, Young-Chan Kim, Kang-Seok Jang, Je-Won Yoon, Ki-Young Eum

Abstract 612  Expeditious and diffuse city noise mapping method on light zero emission vehicles  
Enrico Reatti

Abstract 621  Declaration and verification of airborne sound insulation values for sound insulators in use in Russia  
Ilya E. Tsukernikov, Igor L. Shubin, Tatiana O. Nevenchannaya

Abstract 775  Aerodynamic noise characteristics of a specific position of a passing high-speed train by the beampower spectrum  
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Abstract 1471  Experimental evaluation of methods for estimation of regularization in acoustic holography with MEMS sensor array  
Zdenek Havranek, Stanislav Klusacek

Abstract 1503  A first noise map for Mexico City metropolitan area  
Fausto E. Rodriguez-Manzo, Elisa Garay-Vargas
Exhibition Hours
Monday, August 20, Opening Reception 5:30 – 7:00 p.m.
Tuesday, August 21, 8:00 a.m. – 5:00 p.m.
Wednesday, August 22, 8:00 a.m. – 12:00 p.m.
Noise Control For Construction Sites

Sound Seal's BBC-13X-2" Sound Curtain has been recommended, specified and approved for use to comply with the New York City Noise Code Requirements

Visit Us at Booth # 219

Section 28 of the New York City Noise Code calls out requirements for reducing noise levels for construction projects that include perimeter barriers and fencing utilizing Sound Seal Model BBC-13X-2" sound curtain panels

Sound Seal®
(800) 569-1294
www.soundcurtains.com
www.newyorkcitynoisecode.com
50 H.P. Almgren Dr. Agawam Ma. 01001
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EXHIBITORS’ DESCRIPTIONS

3M Thermal Acoustic Systems - Booth 416
7911 Zionsville Road
Indianapolis, IN 46268
www.earglobal.com

3M Thermal Acoustic Systems creates custom engineered noise, vibration, shock and thermal systems for a wide range of applications. With the E-A-R brand portfolio, the company works closely with customer design and engineering teams to provide energy-control solutions that add value to products through quieter operation, improved thermal properties, enhanced precision and greater durability. Our new Acoustic Technology Center allows for comprehensive design testing and solution validation within a highly controlled environment.

ACO Pacific, Inc - Booth 303
2604 Read Ave
Belmont, CA USA 94002
www.acopacific.com

ACO Pacific, Inc celebrating 33 years, serving customers worldwide. Featured, the SLARM™/NetSLARM™/Community/Industrial/Environmental Noise monitoring systems. The Sound Level Alarm and Monitor offers continuous standalone (or with PC) monitoring, data logging and event signalling. The Net SLARM™ provides network connectivity, permitting remote monitoring through the Internet, including text messaging of alarm events. ODM outdoor microphone assemblies permit installation in a wide range of locations and SLARMulti™ offers area monitoring with one SLARM™. - Also on display will be the 7052PH Phantom Powered Measurement Mic System; PSIEPE4 CCLD ICP converters for the PS9200 and Studio Phantom Systems; 7052SYS and MK224SYS microphone systems; the 4212 and 4048 ACOtron™ preamps; and the RA and RAS series of right angle preamps designed to meet specialized applications. A leading manufacturer and supplier of IEC61094 compliant 1 inch, ½ inch and ¼ inch measurement microphones, PS9200KIT (1/2 Inch) and PS9200KIT -1/4 (1/4 Inch) microphone “Kits”, ACOustic Interface™, Simple Intensity™ sound and intensity systems, Extremely™ White/Pink/1kHz noise generators will also be shown. ACouistics Begins With ACO™. -Community and Environmental Sound Level Monitor and Alarm systems with SLARMNet™, the ODM family of outdoor microphone assemblies, SLARMulti™-multiple mic system. The WS-80T outdoor windscreen family suitable for wind farm measurements and other outdoor installations will also be on display. The 3025 “Extremely Random”™ noise generator, MATT™-XX Microphone Attenuator, Phantom Powered products 4048 and 7052PH and ICP1248 Phantom Power to ICP:IEPE converter, ACO Pacific’s PS9200KIT and a wide range of IEC61094 compliant measurement microphone products will also be shown.

Acoustic Systems/ETS-Lindgren - Booth 203
1301 Arrow Point Drive
Cedar Park, TX 78613
www.ets-lindgren.com

ETS-Lindgren is a global leader in the design, manufacture, and installation of the Acoustic Systems brand of acoustic chambers, including hemi-anechoic, anechoic, reverberation, small device and predictable field chambers for precision-grade, free-field and reverberant testing of products ranging in size from cell phones to full size aircraft. Our ISO 17025 accredited Acoustic Research Lab (NVLAP Lab Code 100286-0) offers acoustic testing services in accordance with a wide range of standardized test methods. The lab also conducts customized test programs for client-specific product R&D needs, or to verify a product meets compliance requirements. Based in Cedar Park, Texas, ETS-Lindgren’s Quality Management System is compliant with ISO-9001: 2000. Additional manufacturing and sales facilities are located in North America, Europe and Asia. For more information, visit us at www.ets-lindgren.com.
American Acoustical Products - Booth 208
311 Hopping Brook Road
Holliston, MA, USA, 01746
www.aapusa.com

American Acoustical Products is the manufacturer of a unique line of light weight, flame retardant, acoustical absorbers, barriers and vibration damping products. Our patented Micro Slit Spaced Absorbers deliver excellent absorption without the use of fibers. In addition to bulk material manufacturing, American Acoustical Products offers finished part fabrication, and state of the art NVH diagnostic services.

