5th European Conference on Noise Control

TECHNICAL PROGRAM

organized by

European Acoustics Association
Associazione Italiana di Acustica

www.euronoise2003.it
euronoise 2003

5th European Conference on Noise Control

XXX Convegno dell’Associazione Italiana di Acustica

The European Challenge for a Better Sound Environment

Naples, Italy
May 19-21, 2003

CONFERENCE TECHNICAL PROGRAM
FOREWORD

It is with great pleasure that we bring this program with a warm welcome to all the participants in Euronoise 2003, the 5th European Conference on Noise Control. The content of this book testifies many of the facets of the endless fight against noise, in the EU in particular.

We are a long way far from the first awareness of the noise effects in ancient civilized countries. Since about 600 years B.C the governors of Sibari (Magna Graecia – Southern Italy) issued an ordinance which prohibited to keep cocks disturbing the sleep of people during the night. Furthermore, artisans who used hammers and other noisy tools had to carry out their work activities outside the walls of the town. To our knowledge, this may be considered the first attempt at the enforcement of a noise regulation and a land planning action to the benefit of quiet.

Today we have other than cocks and hammers to tackle with. Noise policies must deal with a plethora of noise sources that plague both the indoor and the outdoor environment, at work, at home, while commuting, during the leisure time and during the sleep. Statistics about noise exposure are frustrating. Luckily, the challenging task of noise control avails itself of qualified resources from the worlds of science, technology, economics and administration. Each part is engaged in a proper role. Communication, cross-feeding and synergy are the secret of the recipe that eventually will yield the desired results.

Opportunities like Euronoise offer to the gathered people the chance both to update the knowledge in the field of the personal interests in noise control and to give a glance through windows opened toward related horizons.

It was a happy surprise when we noted a large unexpected attendance at this conference. We had to deal with 421 papers, so last minute efforts have been intensified to cope with this event. The delivered material was organized in 34 structured sessions, 7 contributed sessions and 4 plenary lectures. For this we thank Giovanni Brambilla who was able to handle the technical program with competence and experience.

We greatly acknowledge coordinators of the structured sessions for their cooperation, the members of the ISAC for their useful advices, the members of the Organizing Committee and of the collaborating Institutions for their continuous help, all the authors for their work and, last but not least, our secretariat staff for the total devotion to EURONOISE 2003 throughout the last 12 months.

Finally, we are aware that the perfection remains an unreachable asymptote, but we are also confident that a good stay in Naples and a heartfelt friendship will help to forgive any unintentional fault.

Carmine Ianniello, Luigi Maffei
General Chairmen
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SS06 – European and International standards as tools to control noise emission from machinery
SS29 – Road/tyre noise
SS28 – Road surfaces
SS21 – Noise control materials and devices
SS20 – Noise control inside aircrafts
SS34 – Virtual acoustic prototyping
SS19 – Noise at workplace (in cooperation with ISPESL)
SS12 – Inverse methods associated with acoustic or structural measurements
SC41 – Road traffic noise
SS18 – Noise and vibration control in buildings
SS31 – Sound quality
SS04 – Cross-sectional tasks of traffic noise
SS02 – Classroom acoustics
SC35 – Acoustics of enclosed spaces
SS05 – Economical aspects of noise control
SC40 – Recreational noise and quiet zones
SS01 – Cabin comfort
SS14 – Military aircraft’s noise impact
SC38 – Aircraft noise
SS26 – Physiological acoustics and noise (in cooperation with ISPESL)

TECHNICAL VISIT

HINTS FOR ORAL AND POSTER PRESENTATION

EXHIBITION

PARALLEL MEETINGS

SOCIAL EVENTS

OTHER TOURS

REGISTRATION

LUNCHES

TRAVELLING

PAPER PRESENTATION TIME TABLE
European Acoustics Association – EAA

www.euracoustics.org OR www.european-acoustics.org

EAA Board
President: Volker Mellert
Vice-presidents: Truls Gjestland, Andrea Paoloni
General Secretary: Etienne Parizet
Treasurer: J. Salvador Santiago

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NUNTIIUS ACUSTICUS: Brigitte Schulte-Fortkamp
FENESTRA ACUSTICA: Malte Kob
EAA INDEX: Amando García

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www.idac.rm.cnr.it/aia/index.html

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Treasurer: Patrizio Fausti
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Luigi Maffei, Alessandro Peretti, Renato Spagnolo
Editor in chief of the Rivista Italiana di Acustica RIA: Giovanni Brambilla
Coordinators of the technical committee:
GAA Environmental Acoustics, Alessandro Peretti
GAM Musical Acoustics, Lamberto Tronchin
GFS Speech, Massimo Pettorino
COLLABORATING INSTITUTIONS

- Università degli Studi di Napoli Federico II
- Seconda Università degli Studi di Napoli
- Istituto Superiore per la Prevenzione e la Sicurezza del Lavoro, Ministero della Salute, ISPESL
- Agenzia per la Protezione dell'Ambiente e per i Servizi Tecnici, Ministero dell'Ambiente e tutela del territorio, APAT
- Alenia Aeronautica S.p.A.
- Comune di Napoli Assessorato all’Ambiente Servizio di Progettazione e Valutazione Ambientale

PATRONAGE

- Ministero dell’Ambiente e per la tutela del territorio
- Ministero delle Attività Produttive
- Consiglio Nazionale delle Ricerche, CNR
- Comune di Napoli

and

Under the patronage of Mrs Margot WALLSTRÖM,
Member of the European Commission
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Gerrit Vermeir, Belgium
CONFERENCE VENUE

The Conference and the Exhibition will take place at the Congress Center of the University of Naples Federico II - University campus of Monte S.Angelo via Cinthia.

How to reach the Conference Venue
Euronoise 2003 attendees that will make their hotel reservation through AVI- Euronoise 2003 Booking Hotel can use the courtesy shuttle bus from and to the Hotels. The shuttle bus leaves in the morning from the Hotels and will come back at the end of the Conference day.
To reach the Conference Venue with public transport from the city center (see map):
Underground line 2 Station Campi Flegrei or Underground line 3 (Cumana) Station Mostra, then Bus C15 that leaves in front of the Station Campi Flegrei every 7-10 minutes.
# EURONOISE 2003 TIME SCHEDULE

SS = Structured Session  SC = Contributed Session  
LA = Large Auditorium  SA = Small Auditorium  
E1, E2, E3, E4 = Session rooms

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8.00 - 9.00: Registration & Welcome Coffee
9.15 - 10.00: Opening Ceremony (LA)
10.45 - 11.00: Plenary Lecture (Room LA)
13.30 - 13.45: Lunch Break
15.45 - 16.00: Plenary Lecture (Room LA)
19.30: Welcome Party and Concert at the Teatro di S.Carlo
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## Technical program

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PLENARY LECTURE 3 (ROOM LA)

Lunch Break

PLENARY LECTURE 4 (ROOM LA)

Closing Ceremony
# PLENARY SESSIONS

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Location</th>
<th>Session Type</th>
<th>Title</th>
<th>Presenter(s)</th>
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<tbody>
<tr>
<td><strong>MONDAY 19</strong></td>
<td><strong>ROOM LA</strong></td>
<td>9.45 - 10.30</td>
<td>OPENING CERIMONY</td>
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</table>
| **MONDAY 19** | **ROOM LA**   | 10.30 - 11.15 | PLENARY LECTURE | **521-PL**  
The EU environmental noise policy: an integrated approach  
G. Paque  
European Commission, Directorate General Environment, Brussels, Belgium |                                                                               |
| **TUESDAY 20** | **ROOM LA**   | 12.15 - 13.00 | PLENARY LECTURE | **480-PL**  
Industrial noise control. Tasks, Tools and Solutions over the past Decades  
E. Schorer  
Müller-BBM GmbH, Planegg, Germany |                                                                               |
| **WEDNESDAY 21** | **ROOM LA**  | 12.15 - 13.00 | PLENARY LECTURE | **494-PL**  
Railway noise. A review of recent progress and research.  
P.E. Gautier  
SNCF – Recherche et Technologie, Paris, France |                                                                               |
| **WEDNESDAY 21** | **ROOM LA**  | 16.45 - 17.30 | PLENARY LECTURE | **487-PL**  
Flanking Transmission: from U.E. Directive 89/106 to new facility measurements  
A. Cocchi; G. Semprini  
Università di Bologna, DIENCA, Italy |                                                                               |
| **WEDNESDAY 21** | **ROOM LA**  | 17.30 - 18.30 | CLOSING CERIMONY |                                                                                         |                                                                               |
The sessions are divided into structured (SS) and contributed (CS) for oral and poster presentation. 

Structured sessions (SS) have been set up by Coordinators and include Invited Papers (IP) and Contributed Papers (CP); Overview Lectures (OL) have been arranged in some structured sessions.

Structured Sessions (SS) and Coordinators in alphabetical order

SS01 Cabin comfort (V. Mellert)
SS02 Classroom acoustics (Z. Karabiber)
SS03 Computational acoustics for noise control (M. Möser)
SS04 Cross-sectional tasks of traffic noise (W. Neise, D. Wurzel)
SS05 Economical aspects of noise control (M. Masoero)
SS06 European and International standards as tools to control noise emission from machinery (J. Jacques)
*SS07 European and Japanese legislation comparison on noise control (H. Tachibana)
SS08 Harmonoise (P. de Vos, G. Licitra)
SS09 HVAC&R noise control (L. Gavric)
SS10 Instrumentation (P. Luquet)
SS11 Integration of photovoltaic systems in sound barriers (A. Ponce)
SS12 Inverse methods associated with acoustic or structural measurements (J-C. Pascal)
SS13 Machines used outdoors (J. Tourret)
SS14 Military aircraft’s noise impact (V. Filomena)
SS15 Modeling in building acoustics (M. Villot)
SS16 National legislations and transposition of the EC environmental noise directive (V. Irmer)
SS17 Noise and the European citizens: information and educational needs (M. Vallet)
SS18 Noise and vibration control in buildings (P. Fausti)
SS19 Noise at workplace (in cooperation with ISPESL; P. Nataletti)
SS20 Noise control inside aircrafts (A. Concilio)
SS21 Noise control materials and devices (M. Garai)
SS22 Noise impact evaluation (B. Schulte Fortkamp)
SS23 Noise labelling (B. Berry)
SS24 Noise policies in towns (J.S. Santiago)
SS25 Outdoor sound propagation (K. Attenborough)
SS26 Physiological acoustics and noise (in cooperation with ISPESL; R. Sisto)
SS27 Railway noise (P. de Vos)
SS28 Road surfaces (M. Berengier, G. Licitra)
SS29 Road/tyre noise (T. Beckenbauer, W. Kropp)
SS30 Ship noise and vibration (A. Blanchet)
SS31 Sound quality (K. Genuit)
*SS32 The Italian experience in implementing noise legislation (in cooperation with AIA-GAA; A. Peretti)
SS33 Vibro-acoustic analysis, modelling and prediction (A. Sestieri)
SS34 Virtual acoustic prototyping (G. Pavic)

*The presentation of papers in these structured sessions is scheduled in other sessions dealing with the relevant topics.

Contributed Sessions (SC) in alphabetical order
SC35 Acoustics of enclosed spaces
SC36 Active noise and vibration control
SC37 Aeroacoustics and flow noise
SC38 Aircraft noise
SC39 Measurements and numerical models
SC40 Recreational noise and quiet zones
SC41 Road traffic noise
## MONDAY 19 May 2003

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<thead>
<tr>
<th>MONDAY 19</th>
<th>ROOM LA</th>
<th>11.30 - 16.45</th>
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</table>
| **SS16 – National legislations and transposition of the EC environmental noise directive**<sup>*</sup>  
Coordinator: V. Irmer | | |
| * with 5 papers from SS32 The Italian experience in implementing noise legislation (AIA-GAA; A. Peretti) | | |
| 11.30 SS16-203-IP  
Implementation of Directive 2002/49/EC in EU member states: challenges identified in a EU-wide survey  
E. Wetzel  
Wölfel Meßsysteme Software GmbH & Co, Germany | | |
| 11.45 SS16-166  
Update on the activities of European Commission Working Group Assessment of Exposure to Noise (WG-AEN)  
J. Hinton<sup>1</sup>; S. Rasmussen<sup>2</sup>  
<sup>1</sup>Birmingham City Council, UK  
<sup>2</sup>COWI Noise & Acoustics, Denmark | | |
| 12.00 SS16-127-IP  
Noise abatement legislation and the transposition of the END in Finland  
S.-L. Paikkala  
Ministry of the Environment, Finland | | |
| 12.15 SS16-424-IP  
Implementation of the Environmental Noise Directive in the Netherlands  
M. van den Berg  
Ministry of Environment, The Netherlands | | |
| 12.30 *SS32-376-IP  
The Italian legislation on environmental noise and the challenges of the new EU directive 2002/49/EC  
G. Licitra  
ARPAT U.O. Fisica Ambientale – Dipartimento di Pisa, Italy | | |
| 12.45 SS16-350-IP  
Noise mapping as a comprehensive planning tool: the Portuguese approach  
B. Valadas  
Portuguese Environmental Institute, Noise Services, Portugal | | |
13.00 LUNCH

14.30 SS16-446-IP
Transposing the EU Environmental Noise Directive into German law
F.-J. Feldmann; S. Scholz
Division IG I 7, Environmental Noise, Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Bonn, Germany

14.45 *SS32-501-IP
Noise pollution measurement procedures: a comparison between Italian legislation and Directive 02/49/EC
A. Poggi
ARPAT, U.O. Fisica Ambientale, Florence, Italy

15.00 SS16-482-IP
Hungarian legislation on noise and the transposition of the END
M. Berndt
Ministry for Environment and Water management, Hungary

15.15 SS16-062
How to fulfill the requirements of the EU-Directive about environmental noise
H.A. Metzen¹; W. Probst²
¹DataKustik GmbH, Germany
²ACCON GmbH, Germany

15.30 SS16-187
How can strategic noise mapping achieve the best cost/benefit ratio?
F. Besnard¹; N. Fürst²
¹SETRA, France
²CERTU, France

15.45 *SS32-440
Acoustical plan of Autovie Venete motorway network: priority indexes in the case of multiple sources, taking into account concourse criteria
M. Donada¹; R. Pavan¹; S. Gervasio²; R. Candidi Tommasi²
¹Autovie Venete
²Consorzio Dionigi

16.00 SS16-012-IP
Transposition of the European Outdoor Directive into German law – including regulation of use
V. K.P. Irmer
Umweltbundesamt, Berlin, Germany

16.15 *SS32-198-IP
Noise mapping: the evolution of Italian and European legislation
F. Cotana; A. Nicolini
Università degli Studi di Perugia, Dipartimento di Ingegneria Industriale, Italy
16.30  *SS32-414  
The environmental noise Italian norms and Environmental Agencies system role  
A. De Leo; A. Franchi  
APAT (Agency for the protection of the environment and for technical services), Rome, Italy

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**MONDAY 19  ROOM SA  11.30 - 17.30**

**SS33 – Vibro-acoustic analysis, modelling and prediction**

*Coordinator: A. Sestieri*

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11.30  SS33-115-OL  
Statistical Energy Analysis and Finite Elements  
B. Mace  
ISVR, University of Southampton, UK

12.00  SS33-427  
A model of statistical energy analysis (SEA) based on maximum-likelihood concepts  
A. D. Pierce  
Department of Aerospace and Mechanical Engineering, Boston University, USA

12.15  SS33-126-IP  
An envelope vector solution for high frequency problems  
A. Carcaterra; A. Sestieri  
University of Rome La Sapienza, Dept. Meccanica e Aeronautica, Italy

12.30  SS33-056  
Analytical modelling of extruded plates  
C. Pézerat; J.-L. Guyader  
INSA Lyon – Laboratoire Vibrations Acoustique, France

12.45  SS33-065-IP  
Modelling of vehicle interior noise at reduced scale  
V.V. Krylov; S.J. Walsh; R.E.T.B. Winward  
Loughborough University, Aeronautical and Automotive Engineering, UK

13.00  LUNCH

14.30  SS33-047-IP  
Analysis of radiated power from a plate in a turbulent boundary layer  
S. De Rosa\(^1\); F. Franco\(^1\); D. Melluso\(^2\)  
\(^1\)ælab, Acoustic and Vibration Laboratory, Dipartimento di Progettazione Aeronautica, University of Naples "Federico II", Italy  
\(^2\)Noise and Environmental Control Department, ALENIA/Aeronautics, Pomigliano d'Arco, Italy
14.45 SS33-076
Transmission loss calculation of covered panel systems with SEA
S. Nintzel\textsuperscript{1}; M. Möser\textsuperscript{2}; J. Meschke\textsuperscript{1}; L. Miranda\textsuperscript{1}
\textsuperscript{1}Volkswagen AG, Wolfsburg, Germany
\textsuperscript{2}ITA, Technische Universität Berlin, Germany

15.00 SS33-178
Development of PFFEM Software and its applications to Vehicle Vibration Analysis in Medium-to-High Frequency Ranges
S.-Hoon Seo; Suk-Yoon Hong; Young-Ho Park
Naval Architecture and Ocean Engineering, Seoul National University, Seoul, Korea

15.15 SS33-177
Development of non-conservative spring-dashpot joints for vibration power flow analysis
Jee-hun Song\textsuperscript{1}; Suk-Yoon Hong; Sim-won Jin\textsuperscript{2}; In-Hwa Jung; Jung-Woo Lee
\textsuperscript{1}Department of Naval Architecture and Ocean Engineering, Seoul National University, Seoul, Korea
\textsuperscript{2}Digital Appliance Research Laboratory, LG Electronics Inc., Seoul, Korea

15.30 SS33-371
Using FBS for road noise NVH predictions: first outlines
A. Zanarini\textsuperscript{1}; P. Mas\textsuperscript{2}; K. Cuppens\textsuperscript{2}; F. De Coninck\textsuperscript{3}; P. Sas\textsuperscript{3}
\textsuperscript{1}DIEM, Dept. of Mechanical Engineering, University of Bologna, Italy
\textsuperscript{2}Hybrid CAE/Test Division, LMS International, Leuven, Belgium
\textsuperscript{3}PMA, Dept. of Mechanical Engineering, Katholieke Universiteit Leuven, Belgium

15.45 SS33-153
Promoting Simulation and Virtual Prototyping
G. Miccoli\textsuperscript{1}; S. Odorizzi\textsuperscript{2}
\textsuperscript{1}IMAMOTER Institute, National Research Council (C.N.R.), Cassana (FE), Italy
\textsuperscript{2}Engin Soft Trading s.r.l., Bergamo, Italy

16.00 SS33-028
Modeling thin foam layer bonded onto a plate in the low frequency range
L. Jaouen\textsuperscript{1}; N. Atalla\textsuperscript{2}; B. Brouard\textsuperscript{1}
\textsuperscript{1}LAUM, Universite du Maine, Le Mans, France
\textsuperscript{2}GAUS, Universite de Sherbrooke, Canada

16.15 SS33-087-IP
Estimate of SEA parameters by laser vibrometer measurements
A. Culla; A. Sestieri; F. Cerra
Università di Roma “La Sapienza”, Mechanics and Aeronautics Department, Italy
16.30 SS33-067  
**Validation of the IBEM technique: comparison of experimental and numerical results in reference cases**  
M. Martarelli¹; G. M. Revel¹; E.P. Tomasini¹; J. Morkholt²; A. Omrani³; M.A. Hamdi³  
¹University of Ancona, Mechanical Engineering Dept., Italy  
²Brüel & Kjaer A/S, Naerum, Denmark  
³STRACO SA, Compiègne, France

16.45 SS33-510  
**2.5 D BEM modelisation of ground structure interaction**  
P. Jean  
Centre Scientifique et Technique du Bâtiment, St Martin d'Hères, France

17.00 SS33-341  
**Response of simple plate structures to ground-borne vibrations**  
A. Trochidis¹; E. Douka²;  
Aristotle University of Thessaloniki, Faculty of Engineering, Thessaloniki, Greece  
¹Division of Physics ²Division of Mechanics

17.15 SS33-197  
**A comparative analysis of two equivalent sources method's variants**  
Y. Gounot; R. Musafir; J. Slama  
LAVI/COPPE/UFRJ, Rio de Janeiro, Brazil

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**MONDAY 19  POSTER SESSION SP01  14.45 - 17.30**

**Poster SS33-223**  
**Damping measurements for a car component**  
A. Galasso¹; G. Montuori¹; L. Anatrella²; S. De Rosa³; F. Franco³  
¹Acoustic and Vibration Dept, Elasis S.C.p.A. (FIAT Group), Pomigliano D'Arco, Italy  
²PRO.DE., Research consortium for Design and Engineering Methodologies, Naples, Italy  
³ælab, Vibration and Acoustics Laboratory, Department of Aeronautical Engineering, University of Naples “Federico II”, Naples, Italy

**Poster SS33-352**  
**The synchronous analysis of acoustic noises in electrical conductors and energizing of their electric currents**  
S.I.Ivanov  
Department of Physics and Technology, Kharkov National University, Ukraine

**Poster SS33-412**  
**On the vibration of plate partially protruding above the surface of liquid**  
G. V.Filippenko; D. P.Kouzov  
Institute of Mechanical Engineering, Vasilievsky Ostrov, St. Petersburg, Russia
### SS27 – Railway noise

**Coordinator: P. de Vos**

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<tr>
<th>Time</th>
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<td>11.30</td>
<td>SS27-054-IP</td>
<td>The STAIRRS project, work package 1: A cost-effectiveness analysis of railway noise reduction on a European scale</td>
<td>J. Oertli</td>
<td>Swiss Federal Railways, Rail Environmental Center, Bern, Switzerland</td>
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<td>11.45</td>
<td>SS27-085-IP</td>
<td>Noise mapping of Italian railway network</td>
<td>P. Firmi; R. Mele; P. Scarano</td>
<td>RFI S.p.A., Direzione Investimenti, Ingegneria Civile, Rome, Italy</td>
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<td>12.00</td>
<td>SS27-190-IP</td>
<td>Damped wheels as an efficient measure to reduce railway noise</td>
<td>A. Bracciali</td>
<td>Dipartimento di Meccanica e Tecnologie Industriali, Università degli Studi di Firenze, Italy</td>
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<td>12.15</td>
<td>SS27-044</td>
<td>An advanced track model for use in the prediction of wheel-rail rolling noise</td>
<td>C. Jones; D. Thompson; T. Wu</td>
<td>Institute of Sound and Vibration Research, University of Southampton, UK</td>
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<td>12.30</td>
<td>SS27-064</td>
<td>Strategic Noise Maps and Action Planning for Railways</td>
<td>J. Simonett(^1); R. Gessner(^2)</td>
<td>(^{1})Crow Ten Information Engineering AG, Zurich, Switzerland (^{2})DB AG, Bahn-Umwelt-Zentrum, Schall und Erschütterungsschutz, Berlin, Germany</td>
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<td>12.45</td>
<td>SS27-068</td>
<td>Quiet trains and tracks in the Research Network Quiet Traffic</td>
<td>M. Hecht</td>
<td>Technical University Berlin, Germany</td>
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<td>13.00</td>
<td>SS27-122</td>
<td>New concepts for the description of railway noise in Germany</td>
<td>R. Diehl(^1); U. J. Kurze(^1); J. Onnich(^2)</td>
<td>(^{1})Müller-BBM, Planegg, Germany (^{2})Deutsche Bahn AG, Munich, Germany</td>
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<td>14.30</td>
<td>SS27-168</td>
<td>Stability analysis, time-domain solutions and vertical dynamics in the modelling of curve squeal generated by rail bound vehicles</td>
<td>O. Chiello, INRETS-LTE, Bron, France</td>
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<tr>
<td>15.00</td>
<td>SS27-465</td>
<td>Influence of the wheel diameter on the curve squealing of railway vehicles</td>
<td>E. Cataldi-Spinola; C. Glocker; R. Stefanelli; M. Götsch, Swiss Federal Institute of Technology, Zürich, Switzerland</td>
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<td>15.30</td>
<td>SS27-070</td>
<td>Noise Emission Measurement campaign for high speed Interoperability in Europe: the NOEMIE Project</td>
<td>P. Fodiman, Association Européenne pour l'Interopérabilité Ferroviaire (AEIF), Agence d'Essai Ferroviaire, Vitry-sur-Seine, France</td>
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<td>15.45</td>
<td>SS27-368</td>
<td>Characterisation and classification of railway noise sources</td>
<td>P. Dings, AEA Tecnology Rail BV, Noise and Vibration, Utrecht, The Netherlands</td>
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<td>16.00</td>
<td>SS27-546-IP</td>
<td>Noise type testing of a freight wagon according to the STAIRRS measurement protocol</td>
<td>M. T. Kalivoda, psiA-Consult GmbH, Vienna, Austria</td>
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**MONDAY 19  POSTER SESSION SP01  14.45 - 17.30**

**Poster**  SS27-033

**Vibro-acoustic characterization of a light metro vehicle**

N. Rusciano\(^1\); G. Scarselli\(^1\); M. Viscardi\(^1\); S. Ferraiolo\(^2\); L. Lecce\(^1\)

\(^1\)University of Naples D.P.A., Italy

\(^2\)Ansaldo Breda S.p.A., Italy
Posters

**Poster SS27-339**

Development of a two-material rail allows engineering Squeal noise behavior
M. Hiensch; B. Lefranc
AEATechnology Rail bv. Utrecht, The Netherlands

**Poster SS27-435**

Responsibility attribution of railway noise: vehicle or track?
M. Paviotti; E. Verheijen
AEA Tecnology Rail BV Noise and Vibration Utrecht, The Netherlands

**Poster SS27-467**

Investigation of the influence of angle of attack, lateral displacement and moisture on rails on the occurrence of curve squealing
R. Stefanelli; J. Dual; E. Cataldi-Spinola; M. Götsch
Swiss Federal institute of Technology, Zürich, Switzerland

**Poster SS27-528**

From physical sources to equivalent noise sources
C. Cremezi Charlet; C. Talotte; P.E. Gautier; D. Stiebel
1SNCF, Research and Technology Department, Paris, France
2DB AG, DB Systemtechnik, München, Germany

**MONDAY 19 ROOM E1 16.15 - 17.30**

**SS10 – Instrumentation**

*Coordinator: P. Luquet*

**16.15 SS10-534-IP**

PC-Based or Stand-Alone Measuring systems for Noise and Vibration: is the divide still existing?
G. Amadasi; C. Notini; J. Shelton
101dB Italia srl, Campodarsego (PD), Italy
2AcSoft, UK

**16.30 SS10-530-IP**

The colors of urban noise – a new concept of monitoring
D. Dufournet; A. Rozwadowski
01dB-Stell, Limonest, France

**16.45 SS10-509-IP**

A new generation of acoustic imaging technique for 3D sources identification: application to engine noise reduction
P. Chevret; D. Vaucher; JP. Demars
METRAVIB RDS 200, Limonest, France
17.00  SS10-493-IP  
The doseBadge, miniaturisation of a noise dosemeter  
A.D. Wallis; D.S. Wallis; J.D. Tingay  
Cirrus Research plc, Acoustic House, Hunmanby, North Yorkshire, UK

17.15  SS10-229-IP  
The uncertainty in the instrumentation for the measurement of noise  
C. Guglielmone  
Istituto Elettrotecnico Nazionale “Galileo Ferraris”, Torino, Italy

MONDAY 19  ROOM E2  11.30 - 13.15

SS09 – HVAC&R noise control  

Coordinator: L. Gavric

11.30  SS09-543-OL  
Vibroacoustic characterisation of refrigerant compressors  
L. Gavric  
CETIM, Noise and vibration control, Senlis, France

12.00  SS09-491-IP  
Acoustics of suction mufflers in hermetic compressors  
C. Svendsen  
Danfoss Compressors GmbH, Flensburg, Germany

12.15  SS09-335-IP  
Suction muffler improvement for reciprocating compressor  
L. Audouy  
Tecumseh-Europe, La Verpilliere, France

12.30  SS09-385-IP  
Fast simulation of the vibro-acoustic behavior of a compressor – Multi physic models and hybridizing of methods  
P. Lamary\(^1\); S. Courtois\(^2\); E. Arnoult\(^2,3\); F. Robbe-Valloire\(^1\); P. Wagstaff\(^2,3\); L. Gavric\(^4\)  
\(^1\)ISMCM-CESTI, Supméca Paris, Structure, Acoustics and Rheology Laboratory, Saint-Ouen, France.  
\(^2\)ACOVIB, France  
\(^3\)Université de Technologie de Compiègne, Département acoustique, France.  
\(^4\)CETIM, Department of Industrial Acoustics, Senlis, France

12.45  SS09-152-IP  
Identification of main noise sources in a heat pump  
E. Fagot-Revurat; F. Fournier  
CIAT, Culoz, France
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<tr>
<td>13.00</td>
<td>SS09-011</td>
<td>Suggested values of noise indices in air-conditioned office buildings</td>
<td>U. Ayr; E. Cirillo; F. Martellotta</td>
<td>Dipartimento di Fisica Tecnica, Politecnico di Bari, Italy</td>
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<td>14.45 - 17.30</td>
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<td>Poster</td>
<td>SS09-242</td>
<td>Experimental evaluation of noise propagation through rectangular ducts in HVAC system</td>
<td>G. Semprini; P. Guidorzi; M. Garai</td>
<td>DIENCA – University of Bologna, Italy</td>
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<td>MONDAY 19</td>
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<td>14.30 - 17.15</td>
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<td>SC36 – Active noise and vibration control</td>
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<td>14.30</td>
<td>SC36-161</td>
<td>Design of a hybrid six-degrees-of-freedom vibration isolation set-up</td>
<td>H. Super; G. Nijsse; J. van Dijk; B. Jonker</td>
<td>University of Twente, Faculty of Engineering Technology (WB-WA), Enschede, The Netherlands</td>
</tr>
<tr>
<td>14.45</td>
<td>SC36-164</td>
<td>Subspace based identification and control of a six-degrees-of-freedom vibration isolation set-up</td>
<td>G. Nijsse; H. Super; J. van Dijk; B. Jonker</td>
<td>University of Twente, Faculty of Engineering Technology (WB-WA), AE Enschede, The Netherlands</td>
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<tr>
<td>15.00</td>
<td>SC36-158</td>
<td>Development and experimental evaluation of ANC systems applied to premises</td>
<td>F. Valentini; F. Scamoni</td>
<td>ITC-CNR – Institute of Construction Technologies, S. Giuliano Milanese (MI), Italy</td>
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<tr>
<td>15.15</td>
<td>SC36-144</td>
<td>Active control and microperforated panels</td>
<td>J. Pfretzschner¹; P. Cobo¹; D. Bote¹; A. Fernández¹; O. Doutres²</td>
<td>¹Instituto de Acústica (CSIC), Madrid, Spain</td>
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<td>²CENIM. Université du Maine, Le Mans, France</td>
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<td>15.30</td>
<td>SC36-114</td>
<td>Spatial filtering for active vibration control of plates and shells</td>
<td>A. Preumont¹; A. François¹; P. De Man¹; N. Loix²</td>
<td>¹ULB, Active Structures Lab., Brussels, Belgium</td>
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<td>²Micromega Dynamics, Angleur, Belgium</td>
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</tbody>
</table>
15.45 SC36-174
Transmitted sound diagnosis and control
J. A. Bucaro; B. Houston; E. Williams; N. Lagakos; R.D. Corsaro; J. Tressler; P. Herdic
Naval Research Laboratory, Washington, USA

16.00 SC36-230
Behaviour of a two-dimensional system for active noise reduction in a three dimensional sound field
D. Krahé¹; M. Trimpop
¹Universität Wuppertal, Germany
²Institut für Lärmschutz, Düsseldorf, Germany

16.15 SC36-369
Active vibration control using embedded piezoceramics as both actuators and sensors
K. Wu; A. Schwinn; H. Janocha
Laboratory for Process Automation (LPA), Saarland University, Germany

16.30 SC36-532
Experiments with local active noise control in passenger seat
O. Jiřiček; M. Brothánek
CTU-FEE, Prague, Czech Republic

16.45 SC36-315
Intensimetric technique for active noise control optimization
A. Biondi; M. Coppi; A. Guglielmo; A. Venditti
Faculty of Engineering, Dept. of Technical Physics, University of Rome “La Sapienza, Italy

17.00 SC36-358
Hybrid acoustic liner: a new concept for noise reduction in flow duct
J. Périsse¹; T. Mazoyer¹; O. Hilbrunner²; N. Sellen²; B. Mazeaud²; M. Cuesta²; M.-A. Galland²
¹Metravib RDS 200, Limonest, France
²École centrale de Lyon, Department of fluid and acoustic engineering, Écully, France