Armtect - Booth 300
8270 Greensboro Drive, Suite 810
Mclean, VA  22102
www.armtec.com

Atlantic Industries Ltd. - T1
AIL Sound Walls
640 Waydom Drive
Ayr, Ontario, N0B 1E0 Canada

Save time and money with AIL Sound Wall Systems -Manufacturing cost-effective sound barrier wall solutions for mitigating unwanted noise, our Silent Protector® and Tuf-Barrier® PVC systems are engineered for maximum sound reduction. Well suited for a variety of absorptive or reflective applications including highways, railways, rapid transit, bridges, commercial developments, industrial, transformers and roof top mechanical or HVAC enclosures.-----Lightweight and easy-to-install AIL Sound Walls provide unmatched value in optimized shipping costs, minimal equipment requirements and accelerated project schedules using local crews all resulting in reduced installation costs. With STC ratings of up to 36, they are also proven performers in today’s tough urban environments:

- Maintenance-free (will not rust, rot, or stain)
- Graffiti and tagging resistant (non-porous)
- Designed to meet AASHTO/CSA noise wall guidelines
- Meet accelerated test requirements for durability
- Impervious to rain, snow, ice and sleet
- Wind load tested up to +140 mph -We support you

AIL Sound Walls and our network of distributors offer turn-key solutions, including engineering, manufacturing, project management and site assistance to ensure project success. A member of The AIL Group of Companies AIL Sound Walls is a division of Atlantic Industries Limited, a member of the AIL Group of Companies. The AIL Group has technical sales teams, engineering departments, manufacturing plants and distribution centers throughout North America and extends its global reach through AIL International and licensees in Australia, Europe and Asia. -Earn LEED points for green building American made from recycled and recyclable PVC, AIL Sound Walls have several other key attributes that support LEED building projects. - Choose efficient AIL Sound Walls -For more information call 1-866-231-7867 or visit ailsoundwalls.com

BASF Corp - Booth 410
1609 Biddle Ave.
Wyandotte, MI  48192
www.basotect.com

Basotect melamine foam from BASF is a flexible, open-cell foam with excellent sound absorption. Its unique set of product properties allows it to be used in many demanding applications including building room acoustics, power generation, HVAC, mass transit, automotive and aerospace. Key Basotect properties are excellent fire properties, application temperatures up to 240 °C, very low density at 0.55 lb/ft3 and good thermal insulation properties.
BASWA acoustic North America, LLC - Booth 101
3900 Ben Hur Avenue, Suite 10
Willoughby, Ohio USA 44094
www.baswaphon.com

BASWAphon Seamless Sound Absorbing Plaster System. Premium finish with NRC ratings up to 1.00 that can be vaulted, curved or domed. Tintable to match any color or multiple colors. Completely field installed; no pre-installation measurements needed, eliminating incorrect pre-cut product dimensions. Up to 95% recycled content, no VOC’s, components made in USA, providing points in up to 9 LEED categories. Available in custom finishes.

Bruel & Kjaer - Booth 404
2815 A Colonnades Court
Norcross, GA USA 30071
www.bkhome.com

A world leader in sound and vibration, Bruel and Kjaer serves customers involved in all areas of sound and vibration testing, research, product development and manufacturing. Following a long tradition, the company provides complete solutions for environmental noise modeling and measurement, long term sound and vibration monitoring, building acoustics measurements, audio analysis, multi-channel analysis for acoustic material testing, sound quality, noise source identification using acoustic holography, sound intensity, planar and spherical beamforming, and a range of structural analysis techniques. Products highlighted at the Internoise conference will include the recently released G4 models of the successful, award winning Type 2250/2270 sound level meters, the PULSE analysis platform and new LANXi hardware, and the powerful and intuitive PULSE Reflex family of PC based analysis tools. Bruel and Kjaer will also feature its Sentinel subscription solution for long term Noise and Vibration monitoring at industrial and construction sites. The noise monitoring terminals used in the Sentinel system can be seen at One World Trade Center, the tallest structure in NYC, under construction in lower Manhattan.