MONDAY 19 ROOM E3 11.30 - 13.15

SS03 – Computational acoustics for noise control
Coordinator: M. Möser

11.30 SS03-063-IP
A source simulation technique for the frequency interpolation of acoustic response functions
O. von Estorff; O. Zaleski
TU Hamburg-Harburg, Mechanics and Ocean Engineering, Germany
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</table>
| 11.45 | SS03-109-IP  | Methods to overcome numerical instabilities at critical frequencies of iterative boundary element solvers | M. Ochmann\(^1\); A. Osetrov\(^2\)  
\(^1\)TFH Berlin – University of Applied Sciences, Germany  
\(^2\)St. Petersburg State Electrotechnical University, Russia |
| 12.00 | SS03-291-IP  | Sound radiation of a discontinuous structure calculated with various semi-analytical and numerical methods | B. Zeitler; M. Möser  
ITA, Technical University Berlin, Institut für Technische Akustik, Germany |
| 12.15 | SS03-374-IP  | A computational model for non-linear contact problems – exemplified at tyre/road interaction | W. Kropp; K. Larsson  
Department of Applied Acoustics, Chalmers University of Technology, Göteborg, Sweden |
| 12.30 | SS03-382     | Engine Source Identification using an I-BEM technique                | T.S. Vogt\(^1\); Y.C. Glandier\(^1\); J. Morokholt\(^2\); A. Omrani\(^3\); M.A. Hamdi\(^3\)  
\(^1\)DaimlerChrysler AG, RT Vehicle Acoustics, Stuttgart, Germany  
\(^2\)Bruel&Kjaer A/S, Denmark  
\(^3\)STRACO SA, Compiègne, France |
| 12.45 | SS03-395     | Presentation of a New Inverse Boundary Element Method for the determination of Optimal Spectral Characteristics of Complex noise sources | M.A. Hamdi\(^1\); A. Omrani\(^1\); X. Ouisse\(^2\); M. Mein\(^2\); O. Sauvage\(^2\)  
\(^1\)STRACO,SA, Compiègne, France  
\(^2\)PSA Peugeot Citroen, DRIA, Velizy-Villacoublay, France |
| 13.00 | SS03-460-IP  | Quo Vadis SEA, a critical point of view of the current use of SEA in the automotive industry | L. Miranda  
Volkswagen AG, Wolfsburg, Germany |
| 13.15 | LUNCH        |                                                                      |                                                  |

**MONDAY 19**

**POSTER SESSION SP01**  
**14.45 - 17.30**

**Poster**  
SS03-336  
Equivalency conditions for any set of independent noise sources radiated in free field  
H. Idczak\(^1\); A. Snakowska\(^2\)  
\(^1\)Institute of Telecommunication and Acoustic, Wroclaw University of Technology, Poland  
\(^2\)Institute of Physics, Rzeszów University, Poland
SS15 – Modeling in building acoustics

Coordinator: M. Villot

14.30 SS15-036-OL
Modeling in building acoustics: an overview
M. Villot; C. Guigou-Carter
CSTB, Acoustics and Lighting Department, Saint-Martin-d'Hères, France

15.00 SS15-037-IP
Study of simulated rainfall noise on multi-layered systems
C. Guigou-Carter; M. Villot
CSTB, Acoustics and Lighting Department, Saint-Martin-d'Hères, France

15.15 SS15-290-IP
Source strength of structure-borne sound sources for building acoustics
A. Moorhouse; S. Jianxin
University of Liverpool, Acoustics Research Unit, UK

15.30 SS15-058-IP
Design possibilities for impact noise insulation in lightweight floors – A parameter study
J. Brunskog; P. Hammer
Engineering Acoustics, LTH, Lund University, Sweden

15.45 SS15-362
Tapping machine and footstep sound
A.-Charlotte Johansson; P. Hammer; J. Brunskog
Engineering Acoustics, Lund University, Sweden

16.00 SS15-057-IP
Transmission loss of plates with local resonators modelled by harmonic oscillators with frequency dependent complex mass and spring stiffness
W. Maysenhölder
Fraunhofer Institute of Building Physics, Stuttgart, Germany

16.15 SS15-252
Transverse isotropy of porous elastic medium filling double lightweight walls: cavity effect on sound transmission: modeling a transverse isotropic layer
J. Tran-Van¹; X. Olny²
¹Laboratoire d'Etudes Aerodynamiques / Isover, Poitiers, France
²Laboratoire des Sciences de l'Habitat, ENTPE, Vaulx en Velin, France
MONDAY 19  POSTER SESSION SP01  14.45 - 17.30

Poster  SS15-417
A method for room acoustics prediction based on ray tracing and Markov chains
D. Alarcão; J.L. Bento Coelho
CAPS-Instituto Superior Técnico, Lisbon, Portugal

MONDAY 19  ROOM E3  16.30 - 17.30

SS11 – Integration of photovoltaic systems in sound barriers
Coordinator: A. Ponce

16.30  SS11-505-IP
Photovoltaic modules integrated in novel noise barrier elements
T. Erge¹; R. Daguerre Eyras²; O. Perpín Lamigueiro²; A. Gonzáles Marsinach²; E. Rößler¹
¹Fraunhofer ISE, Freiburg, Germany
²ISOFOTON, Madrid, Spain

16.45  SS11-066-IP
Assessment of the potential of PV noise barriers technology along national roads in Italy
P. Bellucci¹; D. Fernandez¹; S. La Monica¹; L. Schirone²
¹ANAS Centro Sperimentale Stradale, Cesano di Roma (RM), Italy
²DIAA – Università di Roma La Sapienza, Italy

17.00  SS11-461-IP
Photovoltaic sound barrier for short duration noise
D. Bote; J. Pfretzschner; C. De la Colina
Acoustic Institute CSIC, Madrid, Spain

17.15  SS11-470-IP
On the quality of photovoltaic-sound barriers
L. Schirone¹; P. Bellucci²
¹Università La Sapienza, Rome, Italy
²Centro Sperimentale Stradale, Cesano di Roma (RM), Italy
SS13 – Machines used outdoors

Coordinator: J. Tourret

11.30  SS13-226-IP
Low noise cooling fan integration in an induction machine application
J. Hyrynen1; A. Karjalainen2
1VTT Industrial Systems, Tampere, Finland
2Tampere University of Technology, Finland

11.45  SS13-303-IP
Possibilities and limits of noise reduction on lawn-mowers
M. Bockhoff
CETIM Acoustic Department, Senlis, France

12.00  SS13-304-IP
Experimental and computational study of unsteady flow and noise in a lawnmower casing
M. Bockhoff1; K. Mones1; S. Timouchev2; K. Ilhichov2; A. Aksenov3
1CETIM Acoustic Department, Senlis, France
2InteRe, Khimki, Russia
3TESIS, Moscow, Russia

12.15  SS13-351-IP
Effectiveness of some noise solutions applied to small agricultural machines
E. Carletti
IMAMOTER Institute – National Research Council of Italy, Cassana (Ferrara), Italy

12.30  SS13-334
Correlation between the acoustic intensity measurements with and without an electronically fuel injection system for a small single cylinder diesel engine
F.E. Corcione1; D. Siano1; M. Iadevaia2; M. Viscardi2; G.E. Corcione3; M. Lavornga3
1Istituto Motori – CNR Napoli, Italy
2DPA, University of Naples “Federico II”, Italy
3ST Microelectronics, Arzano (NA), Italy

Poster  SS13-400
Implementation of an approach for reducing the sound power of a generating set
M. Carfagni; R. Furieri; F. Miniati
Faculty of Engineering, University of Florence, Italy
### MONDAY 19  
**ROOM E4**  
**12.45 - 13.00**

**SS23 – Noise labelling**  
*Coordinator: B. Berry*

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| 12.45 | SS23-535-IP  | Noise labeling of electrical home appliances and some practical considerations | H. Serafettinoglu  
Arcelik AS, Research & Technology Development Center, Istanbul, Turkey |                                                    |

### MONDAY 19  
**ROOM E4**  
**14.30 - 16.30**

**SC37 – Aeroacoustics and flow noise**

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| 14.30 | SC37-212     | Application of viscothermal wave propagation theory for reduction of boundary layer induced noise | Y. Wijnant; M. Hannink; A. de Boer  
University of Twente, Engineering Technology, Enschede, The Netherlands |                                                    |
| 14.45 | SC37-372     | Noise exposure of motorcyclists                                        | P. Lenzuni  
I.S.P.E.S.L. – Dipartimento di Firenze, Italy |                                                    |
| 15.00 | SC37-018     | Reduction of flow-induced vibration by means of structure elasticity control | S. Kovinskaya; E. Amromin  
Mechmath LLC, Edmond, USA |                                                    |
| 15.15 | SC37-128     | Theoretical and experimental investigation of the aerodynamic noise generated by air flows through car windows  
F. Rossi; A. Nicolini  
Università degli Studi di Perugia, Dipartimento di Ingegneria Industriale, Italy |                                                    |
| 15.30 | SC37-254     | Measurement and modelling techniques to approach the problem of noise reduction of domestic range hood  
P. Maggiorana¹; G. Rossi²; N. Morettini²; F. Marinelli²; U. Morgante²  
¹Faculty of Engineering, University of Perugia, Italy  
²Best SpA, Fabriano (AN), Italy |                                                    |
15.45 SC37-032
Acoustic radiation of elastic system excited by the pressure fluctuation field with characteristics varying in space
B. Efimtsov¹; A. Zverev¹; S. Baranov²
¹Central Aerohydrodynamics Institute, Moscow, Russia
²Computer Center of Russian Academy of Sciences, Moscow, Russia

16.00 SC37-123
Experimental determination of the acoustic wave propagation in fluid-filled viscoelastic pipes
M. Prek
University of Ljubljana, Faculty of Mechanical Engineering, Slovenia

16.15 SC37-375
Estimation of self and shear noise directivity patterns from subsonic jets via synchronous acoustic/aerodynamic measurements
P. Jordan; Y. Gervais; F. Kerhervé; E. Laurendeau
LEA, UMR-CNRS 6609, Bât K, Université de Poitiers, France

MONDAY 19 POSTER SESSION SP01 14.45 - 17.30

Poster SC37-148
Modelling of hydroacoustic transfers through a butterfly valve
V. Villouvier
EDF/DRD/AMV, Clamart, France
TUESDAY 20 May 2003

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<td>09.00</td>
<td>SS24-476-IP</td>
<td>Noise abatement planning in Germany – Experiences and consequences of the EU Directive on the Assessment of Environmental Noise</td>
<td>C. Popp, LÄRMKONTOR GmbH, Hamburg, Germany</td>
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<tr>
<td>09.15</td>
<td>SS24-240-IP</td>
<td>Noise abatement strategies in urban areas: the role of local authorities</td>
<td>D. Bertoni, Comune di Modena, Italy</td>
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<td>09.30</td>
<td>SS24-478-IP</td>
<td>Noise in Norwegian cities and rural areas</td>
<td>T. Gjestland; H. Olsen; R. Tore Rendeberg, SINTEF, Telecom &amp; informatics, Trondheim, Norway</td>
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<td>09.45</td>
<td>SS24-053</td>
<td>An Urban Noise Management System Integrated into a Geographical Information System</td>
<td>F. Borchi; M. Carfagni, Università di Firenze – Dipartimento di Meccanica e Tecnologie Industriali, Italy</td>
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<td>10.00</td>
<td>SS24-279-IP</td>
<td>Noise mapping and noise reduction plans as urban noise management tools</td>
<td>J.L. Bento Coelho, CAPS-Instituto Superior Técnico, Lisbon, Portugal</td>
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<td>10.15</td>
<td>SS32-425-IP</td>
<td>Acoustic classification of territory and bands of respect</td>
<td>M. Poli; A. Callegari, Environmental Protection Agency of Emilia-Romagna Region, Bologna, Italy</td>
</tr>
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<td>10.30</td>
<td>SS24-466</td>
<td>Developing the London ambient noise strategy</td>
<td>A. Bloomfield, Greater London Authority, London, UK</td>
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* with 7 papers from SS32 The Italian experience in implementing noise legislation (AIA-GAA; A. Peretti)
10.45 SS24-479-IP
Noise policies in towns: Barcelona
R. Alsina
Barcelona City Council, Environmental Dep., Barcelona, Spain

11.00 SS24-233
New activities and noise zoning: the preventive evaluation of compatibility. Technical-administrative procedures in Rome
G. Carati¹; S. Canale²; M. Coppi³; C. Marzi⁴; C. Melocchi¹; F. Romana Salza¹; D. Donati¹; S. Mastrangelo¹
¹Dipartimento Politiche Ambientali e Agricole, Comune di Roma, Italy
²Facoltà di Ingegneria, Università di Catania, Italy
³Facoltà di Ingegneria, Università “La Sapienza”, Rome, Italy
⁴ENEA C.R. Casaccia, Rome, Italy

11.15 *SS32-243-IP
The experience in elaborating and adopting noise control plans in Italy
J. Fogola¹; G. Fini²; F. Duretto¹; P. Ferrecchi²; A. Minghetti²; N. Vozza³
¹Regional Environmental Protection Agency of Piedmont (A.R.P.A. Piemonte), via Sabaudia 164, 10095 Turin, Italy
²City of Bologna, Italy
³Province of Turin, Italy

11.30 SS24-525-IP
Madrid municipal policy towards the reduction of acoustic pollution
P. Perera Melero
Head of the Unit for Acoustic Control of the Municipality of Madrid, Spain

11.45 SS24-061
Limitation of Noise Impact around Industrial Sites – an Application of Noise Mapping Projects
W. Probst¹; B. Huber²
¹ACCON GmbH, Munich, Germany
²DataKustik GmbH, Munich, Germany

12.00 SS24-436
Acoustical protection of expansion areas in case of lack of municipality’s classification
F. Conti
Tecnicoop scrl, Bologna, Italy

TUESDAY 20  POSTER SESSION SP02  09.15 - 12.15

Poster SS24-251
Noise map of the city of Guimarães – Comparison and experimental validation of the prevision methods
M. Guedes de Almeida¹; L. Bragança¹; M. Nogueira²
¹Civil Engineering Department, University of Minho, Guimarães, Portugal
²Municipality of Guimarães, Portugal
Poster *SS32-140
The acoustic classification plan of some Tuscan towns: methodology and results
G. Cellai; S. Secchi
Department of Technology Architecture and Design, University of Florence, Italy

Poster *SS32-248
Study and simulation of protective acoustic measures for an area in Milan planned
to house an hospital
A. Bisceglie; G. Zambon
Università degli Studi di Milano Bicocca, Scienze dell'Ambiente e del Territorio, Italy

Poster *SS32-445
Noise mapping of the town of Naples: methodology and analysis of results with a
GIS system
P. Lembo1; S. Lembo2
1DISPAMA – Second University of Naples, Aversa, Italy
2Sanitary Service ASL Naples 1, Italy

Poster *SS32-207-IP
Noise impact and noise climate assessment as territorial planning tools
D. Bertoni
Comune di Modena Settore Ambiente, Italy

Poster *SS32-139
Aspects of road traffic noise legislation in Italy involved by new European
directive
G. Cellai; L. Rocco
Dep. of Architecture Technology and Design, University of Florence, Italy

TUESDAY 20 ROOM LA  14.30 - 17.15

SS17 – Noise and the European citizens: information and educational needs
Coordinator: M. Vallet

* with 1 paper from SS32 The Italian experience in implementing noise legislation (AIA-GAA; A. Peretti)

14.30 SS17-490-IP
Aircraft noise complaints around some european airports
K. Hume; H. Morley; C. Thomas
Centre for Aviation, Transport & Environment, Manchester Metropolitan University, UK

14.45 SS17-449-IP
The role of common prejudices in aircraft (noise) annoyance
J. Vogt1; M. Novak2
1University of Dortmund Dept. 14, Organisational Psychology, Germany
2Dr. Weßling laboratories, Bochum, Germany
15.00  SS17-451-IP
Noise management by telephone services
N. Arndt¹; I. H. Flindell²; J. Vogt¹
¹University of Dortmund Dept. 14, Organisational Psychology, Germany
²Institute of Sound and Vibration Research, University of Southampton, UK

15.15  SS17-221
The use of public participation and noise mapping in the design of environmental noise barriers
J. L. Rose Joynt; J. Kang
School of Architecture, University of Sheffield, UK

15.30  SS17-515-IP
European citizen and environmental noise: information contents, frequency and communication ways
M. Karmele Herranz; J. L. Eguiguren
Fundación LABEIN, Área de Acústica, Bilbao, Spain

15.45  SS17-508-IP
Road traffic noise mapping in Spain and its presentation to the citizen
A. Cortés; I. Aspuru; M. Vázquez.
LABEIN Technological Centre, Acoustics Area, Bilbao, Spain.