BSW GmbH - Booth 317
Am Hilgenacker 24
57319 Bad Berleburg, Germany

Given the increasing disturbances from vibration emissions and increasing public awareness of the issues involved with noise and vibrations, BSW has developed a comprehensive range of products for vibration damping and structure-borne noise insulation. The products Regupol® made of highly resilient rubber fibre/rubber granulate and PUR foam Regufoam® offer the right solution for practically every project involved in vibration insulation:- Under-Screed Impact Sound Insulation, - Vibration Isolation of Machine Foundations, - Vibration Isolation of Buildings, - Light Mass-Spring Systems

BSWA Technology Co., Ltd. - Booth 302
1002-1003, North Ring Center, #18 Yumin Road, Xicheng District Beijing 100029, China
www.bsva-tech.com

Established in 1998, BSWA Technology Co., Ltd. is an acoustical company covering the businesses of: 1- Manufacturing the world class measurement microphones. 2- Developing acoustic measurement systems and devices. 3- Designing and building anechoic chambers. 4- Acoustical consulting for environmental and noise control projects. BSWA will exhibit the following products 5- Microphones and Preamplifiers 6- Microphone Conditionings 7- Sound Calibrators 8- Microphone array 9- Material Testing System-Impedance Tube System 10- Real Time Analyzers 11- Sound Level Meters 12- Sound Intensity System

CESVA INSTRUMENTS SLU - Booth 114
Maracaibo, 6, 08030 Barcelona, Spain
www.cesva.com
Cirrus Research plc - Booth 310  
Acoustic House, Bridlington Road, Hunmanby, North Yorkshire, YO14 0PH, UK  
www.cirrusresearch.co.uk

Cirrus Research plc will be presenting their range of optimus sound level meters, the doseBadge noise dosimeter and noise measurement accessories at Internoise 2012.

Commercial Acoustics Div. Metal Form Mfg. Co. Inc. - Booth 221  
5960 West Washington Street  
Phoenix, AZ  85043  
www.mfmca.com

Data Physics Corporation - Booth 315  
1741 Technology Drive, Suite 260  
San Jose, CA 95110  
www.dataphysics.com

Data Physics offers a full line of noise and vibration solutions that include dynamic signal analyzers, high intensity acoustic test systems, underwater acoustic generators, electrodynamic shakers, and vibration controllers. Data Physics will be featuring the SignalCalc family of dynamic signal analyzers. The popular Quattro hardware, used for a variety of measurements, including realtime octave, intensity, and narrowband measurements, will be available for demonstration. Data Physics is pleased to share demonstration space with Genesis S.A. Genesis is a leading supplier of sound design solutions and 3D sound simulators. Genesis will be showcasing the LEA sound design software for industrial applications, and ASD Designer, the Active Sound Design solution for the car engine sound enrichment.

DataKustik GmbH - Booth 215  
Gewerbering 5, 86926 Greifenberg, Germany  
www.datakustik.com

DataKustik GmbH is the producer of CadnaA, one of the leading noise prediction software worldwide. The strength of CadnaA is its usability and accuracy. With the combination of CadnaR (indoor noise calculation) and Bastian (noise transmission) we offer a noise calculation package which caters to the most needs of the modern acoustician. Additionally to our software we provide a professional hotline service which supports our users in every part of the world. CadnaA – the powerful software for calculation, presentation, assessment and prediction of environmental noise and CadnaR - the powerful software tool for those dealing with the acoustic planning and the noise mitigation at workplaces, combines intuitive modeling techniques with state of the art calculation procedures.

Eckel Noise Control Technologies - Eckel Industries, Inc. - Booth 320  
155 Fawcett Street, Cambridge, MA, 02138  
www.EckelUSA.com

Noise Control Products and Systems & Acoustic Testing Facilities

Empire Acoustical Systems - Booth 209  
1111 Ace Road  
Princeton, IL  61356  
www.empireacoustical.com

Metal acoustical wall panels and systems for highway, industrial, commercial and residential applications as well as fabric acoustical panels for interior use.
G.R.A.S. Sound & Vibration - Booth 318
2285 East Enterprise Parkway
Twinsburg, OH 44087
www.gras.dk

G.R.A.S. Sound & Vibration’s standard range of products covers all front-end equipment from the transducer to the input of the acquisition equipment. All designed and manufactured in accordance with international standards needed for the precise and reliable measurement and mapping of acoustic signals. We will be showing our Measurement microphones, Surface microphones, Flush mount microphones, Ground array microphones, and Acoustic Test Fixture according to ANSI S12.42

Gfai tech GmbH - Booth 313
Volmerstr. 3
12489 Berlin
GERMANY
www.gfaitech.de
www.acoustic-camera.com

gfai tech GmbH is an industry-oriented company that specializes in the sale of advanced innovative technologies. It is a 100 percent subsidiary of the Society for the Promotion of Applied Computer Sciences (GFai eV), based in the Science Park Berlin-Adlershof – a traditional site of non-university research in Berlin/ Germany.

One focus of the gfai tech GmbH is the production and distribution of the Acoustic Camera, an acoustic measuring system to locate and analyze sound sources.

Gyp-Sorb - Booth 214
1143 N.W. 52nd Street
Seattle, WA 98107
www.gypсорb.com

GypSorb, perforated Gypsum for Architectural Acoustics
Hangzhou Aihua Instruments Co., Ltd - Booth 118
37# Xianxing Rd, XianlinTown, Yuhang District, Hangzhou, China
www.hzhaihua.com

Hangzhou Aihua Instruments Co., Ltd is a China leading company specializing in acoustic and vibration 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. Instruments include-Sound level meters, Real-time signal analyzers, Noise dosimeters, Sound calibrators, Vibration meters, Ear (mouth) simulators, Measurement microphones, and Microphone preamplifiers.

HEAD acoustics, Inc. - Booth 102
6964 Kensington Road
Brighton, MI 48116
www.headacoustics.com

HEAD acoustics introduces ArtemiS Suite, an all new version of the popular ArtemiS noise and vibration software that features advanced automation, data management, and reporting functions that are designed to greatly improve the efficiency of the entire measurement and analysis process. Two new hardware systems are also introduced: HEADlab, a modular data acquisition system that has been optimized for automotive sound and vibration measurements. Unique features include direct input of a digital artificial heads and CAN bus, and silent, battery powered operation. SQuadriga II, a successor to the popular SQuadriga portable recorder/front-end system, which includes features such as six input channels, DC coupling, CAN input, and removable SD memory.

International Cellulose Corporation - Booth 312
12315 Robin Blvd.
Houston, TX, USA, 77045
www.spray-on.com

International Cellulose Manufactures K-13, SonaSpray “fc”, SonaKrete, Celbar and Ure-K. Our Products are Spray-Applied with Acoustical and Thermal properties. They are manufactured from a minimum 80% recycled materials. Our products contribute to the LEED Points System.

Jamison Door Company - Booth 307
PO Box 70
Hagerstown, MD 21740
www.jamisondoor.com

Manufacturer sound reduction doors, swinging, horizontal sliding, vertical sliding models, for all types of applications.

Keene Building Products Co., Inc. - Booth 316
5910 Landerbrook Drive, Suite 210
Mayfield Hts., OH 44124
www.keenebuilding.com

Kinetics Noise Control, Inc. - Booth 107
6300 Irelan Place
Dublin, OH 43017
www.kineticsnoise.com

Kinetics Noise Control will be featuring new products, test data, and case histories for noise, vibration, and acoustical applications.
Lencore Sound Masking and Acoustics - Booth 111

LMS North America - Booth 412
5755 New King Street
Troy, MI 48098
www.lmsintl.com

LMS will be presenting our latest technological advances for Acoustics Engineering covering physical testing and virtual simulation. Stop by our booth to learn from our experts and see how others are using our solutions to solve their Noise & Vibration issues. Two primary product families will be shown; LMS Virtual.Lab Acoustics – an integrated solution to minimize radiated noise or to optimize sound quality in new designs by simulating both internal and external acoustic radiation, and LMS Test.lab – a test-based engineering platform for all your physical testing needs. Several testing systems will be shown for lab and mobile based applications measuring noise, intensity, etc. for trouble-shooting and development. Stop by to learn from our experts and see an ALL-NEW innovative solution for noise source identification released in 2012!

Maxxon Corporation - Booth 309
P.O.Box253
Hamel,MN 55340 USA
www.maxxon.com

Maxxon®, The Floor Specialists, is recognized worldwide as the pioneer and leader in floor technologies. From a full spectrum of floor underlayments to the ultimate sound deadening systems, Maxxon offers proven solutions for a world of floor challenges. Maxxon's Acousti-Mat® Sound Control Systems provide the superior sound control that is fast becoming a standard amenity in today's residential and commercial properties. With seven levels of sound control, Maxxon® has the right solution for any project.

MBI Products Company, Inc. - Booth 210
801 Bond Street, Elyria, OH 44035
www.mbiproducts.com

MBI has been a leader in the acoustical industry since 1965. MBI manufactures acoustical products for sound absorption in all types of facilities. Products include Cloud-Lite Baffles, Lapendary Panels, Colorsonix Wall Panels, San Pan Sanitary Acoustical Panels, and Shadow-Coustic Pads.

Microflown Technologies - Booth 306
Postbus 2205, 6802 CE Arnhem, The Netherlands
www.microflown.com

Microflown Technologies will be demonstrating its acoustic particle velocity enabled vibroacoustic testing methods used for both product development and end of line control.

Applications include Scan& Paint, Scan & Listen, in situ acoustic absorption, PU based sound intensity, non contact measurement of structural vibrations.

Microtech Gefell GmbH - Booth 207
Georg-Neumann-Platz, 07926 Gefell, Germany
www.microtechgefell.de

Microtech Gefell GmbH, as manufacturer of high quality handmade microphones with a long tradition since 1928, focusses on condenser microphones for professional customer needs in “Test & Measurement”, “Studio & Recording” and “Livesound & Installation”. Beside the microphones the company offers calibration devices and service for all manufactured microphones.
Müller-BBM VibroAkustik Systeme, Inc - Booth 305
455 E Eisenhower Pkwy, Suite 210
Ann Arbor, Michigan 48108
www.pak4nvh.com

With strong roots in the fields of acoustics and vibration, Müller-BBM VibroAkustik Systeme is a company with a high level of qualifications and experience which has been cultivated since our founding in 1962. Visit our booth to learn how the elements of the PAK MKII system can be applied to your testing needs. Examples of previous successful applications include studying the impact of pavement types on street noise, periodic noise surveys, and statistical classification of vehicle traffic sounds. The PAK software solution is a compact, highly integrated, and versatile system for the measurement of dynamic parameters, ranging from slow bandwidth thermocouples, through medium bandwidth strains and accelerations, to high bandwidth sound and pressure. With its roots in acoustic engineering, a demand for quick results, on-line graphics, and audio playback forced PAK to be a real-time system from the beginning. This versatility allows PAK to be used in many different applications. Based on a stable and sustainable open standard, the PAK MKII has maintained the same solid foundation since its inception. Today our single structured platform remains unchanged in concept yet continually updated and expanded to incorporate new and improved technologies. Foundational elements of the PAK MKII, like VMEbus and Ethernet, are not only powerful and versatile but most importantly make the design stable and sustainable. The modular concept of the PAK MKII offers multiple benefits including easily expandable channel count and integrated signal conditioning. A successful partnership is built on trust, confidence and understanding. Partner with Müller-BBM for cutting edge technology with inherent sustainability.