16.00  SS17-450
Information policy of airports in the view of the citizens and measures against annoyance
E. Haugg; M. Kastner; J. Vogt
University of Dortmund Dept. 14, Organisational Psychology, Germany

16.15  SS17-296-IP
Airport noise and communication to the public: objectives and state of art of Italian rules
S. Curcuruto¹; M. Bassanino²; G. Sgorbati¹; F. Micozzi³
¹Environmental Consultant
²ARPA Lombardia, Italy
³ARPA Lazio, Italy

16.30  *SS32-513-IP
Information and participation: what should be done in our country according to Italian laws
M. Beria d’Argentina
Modulo Uno srl, Torino, Italy

16.45  SS17-542
Behind noise maps: an approach to the relation of legislation, community behavior and its implications
S. Gueiros Teixeira¹; L. Pinguelli Rosa²
¹EBA-UFRJ and IVIG-COPPE-UFRJ, Rio de Janeiro, Brazil
²Eletrobrás, Rio de Janeiro, Brazil
17.00  SS17-547-IP  
Sound insulation of dwellings- Overview of classification schemes in Europe  
B. Rasmussen  
Velux A/S, W-Product Quality, Denmark

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TUESDAY 20  POSTER SESSION SP03  14.45 - 17.15

**Poster**  SS17-245

A common European sustainability indicator for the “Share of population exposed to harmful noise levels”: a possible definition and its application to the Province of Turin  
N. Vozza¹; J. Fogola²; R. Giovinetto³  
¹Province of Turin, Italy  
²Regional Environmental Protection Agency of Piedmont (A.R.P.A. Piemonte), Italy  
³ENVIA – Turin, Italy

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TUESDAY 20  ROOM SA  09.00 - 11.30

**SS25 – Outdoor sound propagation**  
*Coordinator: K. Attenborough*

* with 1 paper from SS07 European and Japanese legislation comparison on noise control (H. Tachibana)  
* with 2 papers from SS32 The Italian experience in implementing noise legislation (AIA-GAA; A. Peretti)

09.00  SS25-099-IP  
**Effects of altering ground conditions on blast noise propagation**  
K. Attenborough¹; Q. Wang¹; P. Dutta²; G. Durell²; P. Schomer³; J. Mifflin²; F. van den Berg³; F. van den Eerden³; J. van t'Hof³; P. van den Weele³  
¹University of Hull, Dept. of Engineering, , UK  
²USACE CRREL, Hanover, USA  
³Schomer and Associates, Champaign, Illinois, USA  
⁴TNO TPD, Acoustics Division, Delft, The Netherlands  
⁵Ministry of Defence, The Hague, The Netherlands

09.15  SS25-202-IP  
**The variation of the predicted performance of railway noise barriers**  
K. Horoshenkov; S. Rehman; S. Martin  
University of Bradford, School of Engineering, Design and Technology, UK

09.30  SS25-531-IP  
**Coupling BEM and GFPE for complex outdoor sound propagation**  
E. Premat; J. Defrance; M. Priour; F. Aballéa  
Centre Scientifique et Technique du Bâtiment, Saint Martin d'Hères, France
09.45 SS25-244-IP
3D efficiency of some road barrier crownings using a 2D½ BEM
J. Defrance; L. Bouilloud; E. Premat; P. Jean
CSTB, Environmental Acoustics, Saint-Martin-d'Hères, France

10.00 SS25-255-IP
Aspects of secondary sonic boom propagation
K. Kaouri¹; D. Allwright¹; L. Dallois¹,²; P. Dellar¹
¹OCIAM, Mathematical Institute, University of Oxford, UK
²Ecole Centrale de Lyon, Ecully, France

10.15 SS25-055-IP
Modelling of the propagation in an atmospheric or topographic shadow zone using
the parabolic equation: comparisons with in-situ measurements
B. Gauvreau¹; M. Bérengier¹; P. Blanc-Benon²; N. Blaiiron²
¹Laboratoire Central des Ponts et Chaussées, Urban and Road Acoustic, Centre de
Nantes, France
²Ecole Centrale de Lyon, Ecully, France

10.30 SS25-034-IP
Sound propagation in micro-scale urban areas: simulation and animation
J. Kang¹; Y. Meng¹; G. J. Brown²
¹School of Architecture, University of Sheffield, UK
²Dept. Computer Science, University of Sheffield, UK

10.45 *SS07-522-IP
Construction noise prediction model “ASJ CN-Model 2002” proposed by the
Acoustical Society of Japan
H. Tachibana¹; K. Yamamoto²
¹Institute of Industrial Science, University of Tokyo, Japan
²Kobayasi Institute of Physical Research 3-20-41, Tokyo, Japan

11.00 SS25-014
Investigation of urban forms influence on sound propagation and natural
ventilation
I. Fleurence-Jachet; P. Woloszyn
CERMA UMR CNRS 1563, Ecole d'Architecture de Nantes, France

11.15 SS25-097
Acoustic performance of high rise building façades due to its balconies form
H. Hossam El-Dien
CERMA, UMR CNRS 1563-Ecole d'Architecture de Nantes, France
Technical program

TUESDAY 20

POSTER SESSION SP02

09.15 - 12.15

**Poster**

*SS32-499*

Fixed noise monitoring network for the S.Ruffillo-Savena-Rastignano construction site of the Bologna-Firenze High Speed Railway  
M. Masoero¹; A.C. Bertetti²; M. Falossi²; S. Garavoglia³  
¹Dipartimento Energetica, Politecnico di Torino, Italy  
²Studio Progetto Ambiente srl, Turin, Italy  
³FIATENGINEERING SpA, Turin, Italy

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TUESDAY 20

ROOM SA

11.30 - 17.30

**SS22 – Noise impact evaluation**

*Coordinator: B. Schulte Fortkamp*

11.30  SS22-082-IP  
Sound levels in discotheques  
W. Babisch¹; B. Bohn²  
¹Federal Environmental Agency, Berlin, Germany  
²Marie-Curie-Oberschule, Berlin, Germany

11.45  SS22-145-IP  
Evaluation of the sound of traffic noises in laboratory experiments  
G. Notbohm¹; D. Vjästfäll²; C. Gaertner¹; S. Schwarze¹  
¹Institute of Occupational and Social Medicine, University of Düsseldorf, Universitätsstrasse 1, 40670 Düsseldorf, Germany  
²Department of Applied Acoustics, Chalmers University of Technology, Gothenburg, Sweden

12.00  SS22-347-IP  
How to evaluate noise impact  
K. Genuit  
HEAD acoustics GmbH, Herzogenrath, Germany

12.15  PLENARY SESSION

13.00  LUNCH

14.30  SS22-073-IP  
Two examples of audio-visual interactions in an urban context  
S. Viollon  
EDF R&D, Analyses Mecaniques et Acoustiques, Clamart, France

14.45  SS22-520-IP  
Impact of the traffic on urban noise in relationship with the urban morphology  
C. Semidor  
Laboratory GRECO-Bx, Ecole d’Architecture et de Paysage de Bordeaux, France
15.00 SS22-241-IP
Perceptual attributes of sounds transmitted through a window: effects of the glass viscoelastic boundary conditions
J. Faure; C. Marquis-Favre; F. Sgard
LASH/DGCB URA CNRS 1652, ENTPE, Vaulx-en-Velin, France

15.15 SS22-052-IP
SYLVIE – Systematic Noise Abatement in Inner City Residential Areas
W. Khutter; M. Herry; S. Snizek
Municipal Department for Environmental Protection of the City of Vienna, Austria

15.30 SS22-415-IP
Towards green labelling of soundscapes in residential areas
Ö. Axelsson; B. Berglund; M. E. Nilsson
Institute of Environmental Medicine, Karolinska Institutet and Department of Psychology, Stockholm University, Sweden

15.45 SS22-075-IP
Prioritizing road noise protections
J.-P. Clairbois; P. Houtave; D. Meganck
Acoustic Technologies, Brussels, Belgium

16.00 SS22-121-IP
Fuzzy noise limits
D. Botteldooren
Acoustic Group, Department of Information Technology, Ghent University, Belgium

16.15 SS22-394-IP
Children’s and adults’ perception of soundscapes at school
M. E. Nilsson; Ö. Axelsson; B. Berglund
Institute of Environmental Medicine, Karolinska Institutet and Department of Psychology, Stockholm University, Sweden

16.30 SS22-307
The effects of road traffic and aircraft noise exposure on children’s cognition and health: The RANCH project
M. Matheson¹; C. Clark¹; S. Stansfeld¹; B. Berglund²; E. Öhrstrom³; P. Fischer⁴; I. Lopez-Barrio⁵
¹Queen Mary, University of London, Department of Psychiatry, UK
²Stockholm University, Sweden
³Goteborg University, Sweden
⁴The National Institute of Public Health and the Environment (RIVM), The Netherlands
⁵Instituto de Acustica (CSIC), Madrid, Spain

16.45 SS22-326-IP
Influence of the temporal scale on the relevance of acoustic parameters selected to characterize urban sound environments
C. Lavandier; B. Barbot
Laboratoire Mobilités, Réseaux, Territoires et Environnements, Cergy Pontoise, France
17.00 SS22-043
Audio-visual reactions to wind turbines
E. Pedersen¹; K. Persson Waye²
¹Halmstad University, School of Business and Engineering, Sweden
²Department of Acoustics, Aalborg University, Denmark

17.15 SS22-160
Wind turbines at night: acoustical practice and sound research
F. G.P. van den Berg
University of Groningen, Science Shop for Physics, The Netherlands

TUESDAY 20 POSTER SESSION SP02 09.15 - 12.15

Poster SS22-010
A membership function to calculate subjective ratings of noise annoyance
U. Ayr; E. Cirillo; F. Martellotta
Dipartimento di Fisica Tecnica, Politecnico di Bari, Italy

Poster SS22-250
Soundscape perception in Cagliari, Italy
F. Arras¹; G. Massacci¹; P. Pittaluga²
¹DIGITA – Dipartimento di Geointegrazione e Tecnologie Ambientali – University of Cagliari, Italy
²DIT – Dipartimento di Ingegneria del Territorio, University of Cagliari, Italy

Poster SS22-309
The impact of wind turbines in rural areas
L. Maffei; P. Lembo
DISPAMA – Second University of Naples, Italy

Poster SS22-200
Assessment of soundscape in children: affective and cognitive determinants
I. López Barrio; R. Martín; J. Domingo Guillén
Instituto de Acústica (CSIC), Madrid, Spain

Poster SC40-416
Hearing impairments in discotheques. Correlation between individual noise exposure and visiting habits
T. Leitmann
Institute of Technical Acoustics, Technical University of Berlin, Germany
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors/Institutions</th>
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<tbody>
<tr>
<td>09.00</td>
<td>SC39-020</td>
<td>Measurement of the performance of noise suppression in mobile telecommunication networks</td>
<td>V. Veikko Mattila, Nokia Research Center, Tampere, Finland</td>
</tr>
<tr>
<td>09.15</td>
<td>SC39-021</td>
<td>Compact high performance listening spaces</td>
<td>M. Kylliäinen, H. Helimäki, N. Zacharov, J. Cozens</td>
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<td>Insinööritoimisto Heikki Helimäki Oy, Helsinki, Finland</td>
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<td>Nokia Research Center, Tampere, Finland</td>
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<td>09.30</td>
<td>SC39-051</td>
<td>Localization of aeroacoustic sources all along a vehicle by means of the acoustical imaging system ANT64 in the semi-anechoic wind-tunnel Pininfarina</td>
<td>K. Haddad, V. Benoit</td>
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<td>ACB Engineering, Paris, France</td>
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<td>09.45</td>
<td>SC39-077</td>
<td>The CATS-based hearing aid frequency response measurement</td>
<td>R. Cop, M. Maletic, S. Fajt</td>
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<td>Faculty of Maritime Studies and Transport, Portoroz, Slovenia</td>
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<td>Faculty of Electrical Engineering and Computing, Zagreb, Croatia</td>
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<td>10.00</td>
<td>SC39-149</td>
<td>Calibration of the p-v Microflown® probe and some considerations on the physical nature of sound impedance</td>
<td>D. Stanzial, D. Bonsi</td>
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<td>The Musical and Architectural Acoustics Laboratory, FSSG-CNR, Fondazione G. Cini, Venice, Italy</td>
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<tr>
<td>10.15</td>
<td>SC39-184</td>
<td>Measurement and analysis of sound power radiated by small reciprocating compressors considering operating conditions and further influencing factors</td>
<td>P. Kral</td>
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<td>Vienna University of Technology, Institute for Machine Elements, Austria</td>
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<td>10.30</td>
<td>SC39-224</td>
<td>Different analysis methods for centrifugal fan noise</td>
<td>A. Touhafi, G. Pispola, M. Raadschelders, F. Asdrubali</td>
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<td>Erasmushogeschool, Brussel, Belgium</td>
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<td>DIE University of Perugia, Italy</td>
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</table>
10.45  SS39-293  
Simulation of the ultrasonic wave propagation in sonic crystals  
M. Hirsekorn; M. Sampò; P. P. Del Santo  
INFM – Dip. Fisica, Politecnico di Torino, Italy

11.00  SC39-299  
On the use of double layer beamforming antenna for industrial applications  
J.-C. Pascal\(^1\); J.-F. Li\(^2\)  
\(^1\)Laboratoire d'Acoustique de l'Université du Maine, Le Mans, France  
\(^2\)Visual VibroAcoustics, Le Mans, France

11.15  SC39-338  
Influence of fatigue and degradation process on the gears noise  
S. Radkowski  
Institute of Machinery Design Fundamentals, Warsaw University of Technology, Poland

11.30  SC39-342  
Gun noise transmission trough the air-sea interface  
J. J. Yagla; R. L. Stiegler  
Naval Surface Warfare Center Dahlgren Division, Virginia, USA

11.45  SC39-367  
Visualisation of noise  
L. Zipser; H. Franke  
ZAFT, Centre of Applied Research and Technology at the HTW, University of Applied Sciences Dresden, Germany

12.00  SC39-386  
Measure by listening, introduction of masking effect to characterize a specific noise (*)  
M. Boubezari  
CAPS Instituto Superior Técnico, Lisboa, Portugal

12.15  PLENARY SESSION

13.00  LUNCH

14.30  SC39-399  
Acoustic modelling of an after-treatment device (ATD)  
S. Allam; M. Åbom  
Royal Institute of Technology, Vehicle Engineering, Stockholm, Sweden

14.45  SC39-452  
Principle of electroacoustic reciprocity applied to acoustic volume velocity source construction  
H. Serafettingolu\(^1\); M. Caliskan\(^2\)  
\(^1\)Arcelik AS, Research & Technology Development Center, Istanbul, Turkey  
\(^2\)Middle East Technical University, 06531 Ankara, Turkey
15.00  SC39-506  
Echographic technique for high-resolution prospecting in shallow water using broadband sound sources
S. Buogo¹; P. Calichia¹; G. B. Cannelli¹; S. Cavazzoni²; G. Sissot²
¹Istituto di Acustica O.M. Corbino-CNR, Rome, Italy
²Istituto per lo Studio della Dinamica delle Grandi Masse-CNR, Venice, Italy

15.15  SC39-370  
Terrain modelling techniques and their influence on results: analysis and comparison of some international standards
M. Bianchi
GTA s.r.l., Roma, Italy

15.30  SC39-472  
LAVINYA-Laser Vibrometry Network: sYstems and Applications
E.P. Tomasini; M. Martarelli
University of Ancona, Department of Mechanical Engineering, Italy

15.45  SC39-517  
Acoustic event localization by means of passive transducer arrays in environmental monitoring
F. A. Farrelly; A. Petri; L. Pitoli; G. Pontuale
CNR, Istituto di Acustica “O.M. Corbino”, Rome, Italy

16.00  SC39-295  
Measurement of the insertion loss of silencers by an acoustic intensity based method
R. Dragonetti; C. Ianniello; R. Romano
DETEC, University of Naples FEDERICO II, Faculty of Engineering, Italy

16.15  SC39-284  
Development and experimental validation of a prediction model to assess railway traffic induced vibrations
M. Crispino¹; M. D’Apuzzo²; R. Lambert³
¹DIAR Polytechnic of Milan, Italy
²DIMSAT, University of Cassino, Italy
³DIT, University of Naples, Italy

16.30  SC39-266  
Comparative study of speech intelligibility inside cars
A. Farina¹; F. Bozzoli¹; P. Strasser²
¹Industrial Eng. Dept, University of Parma, Italy
²Rieter Automotive Systems, Winterthur, Switzerland

16.45  SC39-276  
Utilization of artificial intelligence methods for assistance in interpretation of acoustic signals
R. Tadeusiewicz¹; W. Wszolek²; A. Izworski¹; T. Wszolek²
University of Mining and Metallurgy, Mechanics and Vibroacoustics, Kraków, Poland
¹Dept. of Automatics ²Dept. of Vibroacoustics
17.00  SC39-260
New Method for Predicting Corona Audible Noise from UHV AC Transmission Lines
T. Wszolek¹; R. Tadeusiewicz²; A. Izworski²
¹Univ. of Mining and Metallurgy, Dep. of Mechanics and Vibroacoustics, Krakow, Poland
²University of Mining and Metallurgy, Department of Automatics, Krakow, Poland

TUESDAY 20  POSTER SESSION SP03  14.45 - 17.15

Poster  SC39-078
The acoustic echo cancellation for hands-free communicator
M. Maletic¹; R. Cop²; D. Miljkovic¹
¹Faculty of Electrical Engineering and Computing, Zagreb, Croatia
²Faculty of Maritime Studies and Transport, Maritime Department, Portoroz, Slovenia

Poster  SC39-119
New results in spectral analysis of noise and vibration generated by cyclically working machinery
K. Vokurka
Technical University of Liberec, Physics Department, Czech Republic

Poster  SC39-220
Speech denoising system in context
Z. Lachiri¹; N. Ellouze²
¹INSAT, Dept de physique et instrumentation, Tunisie
²ENIT, Dept Genie Electrique, Le Belvedere, Tunisie

Poster  SC39-261
Discrimination technique between false acoustic emission and acoustic emission revealed by piezoelectric sensors
P. Diodati; S. Piazza
Dipartimento di Fisica Università di Perugia, INFM Unità di Perugia, Italy

Poster  SC39-283
Evaluation of pavement-oriented countermeasures to mitigate traffic induced vibrations in urban areas
M. D’Apuzzo¹; V. Nicolosi²
¹Faculty of Engineering, University of Cassino, Italy
²Faculty of Engineering, University of Rome “Tor Vergata”, Italy

Poster  SC39-389
Improving of ‘S/N’ in marine reflection seismic records by mean SAM 96 (Sparker Array Multitip) and D-seismic (hardware-software system for seismic data acquisition and processing)
F. Giordano¹; R. Giordano²; N. Corradi³; G. Nicotra¹; I. Ortosecco ¹; A. Pitta⁴
¹IMFA-Università degli Studi di Napoli "Parthenope", Italy
²ENEA -Free Lance Consultant, Italy
³DIP. Scienze Fisiche Università Federico II Napoli, Italy
⁴DIPTERIS-Università di Genova Italy
Poster  SC39-434  
**Sample size in sound absorption measurement by the reflection method**
P.M. Massarani  
Laboratório de Ensaios Acústicos (LAENA), Acoustics Testing Laboratory, Duque de Caxias, RJ, Brazil

Poster  SC39-464  
**Propagation of nonlinear ultraacoustic waves in lamina of cubical system**
K.I. Kurennaya; V.I. Storozhev  
Mathematics Faculty, Donetsk National University, Ukraine

Poster  SC39-512  
**Acoustic impedance measurements as contribution to propagation pattern**
E. Rilo; M.T. Lorenzana; O. Cabeza  
Universidade da Coruña, Departamento de Física, E.U. Arquitectura Técnica, Spain

Poster  SC39-132  
**Analysis of the acoustic response of different stone paving for blind people**
S. Secchi  
Department of Architecture Technology and Design Pierluigi Spadolini – University of Florence, Italy

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**TUESDAY 20**  
**ROOM E2**  
**09.00 - 11.30**

**SS08 – Harmonoise**

*Coordinators: P. de Vos, G. Licitra*

**09.00  SS08-544-OL**  
HARMONOISE:objectives and status of an EU funded project to develop harmonised prediction methods for road and railway noise  
P. de Vos  
AEA Technology Rail BV, Utrecht, The Netherlands

**09.30  SS08-204-IP**  
Adaptation and revision of interim computation methods for the purpose of EU strategic noise mapping  
E. Wetzel  
Wölfel Meßsysteme, Software GmbH & Co, Höchberg, Germany

**09.45  SS08-147-IP**  
Source modelling of road vehicles – Harmonoise WP 1.1  
H.G. Jonasson  
SP Swedish National Testing and Research Institute, Acoustics, Borås, Sweden
10.00 SS08-268
Harmonoise WP 1.1 – Source characterisation of moving vehicles with 'Acoustic Camera' antenna technique
A. Mast\(^1\); T. van den Dool\(^1\); J. van der Toorn\(^1\); G. Watts\(^2\); F. De Roo\(^1\)
\(^1\)TNO TPD, Delft, The Netherlands
\(^2\)Transport Research Laboratory Ltd., UK

10.15 SS08-527-IP
Towards an appropriate description of railway noise sources
C. Cremezi Charlet; C. Talotte; P.E. Gautier
SNCF, Research and Technology Department, Paris, France

10.30 SS08-113-IP
Influence of meteorological parameters on outdoor noise propagation
D. Heimann
DLR Institute of Atmospheric Physics, Wessling, Germany

10.45 SS08-272-IP
Harmonoise WP 2 – Development of a Reference Propagation Model
F. De Roo; I. M. Noordhoek
TNO TPD, Delft, The Netherlands

11.00 SS08-275-IP
The Harmonoise engineering model
H. van Leeuwen; R. Nota
DGMR Consulting engineers bv, The Hague, The Netherlands

11.15 SS08-518-IP
HARMONOISE – first experimental road traffic noise campaign: comparison between meteorological and acoustical measurements and existing noise prediction models
D. Paini\(^2\); B. Gauvreau\(^1\); M. Bérengier\(^1\); S. Kephalopoulos\(^2\); G. Licitra\(^3\); A. Iacoponi\(^3\); S. Cieslik\(^2\); D. Kühner\(^4\)
\(^1\)Laboratoire Central des Ponts et Chaussées, Bouguenais, France
\(^2\)Joint Research Centre, Ispra(VA), Italy
\(^3\)Agenzia Regionale per la Protezione Ambientale della Toscana, Pisa, Italy
\(^4\)DeBAKOM, Odenthal, Germany

51.
### TUESDAY 20   ROOM E2   11.30 - 12.15

**SS30 – Ship noise and vibration**

*Coordinator: A. Blanchet*

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<tr>
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<th>Authors</th>
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<tbody>
<tr>
<td>11.30</td>
<td>SS30-079-IP Evaluation of acoustic comfort aboard ships: an investigation based on a questionnaire</td>
<td>N. Volle¹; A. Blanchet¹; B. Goujard²,³; V. Valeau²; A. Sakout³ ¹Les Chantiers de l’Atlantique, Alstom Group, Saint-Nazaire, France ²Lab. d'Etude des Phénomènes de Transfert Appl. au Bâtiment (LEPTAB), La Rochelle, France ³Ecole d'Ingénieurs en Génie des Systèmes Industriels (EIGSI), La Rochelle, France</td>
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<tr>
<td>11.45</td>
<td>SS30-092-IP Noise control, an important part of the safety work for offshore service vessels</td>
<td>E. Brubakk DNV, MTPNO363, Høvik, Norway</td>
</tr>
<tr>
<td>12.00</td>
<td>SS30-287-IP Noise and vibration prediction on large passenger ships</td>
<td>F. Besnier Principia Marine, Nantes, France</td>
</tr>
</tbody>
</table>

### TUESDAY 20   ROOM E2   15.00 - 17.30

**SS06 – European and International standards as tools to control noise emission from machinery**

*Coordinator: J. Jacques*

* with 1 paper from SS07 European and Japanese legislation comparison on noise control (H. Tachibana)*

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<tr>
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<th>Authors</th>
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<tbody>
<tr>
<td>15.00</td>
<td>SS06-069-IP Reduction of noise emission from machinery – The European policy – Four years experience of noise consultants for CEN</td>
<td>J. Jacques¹; R. F. Higginson²; P. Kurtz³ ¹Institut National de Recherche et de Sécurité, Paris, France ²Higginson Acoustics Limited, Bracknell, UK ³Bundesanstalt für Arbeitsschutz und Arbeitsmedizin, Dortmund, Germany</td>
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<td>15.15</td>
<td>SS06-319-IP Dealing with uncertainty in noise measurement standards</td>
<td>R. Higginson¹; P. Kurtz²; J. Jacques³ ¹Higginson Acoustics Limited, Bracknell, UK ²Bundesanstalt für Arbeitsschutz und Arbeitsmedizin, Dortmund, Germany ³Institut National de Recherche et Sécurité, Paris France</td>
</tr>
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</table>
15.30 SS06-086-IP  
Experience with ISO 11200 series and possibilities of improvement  
W. Probst  
ACCON GmbH, Munich, Germany

15.45 SS06-318-IP  
The revision of the EN ISO 3740 standards on sound power measurement  
R. Higginson  
Higginson Acoustics Limited, Bracknell, UK

16.00 SS06-357-IP  
A contribution for reduction of the measurement effort in determining the sound power of machines  
G. Hübner  
Stuttgart University, ITSM, Germany

16.15 *SS07-185-IP  
Harmonization between national and international standards on electroacoustics and acoustics in Japan  
H. Takinami  
RION Co., Ltd., Tokyo, Japan

16.30 SS06-175-IP  
Remarks on microphone positioning for sound power determination according standard EN ISO 3744  
G.A. Sehrndt  
Beratung zur Lärmminderung, Münster, Germany

16.45 SS06-231-IP  
A comparison of qualification procedures for anechoic rooms  
V. Wittstock; C. Bethke  
Physikalisch-Technische, Section Applied Acoustics, Braunschweig, Germany

17.00 SS06-169-IP  
The potential for extending the frequency range of sound intensity standards  
S. Keith¹; G. Krishnappa²; V. Chiu¹  
¹Health Canada, Ottawa, Canada  
²National Research Council of Canada, Ottawa, Canada

17.15 SS06-361-IP  
Comparative emission values in standards  
P. Kurtz¹; R. Higginson²; J. Jacques³  
¹BAuA Federal Institute of Occupational Health and Safety, Dortmund, Germany  
²Higginson Acoustics Limited, Bracknell, UK  
³INRS, Nancy, France
**Technical program**

**TUESDAY 20**

**POSTER SESSION SP03**

14.45 - 17.15

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**Poster SS06-027**

*Future noise emission of container terminals*

R. Witte  
DGMR Consulting Engineers, The Hague, The Netherlands

**Poster SS06-183**

*A survey on the current European situation concerning noise declaration of household appliances of common use in indoor environment*

F. Bertellino¹; D. Conforti²  
¹MICROBEL s.r.l., Torino, Italy  
²Merloni S.p.A., Fabriano, Italy

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**TUESDAY 20**

**ROOM E3**

09.00 - 10.45

**SS29 – Road/tyre noise**

*Coordinators: T. Beckenbauer, W. Kropp*

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09.00 **SS29-321-IP**  
*Modelling of the local deformation at the tyre/road contact for the description of air pumping*  
F. Wullens  
Department of Applied Acoustics Chalmers University of Technology, Göteborg, Sweden

09.15 **SS29-462-IP**  
*FE modeling for tire noise*  
A. Pietrzyk; J. Leyssens; A. Lerusse  
Goodyear Technical Center, Colmar-Berg, Luxembourg

09.30 **SS29-497-IP**  
*Numerical analysis of tire rolling noise radiation – Computational aspects*  
O. von Estorff¹; U. Nackenhorst¹; S. Petersen²  
¹Institute of Structural and Computational Mechanics, University of Hannover, Germany  
²Mechanics and Ocean Engineering, Technical University Hamburg-Harburg, Germany

09.45 **SS29-498-IP**  
*The multi-coincidence peak around 1000 Hz in tyre/road noise spectra*  
U. Sandberg¹; W. Kropp²; K. Larsson²  
¹Swedish National Road and Transport Research Institute (VTI) Linkoping, Sweden  
²Chalmers University of Technology, Department of Applied Acoustics, Göteborg, Sweden
10.00 SS29-524-IP
Acoustic radiation from tyres using finite and infinite elements: coupled and uncoupled approaches
J.L. Migeot\textsuperscript{1}; J.P. Coyette\textsuperscript{1}; T. Leclercq\textsuperscript{1}; J.D. Thiébaut\textsuperscript{1}; L. Hazard\textsuperscript{1}; W. Gnörich\textsuperscript{2}; A. Ossipov\textsuperscript{2}
\textsuperscript{1}Free Field Technologies, Louvain-la-Neuve, Belgium
\textsuperscript{2}Goodyear Technical Center Luxembourg, Colmar Berg, Luxembourg

10.15 SS29-356
Experimental study of high frequency response of tyres
P. Andersson; K. Larsson; F. Wullens; W. Kropp
Department of Applied Acoustics, Chalmers University of Technology, Göteborg, Sweden

10.30 SS29-050
Tire noise & vibration characteristic analysis using SEA – based on tire FE modeling
Yong Hun Kim; Seung Kyu Lee; Sang Ju Lee
Hankook Tire Co., Ltd, Taejon, Korea

**TUESDAY 20**

**POSTER SESSION SP02**

**09.15 - 12.15**

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**Poster** SS29-300
Iterative equivalent sources model of the tyre emission over impedance surfaces
F.-Xavier Bécot\textsuperscript{1}; W. Kropp\textsuperscript{2}
\textsuperscript{1}INRETS-Transport and Environment Laboratory & Chalmers Applied Acoustics, Bron, France
\textsuperscript{2}Applied Acoustics, Chalmers University of Technology, Gothenburg, Sweden

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**TUESDAY 20**

**ROOM E3**

**10.45 - 12.15**

**SS28 – Road surfaces**

*Coordinators: M. Berengier, G. Licitra*

10.45 SS28-194-OL
Traffic noise and road surfaces: a state-of-the-art
M. Bérengier\textsuperscript{1}; G. Licitra\textsuperscript{2}
\textsuperscript{1}Laboratoire Central des Ponts et Chaussées, Urban and Road Acoustic, Centre de Nantes, France
\textsuperscript{2}Environmental Protection Agency of Tuscany Region, Pisa, Italy

11.15 SS28-211-IP
Modeling of porous asphalt as extended reacting absorber using the transmission-line-matrix-method (TLM)
J. Hübelt
Institut für Akustik und Sprachkommunikation, Technische Universität Dresden, Fakultät Elektrotechnik und Informationstechnik, Dresden, Germany
11.30 SS28-360-IP
3 years' performance of twin-lay drainage asphalt in city street
J. Kragh¹; H. Bendtsen²
¹DELTA Danish Electronics, Lyngby, Denmark
²Atkins Danmark A/S, Copenhagen K, Denmark

11.45 SS28-239-IP
Silent roads and pavements in the Netherlands
R. Hofman; J.A.M. Mank
Dutch Ministry of Transport, Water Management and Public Works, Delft, The Netherlands

12.00 SS28-471-IP
Research and implementation of innovative low noise road pavements: Contribution of the SI.R.U.US. project
G. Camomilla; M. Luminari
Autostrade S.p.A., Funzione Studi, Misure e Standards per la Sicurezza, Roma, Italy

TUESDAY 20 POSTER SESSION SP02 09.15 - 12.15

Poster SS28-364
Road noise measurements to characterise silent pavements
G. Camomilla¹; M. Luminari¹; M. Bianchi²
¹Autostrade S.p.A., Funzione Studi, Misure e Standard per la Sicurezza, Roma Italy
²GTA, Roma, Italy

Poster SS28-468
Experimental study of the road noise
M.J. Hernández¹; M.A. Morcillo¹; M. Herráez²
¹Fundación CIDAUT, Valladolid, Spain
²Dpto. IMEIM-ETSII Valladolid University, Spain

TUESDAY 20 ROOM E3 14.30 - 17.15

SS21 – Noise control materials and devices

Coordinator: M. Garai

14.30 SS21-117-OL
The European qualification system for road traffic noise reducing devices
M. Garai¹; J.-P. Clairbois²
¹DIENCA – University of Bologna, Italy
²A-Tech / Acoustic Technologies S.A., Brussels, Belgium

15.00 SS21-060-IP
Evaluating the effectiveness of novel noise barrier designs
G. Watts; P. Morgan
TRL, Environment, Crowthorne, UK
15.15 SS21-142-IP
Acoustical optimisation of paints for porous material
F. Pompoli
Dipartimento di Ingegneria-Università di Ferrara, Italy

15.30 SS21-009
Frame acoustical excitability: a decoupling criterion for poroelastic materials
D. Pilon¹; F. Sgard²; R. Panneton¹
¹GAUS, Dept. of Mech. Eng., Université de Sherbrooke, Canada
²LASH DGCB URA CNRS 1652, ENTPE, Vaulx-en-Velin, France

15.45 SS21-084
Vibro-acoustic behavior of a plate coated with an heterogeneous porous material radiating in a rigid walled cavity
F. Sgard¹; N. Atalla²; C. Kafui Amedin²
¹Laboratoire des Sciences de l'Habitat, DGCB URA CNRS 1652, Ecole Nationale des Travaux Publics de l'Etat, Vaulx-en-Velin, France
²Groupe d'Acoustique de l'Université de Sherbrooke, Department of Mechanical Engineering, Univ. de Sherbrooke, Canada

16.00 SS21-030-IP
Hybrid passive-active multilayer sound absorbers
P. Cobo¹; O. Doutres²; A. Fernandez¹; M. Siguero¹
¹Instituto de Acústica, Madrid, Spain
²ENSIM, Universite du Maine, Le Mans, France

16.15 SS21-005
Noise reduction of branched barriers: an experimental study
D. Ouis
Malmö University, Faculty of Society and Technology, Sweden