MULL-IT-OVER Products - Booth 201
4275 White Street SW
Grandville, MI 49418
mullitoverproducts.com

Mull-It-Over Products has finally solved the old problem of how to provide a good transition detail between the interior partition wall and the exterior curtain wall for buildings with glass facades. A high STC rated partition wall terminated at a hollow aluminum curtain wall mullion has an STC 28 when tested as an assembly. Installation of the Mull-It-Over sound barrier mullion trim caps increases the STC rating of the partition wall/mullion assembly to STC 57. (ASTM E90 testing performed at Architectural Testing Inc.) The sound barrier mullion trim caps allow for differential movement between interior and exterior systems, are available in custom finishes to match the curtain wall mullion finish and are simple to install. Specifications, CAD and Revit details are easily downloaded from our website at mullitoverproducts.com Stop by our booth to see samples of the Mull-It-Over sound barrier mullion trim cap, ASTM E90 test reports or to say hello.

National Institute for Occupational Safety and Health (NIOSH) - Booth T4
4676 Columbia Parkway, Cincinnati, OH 45226
http://www.cdc.gov/niosh/

The mission of the Hearing Loss Research Program at the National Institute for Occupational Safety and Health (NIOSH) is to provide national and world leadership to reduce the prevalence of work-related hearing loss through a focused program of research and prevention. It is divided into four areas of research: • Hearing loss prevention programs • Hearing protection devices • Engineering control of noise • Biologic and acoustic bases of hearing loss -Our activities are coordinated across four different operating divisions of NIOSH. Research is conducted in the field as well as our laboratories. Partnerships are a feature of most of our research, with employers and workers playing a role in all of our field projects. Stop by our booth to learn about the latest NIOSH developments and new tools for hearing loss prevention such as NIOSH’s “Buy Quiet” web-tool and incentive programs like Safe In Sound. Get copies of our recent publications and learn how you and your organization can benefit from or even collaborate in NIOSH research.
NTi Audio AG & NTI Americas Inc - Booth 321
PO Box 231027
Tigard, OR. 97281
www.nti-audio.com

NTi Audio manufactures, sells and supports both handheld analyzer instruments for noise, audio, Speech Intelligibility and other acoustics measurements and also larger analyzer systems for factory production testing and engineering development. The XL2 multifunction audio and acoustic analyzer is available with microphones for either IEC Class 1 or Class 2 response, together with Class 0 filter functions on the instrument itself. Overall measurement functions include: SPL, RealTime analyzer (to 1/12th octave), FFT Spectrum analyzer, RT60 multi band measurements; DelayTime measurements, Oscilloscope model, Auto-nulling/auto-ranging audio distortion analyzer, ac voltmeter and frequency counter, polarity, and optional Cinema Meter and STI-PA Speech Intelligibility measurements. Noise and acoustics measurements are enhanced with such features as logging, multiple simultaneous detector and filter selections for SPL, full corrections, tolerance limits & alarms, averaging, min/max and other standards-based processing for SPL and RTA measurements; plus logging and real time recording. Also shown will be NTI’s calibrated acoustical source TalkBox, as well as their full line of digital and analog handheld signal generators and other instruments.

Odeon A/S - Booth 112
Diplomvej Bldg. 381, DK-2800 Kgs. Lyngby, Denmark
www.odeon.dk

ODEON A/S is developing and distributing the Room acoustic simulation software ODEON. ODEON is used for acoustic simulations 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 Google 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 ODEON’s user friendly interface. Results are room acoustical parameters presented in graphs and 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 layman.

Overly Door Company - Booth 322
574 West Otterman Street
Greensburg, PA 15601
www.overly.com

Overly Door Company will be presenting is line of Acoustical Doors and Fixed Window Systems.

PAC International, Inc. - Booth 109
6585 Whispering Sands Drive
Las Vegas, NV 89131-2221
www.pac-intl.com

“Resilient Sound Isolation Clip” Family of Products Including the New “RSIC-Spring Isolator line of Products.