16.30 SS21-205
A simple empirical model for sound propagation in loose granular media
N. N. Voronina¹; K. Horoshenkov²
¹Institute of Building Physics, Moscow, Russian Federation
²University of Bradford, School of Engineering, Design and Technology, UK

16.45 SS21-431
Acoustic splitter development based on hollow spheres materials for aircraft engine application
P. Ladner; T. Mazoyer; J. Périsse
METRAVIB RDS, Limonest, France

17.00 SS21-437
Acoustic Testing and FEM Modelling Of Carbon Fiber Flat Stiffened Panels
F. Marulo¹; D. Melluso²; E. Monaco¹; L. Napolitano²
¹Faculty of Engineering, Univ. of Naples “Federico II”, Italy
²Acoustics Dept., Alenia Aeronautica, Pomigliano d'Arco, Italy
TUESDAY 20  POSTER SESSION SP03  14.45 - 17.15

**Poster**  SS21-345

*Insertion loss of a heap of gravel outdoors*
R. Dragonetti¹; G. Iannace²; C. Ianniello¹
¹DETEC, University of Naples FEDERICO II, Italy
²DISPAMA, Second University of Naples, Aversa (CE), Italy

**Poster**  SS21-541

*EcoDesign in noise control: the benefits, acoustical properties and applications of coconut fiber*
S. Gueiros Teixeira¹; L. Pinguelli Rosa²; J. Ghislain Slama³; L. Basto⁴; L. Guilherme C. Marques⁵
¹EBA-UFRJ/IVIG-COPPE-UFRJ, Rio de Janeiro, Brazil
²COPPE/UFRJ, Brazil
³PMEC, Brazil
⁴PPE-IVIG-COPPE-UFRJ, Brazil
⁵IVIG/COPPE-UFRJ, Brazil

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**TUESDAY 20  ROOM E4  09.00 - 10.15**

**SS20 – Noise control inside aircrafts**

*Coordinator: A. Concilio*

**09.00**  SS20-396-IP

*The C27J transport aircraft community noise certification*
A. Paonessa; G. Pedicelli
Alenia Aeronautica, Pomigliano d'Arco, Italy

**09.15**  SS20-397-IP

*FACE – Friendly Aircraft Cabin Environment*
A. Paonessa
Alenia Aeronautica, Pomigliano d'Arco, Italy

**09.30**  SS20-159

*Magnetostrictive Dynamic Vibration Absorber (DVA) for Passive and Active Damping*
C. May¹; K. Kuhnen²; P. Pagliarulo²; H. Janocha²
¹Centre for Innovative Production (ZIP), Process Automation/Actuator Group, Saarbrücken, Germany
²Laboratory for Process Automation (LPA), Saarland University, Saarbrücken, Germany
09.45  SS20-227  
Fuselage frame vibration control using magnetostrictive Hybrid Dynamic Vibration Absorbers  
G. Aurilio; A. Cavallo; L. Lecce; E. Monaco; L. Napolitano; C. Natale  
1University of Naples – Faculty of Engineering, Italy  
2Second University of Naples – Dept. of Information Engineering, Aversa, Italy  
3Alenia Aeronautica S.p.A., Pomigliano d’Arco, Italy  

10.00  SS20-281  
Real-time Sound Quality Evaluation of aircraft interior noise  
A. Vecchio; T. Polito; K. Janssens; H. Van der Auweraer  
LMS International, RTD – TEST Division, Leuven, Belgium  

TUESDAY 20  POSTER SESSION SP02  09.15 - 12.15  

Poster  SS20-384  
Noise control inside aircraft – Virtual transmissibility tests using CAVOK FE solver  
P. Lamary; J.-B. Casimir; O. Tanneau; M. Pompéi  
1Volage-Ltd, Aeronautic engineering, Vibro-acoustics of transportation, Lamary house,  
113 rue Lamarck, 75018 Paris, France  
2 ISMCM-CESTI, Supméca Paris, Structure, Acoustics and Rheology Laboratory, Saint-Ouen, France  
3Paulstra, Levallois-Perret, France  

TUESDAY 20  ROOM E4  10.15 - 12.15  

SS34 – Virtual acoustic prototyping  
Coordinator: G. Pavic  

10.15  SS34-496-OL  
Virtual binaural auralisation of product sound quality  
Importance and application in practice  
R. Sottek  
HEAD acoustics GmbH, Herzogenrath, Germany  

10.45  SS34-485-IP  
Integrated simulation tools for the optimal and fast design of vehicle acoustic packages  
M. Mantovani  
Rieter Automotive Management AG, Winterthur, Switzerland
11.00 SS34-289-IP
Source characterisation of active internal components for virtual acoustic prototypes
A. Moorhouse¹; L. Gavric²
¹University of Liverpool, Acoustics Research Unit, UK
²Centre Technique des Industries Mécaniques (CETIM), Senlis, France

11.15 SS34-222-IP
Making virtual acoustic prototyping work
C. McCulloch; M. Tiurnour; H. van der Auweraer
LMS International, CAE Division, Leuven, Belgium

11.30 SS34-306-IP
Effects of transmission path simplifications on audible sound synthesis by virtual prototyping
G. Pavic
INSA de Lyon, Villeurbanne, France

11.45 SS34-155
Numerical shape optimization with respect to various acoustical and structural properties
J. Böss; R. Nordmann
Department of Mechatronics and Machine Acoustics, Darmstadt University of Technology, Germany

12.00 SS34-025-IP
Acoustic models of axial and centrifugal fans for NST technology
L. Feng; P.-Olof Berglund
MWL, Aeronautical and Vehicle Engineering, KTH, Stockholm, Sweden

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TUESDAY 20 ROOM E4  14.30 - 16.15

SS19 – Noise at workplace (in cooperation with ISPESL)
Coordinator: P. Nataletti

14.30 SS19-045-IP
A temporal method for noise sources identification in industrial environment
C. Noël; V. Planeau
INRS, Vandoeuvre, France

14.45 SS19-259
Experimental Validation of the PlantNoise Empirical Prediction Models
M. R. Hodgson
University of British Columbia, School of Occupational and Environmental Hygiene, Vancouver, Canada
15.00  SS19-443-IP
Improved measurement methods of occupational noise exposure
I. Turunen-Rise¹; T. Ognedal²; P. Møberg Nielsen³; P.Å. Nilsson⁴; H. Laitinen⁵
¹Norwegian Council for Building Standardization, Oslo, Norway
²Sinus AS, Stavanger, Norway
³AkustikNet A/S, Brønshøj, Denmark
⁴Ingemansson Technology, Gothenburg, Sweden
⁵Heli Laitinen, Helsinki, Finland

15.15  SS19-365-IP
Headphone noise: occupational noise exposure assessment for communication personnel
A. Peretti¹; F. Pedrielli²; M. Baiamonte³; F. Mauli⁴; A. Farina⁵
¹Peretti e Associati, Padova, Italy
²Imamoter, CNR, Ferrara, Italy
³Peretti e Associati, Padova, Italy
⁴Gruppo Banco Popolare di Verona e Novara (BPVN), Verona, Italy
⁵Industrial Engineering Department, University of Parma, Italy

15.30  SS19-163-IP
The ISPESL guidelines for noise control at workplace
P. Nataletti¹; A. Chiattella²; G. Elia³; O. Nicolini⁴; A. Peretti⁵
¹ISPESL, Italian National Institute for Occupational Prevention and Safety, Dept. of Occupational Hygiene, Monteporzio Catone (Rome), Italy
²Italian National Elecrotechnical Institute “G. Ferraris”, Turin, Italy
³Modulo Uno Srl, Turin, Italy
⁴Local Health Service, Modena, Italy
⁵AIA, Acoustical Society of Italy, Padova, Italy

15.45  SS19-456
The rank of noise at the workplace within the epidemiology of heart diseases – results of the NaRoMI-Study
M. Schust¹; H. Stark¹; T. Keil¹; M. Stallmann³; K. Wegscheider³; W. Babisch⁴; S.N. Willich²
¹Federal Institute for Occupational Safety and Health, Berlin, Germany
²Charité Hospital, Humboldt University Berlin, Germany
³University of Hamburg, Germany
⁴Federal Environmental Agency, Berlin, Germany

16.00  SS19-015
Noise exposure and adverse effects in preschool environments
U. Landström
National Institute for Working Life, Umeå, Sweden

TUESDAY 20  POSTER SESSION SP03  14.45 - 17.15

Poster  SS19-026
Noise level and sound insulation of industrial control rooms
E. Sorainen; E. Rytkönen; T. Pasanen
Finnish Institute of Occupational Health, Kuopio, Finland
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<tr>
<td>16.15</td>
<td>SS12-081-IP</td>
<td>A systematic evaluation of different methods to improve inverse force determination</td>
<td>A. Thite; D. Thompson; ISVR, University of Southampton, UK</td>
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<td>16.30</td>
<td>SS12-110-IP</td>
<td>Inverse problem application in the engine vibro-acoustical domain</td>
<td>L. Sanchez; Q. Leclère; C. Pézerat; B. Laulagnet; L. Polac</td>
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<td>1 INSA de Lyon, Villeurbanne, France</td>
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<td>2 RENAULT D.M., France</td>
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<td>16.45</td>
<td>SS12-246-IP</td>
<td>Scattering matrix measurement of beam discontinuity: effect of the junction tightening torque</td>
<td>F. Gautier; M.-H. Moulet; J.-C. Pascal; Laboraatoire d'Acoustique de l'Université du Maine, UMR CNRS 6613, Le Mans, France</td>
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<tr>
<td>17.00</td>
<td>SS12-108</td>
<td>Different least squares approaches to solve indirect force measurement problems</td>
<td>Q. Leclère; C. Pézerat; B. Laulagnet; L. Polac</td>
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<td>2 Renault DM, France</td>
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**WEDNESDAY 21**  |  **ROOM LA**  |  **09.00 - 12.15**
---|---|---
**SC41 – Road traffic noise**

* with 2 papers from SS07 European and Japanese legislation comparison on noise control (H. Tachibana)
* with 1 paper from SS32 The Italian experience in implementing noise legislation (AIA-GAA; A. Peretti)

09.00  **SS32-455**
**Acoustic zoning of Chioggia, road traffic noise measurements and mathematical model**
A. Peretti\(^{1,2}\); G. Barbi\(^{3}\); A. Tombolato\(^{4}\); M. Baiamonte\(^{2}\); G. Brambilla\(^{5}\); A. Farina\(^{6}\); P. Spagna\(^{7}\); A. Baldo\(^{7}\)

\(^{1}\)Scuola di Specializzazione in Medicina del Lavoro, Università di Padova, Italy
\(^{2}\)Peretti e Associati sas, Padova
\(^{3}\)Tecnico Competente in Acustica, Ferrara
\(^{4}\)Tecnico Competente in Acustica, Padova
\(^{5}\)CNR-Istituto di Acustica “O.M. Corbino”, Roma
\(^{6}\)Dipartimento di Ingegneria Industriale, Università di Parma
\(^{7}\)Comune di Chioggia (Venezia)

09.15  **SC41-146**
**The procedure for updating the vehicle noise emission values of the French “Guide du Bruit”**
F. Besnard\(^{1}\); M. Berengier\(^{2}\); S. Doisy\(^{3}\); N. Furst\(^{4}\); J.-F. Hamet\(^{5}\); J. Lelong\(^{5}\); M.-A. Pallas\(^{5}\)

\(^{1}\)SETRA, Bagneux, France
\(^{2}\)LCPC, France
\(^{3}\)LRPC de Strasbourg, France
\(^{4}\)CERTU, France
\(^{5}\)INRETS, France

09.30  **SS07-500-IP**
**Combined effects of noise reduction measures of road vehicles, tires and pavements**
Y. Oshino\(^{1}\); H. Tachibana\(^{2}\)

\(^{1}\)Japan Automobile Research Institute, Japan
\(^{2}\)Institute of Industrial Science, University of Tokyo, Japan

09.45  **SC41-209**
**Acoustic analysis of viaduct expansion joints**
G. Cesini; A. Iannotti; E. Mattei
Dipartimento di Energetica – Università di Ancona, Italy
10.00 SC41-337  
Traffic noise control by canyonisation of roads  
E. de Ruiter  
Delft University of Technology, DIOC-DGO 'The ecological city', Delft, The Netherlands  

10.15 SC41-310  
ANAS-ARPA E.R. agreement for the acoustic monitoring of areas affected by the traffic noise on the state roads in Emilia-Romagna  
A. Franchini¹; A. Callegari¹; M. Poli¹; A. Simone²  
¹Environmental Protection Regional Agency of Emilia-Romagna, Bologna, Italy  
²ANAS, Dept. of Bologna, Bologna, Italy  

10.30 *SS07-523-IP  
Improvement of the road traffic noise prediction model “ASJ RTN-Model” proposed by the Acoustical Society of Japan  
K. Yamamoto¹; H. Tachibana²  
¹Kobayasi Instiylte of Physical Research, Tokyo, Japan  
²Institute of Industrial Science, University of Tokyo, Japan  

10.45 SC41-008  
An empirical way to calculate indoor noise from road traffic  
S. Olafsen  
Hjellines COWI AS, Oslo, Norway  

11.00 SC41-049  
Separation of urban sound sources  
B. Defréville¹; C. Lavandier²; D. Dufournet³  
¹LASA, 236 bis rue de Tolbiac, 75013 Paris, France  
²University of Cergy-Pontoise, France  
³01dB STELL, Bourg-Saint-Maurice, France  

11.15 SC41-100  
Temporal sampling techniques of non-urban road traffic noise  
P. Bellucci¹; G. Brambilla²; A. Corvaja¹  
¹Centro Sperimentale ANAS  
²CNR Istituto di Acustica “O.M. Corbino”, Rome, Italy  

11.30 SC41-225  
Road noise pollution in the province of Turin  
F. Bosia¹; N. Vozza¹; J. Fogola²  
¹Province of Turin, Turin, Italy  
²Regional Environmental Protection Agency of Piedmont (A.R.P.A. Piemonte), Italy  

11.45 SC41-217  
Improvement of noise barrier efficiency  
E. Hageman; C.J. Padmos  
Dutch Ministry of Transport, Water Management and Public Works, Delft, The Netherlands
12.00 SC41-024
Influence of the traffic composition and traffic flow on noise emitted by typical Brazilian roads
P. Trombetta Zannin¹; A. Lenzi²; A. Calixto¹; B. Fabiano Diniz¹; J.A.C. Ferreira¹; C. Giovanini¹; H. Lopes¹
¹Universidade Federal do Paraná, Brasil
²Universidade Federal de Santa Catarina, Florianópolis, Brasil

Poster SC41-022
Effects of traffic composition on road noise: a case study
P. Trombetta Zannin¹; A. Lenzi²; J. Filho²
¹Universidade Federal do Paraná, Brasil
²Universidade Federal de Santa Catarina, Florianópolis, Brasil

Poster SC41-029
Traffic road noise levels prediction in Villa San Giovanni by means of analytical models
G. Cannistraro¹; S. Costanzo²; A. Piccolo¹; D. Plutino¹
¹Dipartimento di Fisica – Università di Messina, Italy
²Dipartimento di Energetica ed Applicazioni di Fisica, Università di Palermo, Italy

Poster SC41-031
Proposal of noise zoning in Villa San Giovanni
G. Cannistraro¹; S. Costanzo²; A. Piccolo¹; D. Plutino¹
¹Dipartimento di Fisica – Università di Messina, Italy
²Dipartimento di Energetica ed Applicazioni di Fisica, Università di Palermo, Italy

Poster SC41-136
Monitoring of traffic noise in urban area: an estimation of the emission and of its trend vs. Time
N. Volpi; D. Casini; A. Poggi
ARPAT – Regional Agency for the Environmental Protection of Tuscany, Florence, Italy

SS18 – Noise and vibration control in buildings
Coordinator: P. Fausti

09.00 SS18-253-IP
Vibration velocity technique for sound reduction index measurement
P. Fausti; S. Secchi; M. Gualandi
Department of Engineering, University of Ferrara, Italy
09.15 SS18-124-IP
The sound insulation of hollowed blocks from the point of view of sound insulation between rooms
F. Reis
The Budapest University of Technology and Economics, Laboratory of Building Acoustics, Hungary

09.30 SS18-131-IP
Field measurements of acoustic performances of building components: the Italian context
S. Secchi; G. Cellai
Department of Architecture Technology and Design, University of Florence, Italy

09.45 SS18-181-IP
Natural vegetal fibbers as a new resilient layer for floating floors
R. Calejo Rodrigues; A.P.O. Carvalho
University of Porto, Faculty of Engineering, Laboratory of Acoustics, Portugal

10.00 SS18-143-IP
Evaluation techniques and case studies regarding acoustic performances of building elements currently used in Italy
F. Scamoni; F. Valentini
ITC-CNR Institute of Construction Technologies, S. Giuliano Milanese (MI), Italy