Pliteq Inc - Booth 314
1370 Don Mills Road, Suite 300
Toronto, Ontario, Canada M3B 2N7
www.pliteq.com

Pliteq Inc is an engineering company dedicated to providing creative solutions to structural, vibration and sound control problems using recycled materials. Pliteq will feature GenieClip, engineered for superior acoustical performance in reducing transmission of airborne and impact sound through wall and ceiling constructions.
Pyrok, Inc. - Booth 115
36 Butler Hill Rd
Somers, NJ, 10589

Pyrok, Inc., a leading manufacturer and marketer of high quality sound absorbing products offers the following three products: -- StarSilent-- StarSilent is a seamless acoustical plaster ceiling system consisting of a sound absorbing board and air permeable plasters that allow for a smooth seamless finish. The StarSilent board is manufactured with 96% recycled glass and 50% recycled marble aggregate. The StarSilent Board replaces the need for a gypsum board substrate making the system easy to install and unique. The result is a monolithic gypsum board look with high sound absorbing qualities. Pyrok StarSilent can be custom colored or painted to achieve a desired color. -- Acoustement -- Acoustement is a versatile spray applied sound absorbing plaster that is available in gypsum plaster and Portland cement compositions. While the gypsum based Acoustement Plaster 40 and Acoustement Plaster 20 are for interiors only, the Portland cement based Acoustement 40 has many interior and exterior applications. Some include transportation, corrections, high abuse and high humidity applications. All Acoustement products can be trowel finished for a semi-smooth finish and custom colored or painted without degrading its sound absorbing qualities. -- Vogl Ceiling System -- Vogl Ceiling Systems are perforated gypsum board panels that are joined with a unique joint taping system to achieve a level 4 drywall finish with high sound absorbing capabilities. Available with accessories to detail the system in unique ways, it is field painted like gypsum board to achieve the desired color.

RION Co., Ltd - Booth 213
3-20-41 Higashimotomachi, Kokubunji, Tokyo 1858533 Japan
http://www.rion.co.jp/english/

RION, a manufacturer of sound and vibration measuring instruments, was established as an affiliate of the Kobayashi Institute of Physical Research, a centre of excellence for physics and acoustics. Our product range includes hand-held sound level meters, vibration meters, frequency analyzers, and aircraft or environmental noise monitoring systems. Our current products and the prototype of SA-A1 multi function measuring system that utilizes new technologies including wireless microphones will be introduced in our booth.

Scantek, Inc. - Booth 202
6430C Dobbin Rd
Columbia, MD 21045
www.scantekinc.com

Scantek, celebrating it’s 27th Anniversary, will demonstrate instrumentation from RION, Norsonic, CESVA, MMF, SoftdB and software from DataKustik, Olive Tree Labs, DELTA, and Sound on Numbers, and provide information on its NIST-NVLAP Accredited Calibration Laboratory (for precision calibration of all types and brands of instruments and transducers for sound and vibration.) Featured will be new sound level meters, acoustic camera, building and environmental acoustics products, among others.

Sensidyne - Booth 311

SINUS Messtechnik GmbH - Booth 100
Foepplstrasse 13, D-04347 Leipzig, Germany
www.soundbook.de

Since its foundation in 1990 the company SINUS Messtechnik GmbH has developed, manufactured and distributed instruments and software for acoustics and vibration. Thus, we are able to offer complete systems at fair prices while preserving the ability to provide flexible, customer specific solutions. Our universal portable measuring system for acoustic, vibration and engineering measurements - SOUNDBOOK - is based on the innovative Apollo filter processors, 24-bit A/D converters and a bandwidth of up to 80 kHz. Using our software package SAMURAI which covers most topics of acoustic engineering it is possible to carry out standard conforming measurements and analyses with up to 40 channels.
Softnoise - Booth 211
Wilhelm-Brand-Str. 7, 44141 Dortmund, Germany
www.softnoise.com

Predictor-LimA Software suite Type 7810 - The Predictor-LimA software suite is an extremely efficient software package for environmental noise projects. The suite bundles the intuitive Predictor™ software and the powerful LimA™ software in one integrated state-of-the-art package that provides the best solution for whichever project you have. Predictor and LimA use the state-of-the-art LimA calculation cores with huge capacity and high calculation speed so that you get results quickly while reducing your investment in computing power. The software suite supports 27 calculation methods e.g. ISO 9613, TNM, CRTN, RLS90 and Harmonoise. The Predictor-LimA software suite is available in several configurations to match various applications and budgets. All configurations include dual core support and a model license, allowing modelling with the Predictor system on several linked PCs. Predictor Analyst software Type 7813 - GIS like functionality for organising, accumulation, viewing, analysis and publication of calculated noise maps. The software can read calculated noise levels from any calculation software e.g. Predictor or LimA. Acoustic Determinator software Type 7816 - Very convenient and user friendly software for the determination of sound power levels of sources based on sound pressure level measurements. The sound power levels can be used in any environmental noise calculation software e.g. Predictor or LimA. NoiseAtWork software - NoiseAtWork is a powerful software for visualization and reporting of measured occupational noise. Key words are: fit for purpose, easy to use and cost efficient. Simply open your scanned map and click on the measurement locations. Then enter the measured noise levels manually or by pasting it from excel. NoiseAtWork, will automatically show the interpolated contours as transparent layer on top of your scanned map. LimAarc software - LimAarc is an Extension of LimA to ESRI's ArcGIS. It makes LimA noise modelling functionality available directly within a GIS.

Sound Fighter Systems, LLC - Booth 304
P.O. Box 7216
Shreveport, LA 71137
www.soundfighter.com

HIGH-PERFORMANCE ABSORPTIVE SOUND WALLS FOR DEMANDING GLOBAL APPLICATIONS - For the past 40 years, Sound Fighter® Systems’ LSE® Noise Barrier System has continually proven itself as one of the most advanced commercial-grade absorptive sound wall in the market. The LSE® System has an NRC of 1.05 and a STC of 33. It is fully engineered, incredibly durable, impervious to the elements, very low maintenance and easy to install. The LSE® System has been tested and proven in real-world applications since 1973, and has been designed and used for many noise mitigation applications around the world, including DOT, bridges, hvac enclosures, gas compression, manufacturing, rail, transformer, residential, commercial, industrial, big-box development, schools, hospitals, churches and more. The LSE® System is virtually 100% absorptive, eliminating unwanted and unpredictable reflective noise associated with common reflective materials like concrete, block or masonry, and involves less maintenance than absorptive metal barriers. It is cost competitive with concrete, and historically less expensive than comparable absorptive sound wall products. - For additional information on the LSE® Absorptive Sound Wall System, please contact Sound Fighter® Systems at info@soundfighter.com or visit our website at www.soundfighter.com

Sound Seal Acoustical Products - Booth 219
PO Box 545 Agawam, MA 01001
www.soundcurtains.com
www.newyorkcitynoisecontrols.com

Sound Seal - Noise Control for Construction Sites: Our products have been recommended, specified, and approved for use to comply with noise code requirements by NewYork City; Boston, MA; New Jersey DOT; Los Angeles, CA; and Seattle, WA. Sound Seal also offers products for permanent outdoor noise control and commercial noise control.
SoundPlan - Booth 402
701 West Las Palmas Dr.
Fullerton, CA 9283
www.navcon.com

SoundPLAN is the leading noise prediction and mapping software, with expert SoundPLAN representatives worldwide serving you in your local time frame and language, with knowledge of the noise and air pollution laws that concern you. SoundPLAN is known for its innovations, its speed and accuracy, for its graphic presentations and for its one of kind data organization and recall system. Come to booth 402 to see unique features that save time and money, like cost/benefit analysis tools, built-in spreadsheets and user defined templates, and/or modules like Wall Design and Indoor Factory Noise that have more advantages than any other on the market.

Soundproof Windows, Inc. - Booth 105
4673 Aircenter Circle
Reno, NV 89502
www.soundproofwindows.com

Soundproof Windows, Inc. sells recording studio window & door products. We also offer residential or commercial secondary acoustical high STC storm windows. Our NEW award winning 1.75” steel door gets a world record 57 STC (previous max from anyone has been 53). Our acoustical storm windows are lab tested at various distances behind most types of windows - achieving STCs starting at 48. Our studio windows and sliding glass doors are lab tested to get STCs starting in the 60s. Come by and review what we offer acoustically and get all our lab results for your reference library!

The Green Glue Company - Booth T2
1 Sealants Park, Granville, NY 12832
www.greengluecompany.com

We will be showing our Green Glue Noiseproofing products, which are the Green Glue Noiseproofing Compound (a viscoelastic damping compound), the Green Glue Noiseproofing Sealant, and the Green Glue Noiseproofing Clips (resilient sound clips).

Toyota Tsusho America, Inc. - Booth T3
4000 Town Center, Suite 1260, Southfield, MI. 48075
http://www.taiamerica.com

Toyota Tsusho America in conjunction with Goldendance will be showcasing Bone Conduction Devices. Is the conference too loud for you to hear who you are talking to on your cell phone? Come by and FEEL the difference.
Trane actively supports acoustic standards development and is committed to providing innovative solutions to reduce noise from our products. Providing accurate sound power using industry accepted standards is an integral part of designing acceptable spaces. Our work investigating ANSI/ASA S12.60 for classroom acoustics shows that it is possible and practical to meet the acoustic requirements for classrooms. Tools such as Trane Acoustics Program (TAP(tm)) acoustical analysis software make it easy to accurately predict and compare system sound levels and quickly compare the sound characteristics of several system alternatives to choose the one that best satisfies the design criteria.

Trane is a global provider of indoor comfort systems and comprehensive facility solutions for residential, commercial and industrial building needs. Trane solutions optimize indoor environments with a broad portfolio of energy efficient heating, ventilating and air conditioning systems, building and contracting services, parts support, advanced controls and a wide a range of powerful analysis, design and modeling tools to address the everyday challenge of designing aesthetic, comfortable, quiet and sustainable buildings.

Trane belongs to Ingersoll Rand’s family of brands, including Club Car(r), Ingersoll Rand(r), Schlage(r) and Thermo King(r). Ingersoll Rand is a world leader in creating and sustaining safe, comfortable and efficient environments.

Trelleborg Rubore Inc. - Booth 116
15701 Centennial Drive, Northville, MI 48168
www.rubore.com

Trelleborg Rubore Inc provides engineered metal-to-rubber and metal-to-adhesive products to various industries. Our materials can be used for: noise and vibration damping, vibration isolation, acoustically inert stamping, stamping with integrated gaskets, flat gaskets for sealing, sealing cans, rubberized washers and p-clamps. Trelleborg produces material using a patented vulcanization process resulting in an extremely durable material with excellent chemical and thermal resistance. Trelleborg specializes in complete product design using state of the art testing, materials development and prototyping capabilities. Materials can be sold as finished parts or in bulk. On display will be examples of our damping and sealing products.