10.15 SS18-278-IP
Measurement of dynamic stiffness to estimate the reduction in impact sound pressure level
A. Pavoni Belli; F. Russo; A. Schiavi
IENGF, Acustica, Turin, Italy

10.30 SS18-206-IP
Technical and economic aspects of sound insulation improvement of traditional masonry walls
A. Di Bella
Dipartimento di Fisica Tecnica, Università di Padova, Italy

10.45 SS18-481-IP
Considerations on the evaluation of uncertainty values of building acoustic single-number quantities
H. Goydke; W. Scholl; B.R.L. Sievert; W. Scholl
Physikalisch-Technische Bundesanstalt (PTB), Braunschweig, Germany

11.00 SS18-514-IP
Direct and flanking sound transmission with beam and block floors
C. Hopkins
Acoustics Centre BRE, Watford, UK
11.15 SS18-256-IP
New acoustic regulations in Poland, changes and their consequences
J. Nurzyński
Building Research Institute, Warsaw, Poland

11.30 SS18-502-IP
Hollow ceramic brick walls in Southern Europe dwellings: limitations and future perspectives of use
A. Cortes¹; A. Esteban²
¹Laboratory for Quality Control in Dwellings, Vitoria, Spain
²LABEIN Technological Centre, Acoustics Area, Bilbao, Spain

11.45 SS18-413-IP
Noise emitted by water supply installations
S. Jiménez; J. Romeu; R. Capdevila
Acoustics and Mechanical Engineering Laboratory
Technical University of Catalonia, Barcelona, Spain

12.00 SS18-516-IP
Noise and vibration control in multiplex cinemas
A. Farina¹; P. Fausti²
¹Department of Industrial Engineering, University of Parma, Italy
²Department of Engineering, University of Ferrara, Italy

12.15 PLENARY SESSION

13.00 LUNCH

14.30 SS18-089
Reduction of indirect sound transmission by additional layers
H. Schröder
Fraunhofer-Institut für Bauphysik, Stuttgart, Germany

14.45 SS18-180
Assessment of the acoustic consequences resulting from the transformation of the Ghent’s “Sportpaleis” in a mega dancehall.
D. Pleeck¹; L. Geens²
¹ACUSTICA 2000, Waterloo, Belgium
²ANDANTE b.v.b.a., Gent, Belgium

15.00 SS18-210
Sound analysis of noise pollution in operating rooms
S. Luzzi¹; S. Falchi²; C. Becchi²; A. Baldacchini³
¹Ordine Ingegneri Provincia Firenze, Italy
²P.O. Santa Maria Nuova – Azienda Sanitaria Firenze, Italy
³Vie En.Ro.Se. s.a.s., Florence, Italy
15.15  
SS18-228-IP  
The contribution of roller shutters to noise insulation of façades  
J. Patricio; L. Bragança  
1LNEC, Lisboa, Portugal  
2Univ. do Minho, Azurém, Portugal

15.30  
SS18-273  
Acoustic damping properties of recycled carpet waste  
I. Rushforth; M. Swift; K. Horoshenkov; M. Miraftab  
1University of Bradford, School of Engineering, UK  
2Bolton Institute, UK

15.45  
SS18-282  
Vibration mitigation design for an academic building adjacent to a turbine-generator power plant  
J.B. Evans; C. Himmel  
JEAcoustics/Engineered Vibration Acoustic & Noise Solutions, Austin, Texas, USA

16.00  
SS18-294  
The acoustic effects of mineral materials in lightweight partition walls  
L. Augelli; E. Besnier  
1Acoustic Commission UNI, Milan, Italy  
2Saint Gobain Isover Italia, Milano, Italy

16.15  
SS18-312  
Acoustic and airflow performances of high sound insulation ventilating windows with rolling-shutter boxes  
F. Asdrubali; C. Buratti  
Università di Perugia, Dipartimento di Ingegneria Industriale, Italy

16.30  
SC39-074  
Efficient localization of sound bridges by structure-borne sound intensity measurements  
K. Naßhan; W. Maysenhölder  
Fraunhofer Institute of Building Physics, Stuttgart, Germany

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**WEDNESDAY 21**  
**POSTER SESSION SP04**  
09.15 - 12.15

**Poster**  
SS18-355  
Application of the Huyghens diffraction theory in forecasting the sound pressure level through windows in rooms due to external sources: environmental impact study and design of a quarry plant  
G. Alfaro Degan; M. Pinzari  
Dip.Ingegneria Meccanica e Industriale, Università degli Studi Roma TRE, Italy
<table>
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<tr>
<td>09.00</td>
<td>SS31-346-OL</td>
<td>Application of sound quality</td>
<td>K. Genuit</td>
<td>HEAD acoustics GmbH, Herzogenrath, Germany</td>
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<tr>
<td>09.30</td>
<td>SS31-348-IP</td>
<td>Factors determining the quality of vehicle exterior noise</td>
<td>W. Krebber; K. Genuit; R. Sottek</td>
<td>HEAD Acoustics GmbH, Herzogenrath, Germany</td>
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<tr>
<td>09.45</td>
<td>SS31-332-IP</td>
<td>A subjective test to characterise the sound quality of exterior vehicle noise</td>
<td>M.-A. Gulbol; D. Västfjäll; M. Kleiner</td>
<td>Dept. of Applied Acoustics, Chalmers University of Technology, Göteborg, Sweden</td>
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<tr>
<td>10.00</td>
<td>SS31-333-IP</td>
<td>A comparison of subjective response to vehicle pass-by sounds recorded under different urban conditions</td>
<td>M.-A. Gulbol; D. Västfjäll; M. Kleiner</td>
<td>Dept. of Applied Acoustics, Chalmers University of Technology, Göteborg, Sweden</td>
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<tr>
<td>10.15</td>
<td>SS31-134-IP</td>
<td>Psycho-physiological responses to the perception of vehicle pass-by noises</td>
<td>G. Notbohm; C. Gaertner; S. Schwarze</td>
<td>Institute of Occupational and Social Medicine, University of Düsseldorf, Germany</td>
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<tr>
<td>10.30</td>
<td>SS31-430-IP</td>
<td>Sound quality evaluation of urban traffic soundscapes</td>
<td>D. Västfjäll; G. Notbohm; M.-Ali Gulbol; M. Kleiner; C. Gärtnert; S. Schwarze</td>
<td>Dept. of Applied Acoustics, Chalmers University of Technology, Gothenburg, Sweden; Institute of Occupational Medicine and Social Medicine, Heinrich-Heine-University Duesseldorf</td>
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<td>10.45</td>
<td>SS31-411-IP</td>
<td>The impact of road surfaces on people's mind about the distinction between Soundscape</td>
<td>B. Schulte-Fortkamp</td>
<td>TU-Berlin, Institute Technical Acoustics, Berlin, Germany</td>
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11.00 SS31-135-IP
Perception of sound quality of vehicle pass-by noises after technical modification
C. Gaertner; G. Notbohm; S. Schwarze
Institute of Occupational and Social Medicine, University of Düsseldorf, Germany

11.15 SS31-151-IP
Calculating sound quality of the outdoor idling noise of diesel powered cars
C. Patsouras¹; H. Fastl¹; D. Patsouras²; K. Pfaffelhuber²
¹AG Technische Akustik, MMK, Technische Universität München, Germany
²FAIST Automotive GmbH, Krumbach, Germany

11.30 SS31-101
Perceptual judgments about urban soundscapes
M. Raimbault¹; D. Dubois²
¹CERMA CNRS UMR 1563, Nantes, France
²LCPE CNRS LAM, Paris, France

11.45 SS31-035
An attempt to reduce aboard annoying noises in passenger train
M. Shafiquzzaman Khan
Royal Institute of Technology, Railway Technology, Stockholm, Sweden

12.00 SS31-188
Subjective quality evaluation of acoustic vibrations generated by non-linear compensated acoustic sources
Y. Maurel; J.-Christophe Béra
Ecole Centrale de Lyon, Centre Acoustique, Ecullly, France

WEDNESDAY 21 POSTER SESSION SP04 09.15 - 12.15

Poster SS31-215
Psychoacoustic evaluation on warning signals of patrol car
H. Nakashima
Osaka Institute of Technology, Faculty of Information Science and Technology, Osaka, Japan

Poster SS31-359
SD-Lab: an interactive sound design simulator for vehicle interior noise
J. Périsse¹; F. Magand¹; M. Henry¹; S. Chouteau²; N. Leclere²
¹Metravib RDS 200, Limonest, France
²PSA – Peugeot Citroën Acoustique et Vibrations, La Garenne-Colombes, France
### SS04 – Cross-sectional tasks of traffic noise

**Coordinators:** W. Neise, D. Wurzel

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<td>14.30</td>
<td>SS04-536-OL</td>
<td>Fighting Traffic Noise at the Source</td>
<td>S. Isensee</td>
<td>Federal Ministry of Education and Research, Division “Transport Technologies”, Bonn, Germany</td>
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<td>15.00</td>
<td>SS04-453-IP</td>
<td>CALM – An EU Network for Strategic Planning of Future Noise Research</td>
<td>A. Rust; J. Affenzeller</td>
<td>AVL List GmbH, Graz, Austria</td>
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<td>15.30</td>
<td>SS04-488-IP</td>
<td>Research on the effects of noise-a basis for directed noise abatement</td>
<td>B. Griefahn</td>
<td>Institute for Occupational Physiology at the University of Dortmund, Germany</td>
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<td>15.45</td>
<td>SS04-213-IP</td>
<td>Meteorological aspects in modeling noise propagation outdoors</td>
<td>D. Heimann</td>
<td>DLR Institute of Atmospheric Physics, Wessling, Germany</td>
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<td>16.00</td>
<td>SS04-537-IP</td>
<td>Localisation of sound sources on moving vehicles with microphone arrays</td>
<td>U. Michel; B. Barsikow</td>
<td>DLR, Institute of Propulsion Technology, Berlin, Germany</td>
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<td>16.15</td>
<td>SS04-120</td>
<td>Road traffic noise measurement – statistical uncertainties</td>
<td>J. Alberola; I. H. Flindell; A. J. Bullmore</td>
<td>Institute of Sound and Vibration Research (University of Southampton), UK</td>
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<td>09.00</td>
<td>SS02-048-OL</td>
<td>Classroom acoustics policies – an overview</td>
<td>Z. Karabiber(^1); M. Vallet(^2)</td>
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<td>(^1)Yildiz Technical University, Faculty of Architecture, Istanbul, Turkey</td>
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<td>09.30</td>
<td>SS02-316-IP</td>
<td>A new regulation for educational buildings in France; a comparison with existing policies in other countries</td>
<td>M. Vallet(^1); S. Auzilleau(^2); P. Lemonnier(^2)</td>
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<td>(^2)Mission Bruit, Ministère de l’Ecologie et du Dévelopement Durable, Paris, France</td>
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<td>09.45</td>
<td>SS02-305-IP</td>
<td>A methodological approach to large scale action plan for noise control in school buildings</td>
<td>L. Maffei(^1); R. Dragonetti(^2); P. Lembo(^1); R. Romano(^2)</td>
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<td>(^1)DISPAMA, SUN Second University of Naples, Aversa (CE), Italy</td>
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<td>(^2)DETEC-University of Naples Federico II, Italy</td>
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<td>10.00</td>
<td>SS02-391-IP</td>
<td>Classroom acoustic assessment: a procedure for field analysis</td>
<td>A. Astolfi; V. Corrado; M. Filippi</td>
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<td>Politecnico di Torino, Department of Energy, Italy</td>
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<td>10.15</td>
<td>SS02-392-IP</td>
<td>Classroom acoustic assessment: analysis of subjective answers and measured indices</td>
<td>A. Astolfi; V. Corrado; M. Filippi; S. Viazzo</td>
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<td>10.30</td>
<td>SS02-046-IP</td>
<td>Investigation of Excessive HVAC Noise in University Classrooms</td>
<td>M. R. Hodgson</td>
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<td>University of British Columbia, School of Occupational and Environmental Hygiene, Vancouver, Canada</td>
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<td>10.45</td>
<td>SS02-112</td>
<td>Evaluation of Educational Buildings in Southern Brazil</td>
<td>M. Losso; T. Figueiredo; E. Viveiros</td>
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<td>Federal University of Santa Catarina, Florianopolis, Brazil</td>
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11.00  S02-322-IP
The effect of road-traffic noise on teachers’ memory and attention
I. Enmarker
University of Gävle, Laboratory of Applied Psychology, Sweden

11.15  SS02-323-IP
The effect of road-traffic noise on pupils’ attention and memory
E. Boman
University of Gävle, Laboratory of Applied Psychology, Sweden

11.30  SS02-407
Speech intelligibility testing for classrooms
A.L. Carey¹; B.M. Shield¹; J. Dockrell²
¹School of Engineering, South Bank University, London, UK
²Institute of Education, London University, UK

11.45  SS02-408
Noise and acoustic surveys of London primary schools
A.Efentakis¹; A. Carey¹; B. Shield¹; J. Dockrell²
¹School of Engineering, South Bank University, London, UK
²Institute of Education, London University, UK

12.00  SS02-409
The effects of classroom noise on children’s academic attainments
B. Shield¹; J. Dockrell²
¹Faculty of Engineering, South Bank University, London, UK
²Institute of Education, London University, UK

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WEDNESDAY  21  POSTER SESSION SP04  09.15 - 12.15

Poster  SS02-196
An experiment with children in the first grade to reduce their self-generated noise
S. Hygge; E. Boman; I. Enmarker
University of Gävle, Centre for Built Environment, Sweden

Poster  SS02-328
The influence of the shape on the acoustical performance of classrooms
N. Cardinale¹; F. Piccinini²
¹Department of Environmental Engineering and Physics, Faculty of Engineering,
University of Basilicata, Matera, Italy
²Dipartimento di Fisica Tecnica del Politecnico di Bari, Italy

Poster  SS02-406
Study of trainee teacher perspectives on classroom noise: effects on learning and teaching
K.G.V. Rigby¹; J.E. Dockrell¹; B. Shield²; J. Riley¹
¹Institute of Education, London University, UK
²Acoustics Group, South Bank University, London, UK
Poster SS02-533
Evaluation of acoustic treatment carried out in school canteens in the municipality of Rome
C. Carbone¹; A. Mercanti²
¹Freelance professional, Florence, Italy
²Department of Energetics, Faculty of Architecture, University of Florence, Italy

WEDNESDAY 21 ROOM E2  15.00 - 16.45

SC35 – Acoustics of enclosed spaces

15.00 SC35-393
Analysis of acoustical parameters in churches
R. Pisani; A. Astolfi; L. Chesta; R. Vitale
Politecnico di Torino, Dipartimento di Energetica, Italy

15.15 SC35-429
Influence of room acoustics on voice quality
M. Kob; P. Heck; C. Neuschaefer-Rube
Dep. of Phoniatics, Pedaudiology and Communication Disorders, University Hospital Aachen, Aachen University, Germany

15.30 SC35-208
Acoustic Rehabilitation of Jordão’s Theatre Hall – Preliminary study
L. Bragança¹; J. Patrício²; B. Yü Belo¹
¹University of Minho, Civil Engineering Dept., Guimarães, Portugal
²Laboratório Nacional de Engenharia Civil, Lisboa, Portugal

15.45 SC35-343
Odeon auralization adapted to reality
J. Heiden
Acoustica – Carl Bro, Risskov, Denmark

16.00 SC35-292
Acoustical project of culture center of Ikitelli in Istanbul
S. Yilmaz Demirkale
Istanbul Technical University, Department of Physical Environment, ITU Faculty of Architecture, Istanbul, Turkey

16.15 SC35-539
Simple models for sound level and reverberation time prediction in rooms
S. Dance; B. Shield
Acoustics Group, School of Engineering, South Bank University, London, UK

16.30 SC35-404
Changes in the reverberation time of a large hall for orchestra music and organ music
V. J. Stauskis
Vilnius Gediminas Technical University, Lithuania
Poster SC35-059
Musical acoustic analysis: the influence of the source’s directivity on the parameters which describe closed spaces with an intended purpose: the listening of chamber music and symphonic music
M. Guazzotti; L. Mazzarella; M. Cairoli
Politecnico di Milano, Dept. Acoustics, Italy

Poster SC35-285
Acoustic of Ispirtohane conservatory and cultural center
S. Yilmaz Demirkale; N.T. Bayazit
Istanbul Technical University, Department of Physical Environment, ITU Faculty of Architecture, TASKISLA, Taksim, 80191 Istanbul, Turkey

Poster SC35-405
Dependence of sound absorption of a hall upon the shape of slits in the resonant suspended ceiling
V. J. Stauskis
Vilnius Gediminas Technical University, Trakø 1/26, r. 112, 2001 Vilnius, Lithuania