Tritek / TEAC Date Recorders - Booth 319
PO Box 357 Hamilton, MA 01936
www.tritekdatasystems.com

Tritek is proud to be the Authorized North American Distributor for TEAC Data Recorders and ROGA Instruments. TEAC offers a complete range of Instrumentation Data Recorders, utilizing flash-memory card, solid state, and hard-disk recording media, with onboard signal conditioning. The innovative new WX-7000 Series Wide Band Data Recorder, featuring 80kHz max bandwidth, 16/24-bit resolution, DC/AC/IEPE input, and expansion to 128 channels, will be introduced at InterNoise. The WX Series can operate in stand-alone mode with front panel control and monitoring, or by PC software-controlled mode via Gigabit Ethernet interface. IRIG-B, GPS, and CAN input options are available. The portable and rugged LX-110/120 Series will also be exhibited, featuring 16/24-bit resolution, AC/DC/IEPE inputs, stand-alone recording capacity to 64GB, and front-end recording to PC via Ethernet interface. The AQ-VU Video/Data Recorder, providing portable synchronized video and data recording and playback, will also be on display. ROGA Instruments offers USB-based Signal Conditioning and Front-end Data Acquisition solutions for noise and vibration measurements. Two-channel ROGA units are recognized as PC sound cards, allowing easy driver-less use with many analysis software applications.
ViAcoustics - Booth 204
2512 Star Grass Circle Austin TX USA 78745
www.viacoustics.com

Acoustic Measurement Software and Data Acquisition Systems from National Instruments. Hardware and software for sound level measurement, sound power level determination, building acoustics, sound quality, hearing protector testing, end of line product testing and custom measurement applications. Turnkey acoustic measurement systems using National Instruments hardware, GRAS Sound and Vibration transducers and software from Nelson Acoustics.

Vibro-Acoustics - Booth 103
355 Apple Creek Blvd
Markham, Ontario, L3R 9X7 Canada
www.vibro-acoustics.com

The Integrated Systems Approach to Noise and Vibration Control. Vibro-Acoustics is the world leader in supplying the widest range of silencers for fans and air handling systems. Vibro-Acoustics offers comprehensive product design, product specification, selection and application laboratory testing and integrated manufacturing. With over 50 years of industry experience, Vibro-Acoustics has developed innovative yet practical product/systems solutions for some of the most diverse and dynamic projects in the world. Vibration isolation and seismic restraint products and services are now available to allow an “Integrated Systems Approach” to projects requiring noise and vibration control.

Zero International - Booth 408
415 Concord Ave, Bronx, NY. 10455
www.zerointernational.com

Zero International (www.zerointernational.com) is a leading manufacturer of sound control gasketing for door and window openings, headquartered in New York with additional locations in the U.S. and internationally. We supply our engineered acoustical products to both OEM partners and end-users around the world.

Our extensive portfolio of installed systems spans the entire range of STC requirements for doors as determined by practical occupancy needs, as well as building codes. Projects using acoustical gasketing provided by Zero include numerous recording studios, performing arts centers and concert halls, and other high-STC applications. We are also asked with increasing frequency to optimize sound-controlled door openings to meet growing privacy and security needs and concerns in a variety of venues, including:

• Embassy, government and military buildings.
• Corporations
• Healthcare facilities, doctors’ and counseling offices, and other locations impacted by HIPAA (Health Insurance Portability and Accountability Act) requirements for ensuring confidentiality of patient-doctor communications.
• School administrative and nurses’ offices
• Hotel hallway doors and communicating doors in guest rooms
• Stadium locker rooms and managers’ offices.
IT’S EASY TO CONTROL NOISE with SoundPLAN’s noise evaluation and mapping software

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- Rotating boom
- Wireless systems
- Laboratory and field testing software
- Building vibration
- Floor impedance
- Intensity analyzers
- Speech intelligibility

**Industrial Noise and Vibration**
- Sound level meters
- Dosimeters
- Noise exposure prediction
- Human body vibration and dose
- Noise warning signs
- Intensity analyzers
- Reference sound sources
- Sound power determination

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- Outdoor noise prediction
- Dance club noise limiters
- Outdoor concert noise control
- Aircraft noise
- Low frequency acoustical measurement

**Acoustics and Vibrations**
- Real-time analyzers
- Digital recorders
- Microphones and accelerometers
- Microphone and accelerometer calibrators
- Impedance tubes
- Acoustic camera
- Airflow resistance
- Hand-held FFT
- Digital sound and vibration recorders

**Suppliers**
- Norsonic
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- RION
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- CESVA
- MMF
- BSWA
- ACO
- Topsonic
- SoundOfNumbers
- Dytran
- Castle
- Delta
- Extech

**Services**
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- Service and repair
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- Consulting in acoustics and vibrations
- INCE Board certified noise control engineers
- Expert witness
- Since 1985

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