WEDNESDAY 21
ROOM E3
09.00 - 10.45

SS05 – Economical aspects of noise control

Coordinator: M. Masoero

09.00 SS05-545-OL
Economic aspects of noise control strategies: an overview of the situation in Italy and in Europe
M. Masoero
Politecnico di Torino, Turin, Italy

09.30 SS05-195-IP
Noise valuation practices in road project appraisal in Europe
J. Lambert; D. Aboki
INRETS, LTE, 25, Bron, France

09.45 SS05-419-IP
The Economic Value of Noise within the European Union – A Review and Analysis of Studies
S. Navrud
Department of Economics and Social Sciences Agricultural University of Norway, Aas, Norway
10.00  SS05-473-IP
Cost benefit analysis of transport policy scenarios and their impact on noise: transport options for Birmingham
T. Worsley
ITEA (Integrated Transport Economics & Appraisal), London, UK

10.15  SS05-484-IP
Influence of noise impact on the tax income of municipalities – A German example
C. Popp
LÄRMKONTOR GmbH, Hamburg, Germany

10.30  SS05-218
The cost-effectiveness of a possible new noise policy for Dutch motorways
W. Alberts; D. van der Gugten
Dutch Ministry of Transport, Water Management and Public Works, Delft, The Netherlands

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Poster  SS05-111
On the economic valuation of road traffic noise: findings from a Stated Preference experiment in Lisbon
E. Arsenio
LNEC, Lisboa, Portugal

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WEDNESDAY 21  ROOM E3  10.45 -11.45

SC40 – Recreational noise and quiet zones*

* with 1 paper from SS32 The Italian experience in implementing noise legislation (AIA-GAA; A. Peretti)

10.45  SC40-529
The strategic role of relatively quiet areas
M. Fillery; J. Griffiths; R. Bermond
Symonds Group Limited, London, UK

11.00  SC40-172
Noise from amplified music played in discotheques, pubs and clubs – A review of some national regulations
V. Desarnaulds¹; G. Monay¹; A. P. Carvalho²
¹Bureau ing. G. Monay, Lausanne, Switzerland
²University of Porto, Faculty of Engineering, Acoustics Lab., Porto, Portugal

11.15  SC40-157
Hypothesis of acoustic characterization of a “life place”
F. Duretto; C. Varaldi; B. Giordanengo
A.R.P.A. Piemonte, Asti Department, Asti, Italy

76.
11.30  *SS32-265  
**Acoustic impact of car parks**
C. Baistrocchi; L. Rocco  
University of Florence, Department of Architectural and Design Technologies, Florence, Italy

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14.30  **SS01-511-OL**  
**Perception of vibration in transport**
M. J. Griffin  
Human Factors Research Unit, Institute of Sound and Vibration Research, University of Southampton, UK

15.00  **SS01-457-IP**  
**Psychoacoustic analysis of sound in the cabin of passenger aircrafts**
R. Weber; I. Baumann; N. Freese; R. Kruse; V. Mellert  
Oldenburg University, Physics, Germany

15.15  **SS01-458-IP**  
**Perception of railway-induced building vibrations**
H.-P. Gruetz¹; A. Said²; D. Fleischer²; H. Kilcher²; H. Fast³; K. G. Degen¹  
¹Deutsche Bahn AG, DB Systemtechnik – TZF 101, München, Germany  
²Obermeyer Planen + Beraten  
³Institute for Human-Machine-Communication, TU München, Germany

15.30  **SS01-486-IP**  
**The assessment of load, strain and comfort of flight crew and cabin crew in a cabin simulator – test design**
I. Baumann³; M. Bellmann²; S. Buss³; N. Freese³; E. Groll-Knapp⁴; S. Hallmann³; Ch. König³; R. Kruse³; T. Leitmann¹,³; M. Meixner-Pendleton⁴; V. Mellert³; H. Remmers²; M. Schöls³; B. Schulte-Fortkamp¹; M. Trimmel⁴; R. Weber³  
¹ITA, TU Berlin, Berlin, Germany  
²itap GmbH, Oldenburg, Germany  
³Universität Oldenburg, Germany  
⁴Universität Wien, Austria

15.45  **SS01-489-IP**  
**Evaluation of vibration perception in passenger vehicles and aircrafts**
M. A. Bellmann; H. Remmers  
itap GmbH – Institute of technical and applied physics, Oldenburg, Germany
16.00 SS01-538-IP
Identification of a vibro-acoustic Comfort Index for aircraft: the IDEA PACI project
A. Sorrentino
CIRA, The Italian Aerospace Research Centre, Capua, Italy

16.15 SS01-526-IP
Vibro-acoustic comfort identification in aircraft cabin environment: a proposal for modelling
M. d’Ischia
CIRA, Italian Aerospace Research Centre, Capua, Italy

16.30 SS01-042
Noise and vibration annoyance in diesel cars at idle
E. Parizet1; J. Brocard1; B. Piquet2
1LVA – Insa Lyon, Laboratoire Vibrations Acoustiques, Villeurbanne, France
2Hutchinson Paulstra, Châlette sur Loing, France

WEDNESDAY 21 ROOM E4 09.00 - 10.00

SS14 – Military aircraft’s noise impact
Coordinator: V. Filomena

09.00 SS14-129-IP
The use of short Leq measurements for the assessment of military aircraft noise heard under the flight path
G. Kerry; C. Lomax
University of Salford, Acoustics & Electronic Engineering, UK

09.15 SS14-234
Noise suppression for military aircraft
J. Seiner1; B. Jansen1; L. Ukeiley1; S. Dash2; D. Kenzakowski2; A. Krothapalli3
1National Center for Physical Acoustics, The University of Mississippi, Oxford, USA
2Combustion Research and Flow Technology, Dublin, PA USA
3Dept. Mech. Eng., Florida State University, Tallahassee, USA

09.30 SS14-269-IP
MILNOISE DATABASE: structure and future developments
G. Seghieri1; R. Capriotti1; R. Aversano1; V. Filomena2; G. Romano2; R. Romano3
1Experimental Flight Department of Italian Air Force, Pratica di Mare Airport, Italy
2CIRA, Italian Aerospace Research Center, Capua, Italy
3DETEC, University of Naples, Italy

09.45 SS14-271
MILNOISE Project overview: aims and results
G. Seghieri1; R. Capriotti1; R. Aversano1; V. Filomena2; R. Romano4; L. Maffei3
1Experimental Flight Department of Italian Air Force, Pratica di Mare Airport, Italy
2CIRA, Italian Aerospace Research Center, Capua, Italy
3DISPAMA, Second University of Naples, Aversa, Italy
4DETEC, University of Naples, Italy
Poster SS14-270
Noise assessment neighbourhood Rivolto military airport
G. Seghieri¹; R. Capriotti¹; R. Aversano¹; V. Filomena²; R. Romano³; L. Maffei⁴
¹Experimental Flight Department of Italian Air Force, Pratica di Mare Airport, Italy
²CIRA, Italian Aerospace Research Center, via Maiorise, 81043 Capua (CE), Italy
³DETEC, University of Naples, Italy
⁴DISPAMA, Second University of Naples, Aversa, Italy

SC38 – Aircraft noise

10.00 SC38-267
Acoustic impact evaluation and preliminary study for the Treviso airport acoustic classification
M. Strada¹; L. Lombardi²; S. Morandi¹; A. Lisiero¹
¹Steam srl, Padua, Italy
²ENEA CR Casaccia, Santa Maria di Galeria (RM), Italy

10.15 SC38-141
Comparison between calculation models for the evaluation of aircraft noise impact considering the influence of hill orography on the acoustical propagation
M. Guazzotti¹; L. Mazzarella²; E. Della Torre²
¹Acoustic Dept., Politecnico di Milano, Italy
²Energetic Dept., Politecnico di Milano, Italy

10.30 SC38-090
Airport noise due to ground operations
A. Moreno; J. Pfretzschner; J. Salvador Santiago; F. Simón
Institute of Acoustics, C.S.I.C., Madrid, Spain

10.45 SC38-249
Study of Optimisation procedURes for Decreasing the Impact of NoisE – II (SOURDINE-II)
C. Vaccaro¹; R. den Boer²; M. Supino¹; P. Hullah³; M. van Boven⁴; P. Lubrani⁵; J. Miguel de Pablo⁶; R. Esteban Elvira⁷
¹SICTA / Sourdine-II Consortium, Giugliano in Campania, Italy
²NLR / Sourdine-II Consortium
³EUROCONTROL / Sourdine-II Consortium
⁴AIRBUS / Sourdine-II Consortium
⁵INECO / Sourdine-II Consortium
⁶AENA / Sourdine-II Consortium
⁷ISDEFE / Sourdine-II Consortium
11.00 **SC38-264**
Criteria and limits to protect night rest in residential buildings from night time aircraft noise
C. Baistrocchi\(^1\); L. Rocco\(^2\)
\(^1\)University of Florence, Department of Architectural and Design Technologies, Italy
\(^2\)University of Florence, Centre of Audiology, Italy

11.15 **SC38-448**
Noise reduction of a barrier around an area of engine ground tests of aircraft
P. Pelagalli
Officine Aeronavali Venezia S.p.A., Italy

11.30 **SC38-219**
Noise assessment at Naples International Airport “Capodichino”
L. Norgia; V. Briotti
ELMEC Environmental Research Center, Rome, Italy

11.45 **SC38-418**
A numerical tool for aircraft engine noise in flight conditions
S. Ducruix\(^1\); A. Tripathi\(^2\); S. Krishnamurthy\(^3\)
\(^1\)TRANSOFT International, Saint Denis, France
\(^2\)fluidyn France, Saint Denis, France
\(^3\)Transoft India, Bangalore, India

12.00 **SC38-422**
Airport noise capacity control
O. Zaporozhets\(^1\); V. Tokarev\(^1\); D. Collin\(^2\)
\(^1\)Faculty of Airports, National Aviation University, Kyiv, Ukraine
\(^2\)SNECMA Moteurs, Moissy Cramayel, France

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**WEDNESDAY 21 POSTER SESSION SP04 09.15 - 12.15**

**Poster** **SC38-329**
Analysis of noise annoyance produced by a H.E.M.S. helicopter
N. Cardinale\(^1\); F. Continisio\(^1\); F. Piccininni\(^2\)
\(^1\)Department of Environmental Engineering and Physics, Faculty of Engineering, University of Basilicata, Italy
\(^2\)Department of Technical Physics, Polytechnic of Bari, Taranto, Italy

**Poster** **SC38-410**
Recent findings and possible reduced noise flight procedure at Napoli-Capodichino airport
S. Severo\(^1\); M. C. Supino\(^2\); L. Lecce\(^1\)
\(^1\)Department of Aeronautical Engineering, University of Naples “Federico II”, Italy
\(^2\)SICTA, Italian Research Center for Air Traffic Management and Control, Alenia Marconi System, Giuliano, Naples, Italy
Poster  SC38-507
Aircraft noise localization using generalized cross-correlation method
G. Licitra¹; A. Iacoponi²; L. Nencini¹
¹Agenzia Regionale per la Protezione Ambientale della Toscana (ARPAT), U.O Fisica Ambientale, Pisa, Italy
²Agenzia Regionale per la Protezione Ambientale della Toscana (ARPAT), U.O Fisica Ambientale, Livorno, Italy

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<td>SS26 – Physiological acoustics and noise (in cooperation with ISPESL)</td>
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<td><strong>Coordinator:</strong> R. Sisto</td>
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14.30  SS26-519-OL
New views on susceptibility to noise-induced hearing loss: measures of otoacoustic emissions
B. L. Lonsbury-Martin
Department of Otolaryngology, University of Colorado Health Sciences Center, Denver Colorado, USA

15.00  SS26-162-IP
Cochlear transmission line models and otoacoustic emissions spectral latency as objective measure of cochlear tuning
R. Sisto¹; A. Moleti²; G. Tognola³
¹Dipartimento Igiene del Lavoro, ISPESL, Monte Porzio Catone, Roma, Italy
²Dipartimento di Fisica, Università di Roma Tor Vergata, Italy
³Istituto di Ingegneria Biomedica CNR, c/o Politecnico di Milano, Milan, Italy

15.15  SS26-179-IP
Noise in modulation waveform determines the temporal course of long-term adaptation in auditory units
N. Bibikov
N.N. Andreyev Acoustical Institute, Shvernik st. 4, 117036 Moscow, Russia

15.30  SS26-189-IP
Otoacoustic emissions and early detection of noise induced hearing loss
A. Moleti¹; R. Sisto²; M. Lucertini³
¹Dipartimento di Fisica, Università di Roma “Tor Vergata”, Italy
²Dipartimento Igiene del Lavoro, ISPESL, Monte Porzio Catone (Roma), Italy
³Italian Air Force – CSV Aerospace Medicine Dept., Pratica di Mare AFB, Pomezia (Roma), Italy

15.45  SS26-301
Coupling of Earphones to Human Ear
D. Ćirić; D. Hammershøi; B. L. Karlsen; R. Ordonez
Department of Acoustics, Aalborg University, Denmark
16.00 SS26-232
Tolerance to noise in older listeners
D. C. Emanuel¹; T. Letowski²
¹Towson University, Communication Sciences, USA
²US Army Research Laboratory, APG MD, USA

16.15 SS26-403
Sound and Noise: physiological, psychological and sociological effects
G. Mario Mattia
AIRS ONLUS, EuroAcustici, Brüel Acoustics, Rome, Italy

WEDNESDAY 21 POSTER SESSION SP04 09.15 - 12.15

Poster SS26-388
Measurements of performances for hearing aids in noisy environment
I. Ortosecco¹; C. Saulino²; E. Marciano²; G. Auletta²
¹Università Federico II, Facoltà di Scienze, Dipartimento di scienze Fisiche, Naples, Italy
²Università Federico II, Facoltà di Medicina e Chirurgia, Dipartimento di Neuroscienze e Scienze del la comunicazione interumana, Naples, Italy
A technical visit to the Italian Aerospace Research Center C.I.R.A. – Capua (Caserta) will be held on Thursday 22.

CIRA (Italian Aerospace Research Centre) is a not-for-profit research consortium, incorporated in 1984 in Capua (Caserta), with facilities located on a 0.625 square-mile-development area. The Italian Space Agency (ASI) and the National Research Council (CNR) hold the majority of the Company shares; other relevant shareholders are national aerospace Companies and the Regional Government (Regione Campania).

CIRA was charged by the Government to define and pursue the National Aerospace Research Program (PRO.R.A.).

Research activities at CIRA, based on scientific acquisition and testing capabilities, converge on three main areas: Fluid Dynamics, Air Structures and Flight Systems. The utilisation of laboratories and testing facilities give research activities consistency and qualification offering the possibility to support the national industry, and enhance their competitiveness on an international scale.

CIRA facilities such as the Plasma Wind Tunnel (PWT), the Icing Wind Tunnel (IWT) and the Aerospace Structures Impact Testing Facility (LISA) are considered outstanding facilities in the world aerospace community on the basis of their testing capabilities. Other testing facilities are: the Transonic Research Wind Tunnel (PT-1), the Vibration and Acoustics Laboratory, the Advanced Aerospace Materials Laboratory, the Virtual Reality Laboratory.

Within the UAV (Unmanned Aerial Vehicles) and USV (Unmanned Space Vehicles) projects, the realization of technology demonstrators and/or flying test beds is planned to study innovative aerospace technologies. These flying laboratories will operate in synergy with the existing CIRA laboratories. More information on CIRA is available on www.cira.it

The technical visit is organized by the following CIRA structures:
- Vibration and Acoustics Laboratory
- Space Test Facilities Department
- Aeronautical Ground Test Facilities
- Public Relations
HINTS FOR ORAL AND POSTER PRESENTATION

ORAL PRESENTATION

Time schedule
Standard invited (IP) and contributed papers
Presentation: 12 min
Questions, Discussion and change-over: 3 min

Invited Overview (OL) lectures
Presentation: 25 min
Questions, Discussion and change-over: 5 min

Plenary lectures (PL)
Presentation: 40 min
Questions, Discussion and change-over: 5 min

Equipment available in each session room:
- Overhead transparency projector
- LCD projector
- Personal Computer with standard sound diffusers, CD-ROM and floppy drives (no ZIP drive), MS OFFICE 2000 installed

Notes:
- Presentation on CD-ROM or floppy is admitted with the PC available in each room
- A student volunteer will be present in each session room to help. He will be available every day for quick test of presentation material (from 8.00 to 9.00 in the morning and from 14.00 to 14.30 in the afternoon). However it is responsibility of the presenters to bring materials in the appropriate format. Extra time will not be given in case there are technical difficulties, thus a set of overhead transparencies for the presentation can be useful.
- Chairman must be contacted in the designated session room before the session starts.

POSTER PRESENTATION

Available space for the poster 0.90 x 1.20 (h) m

Notes
- Poster must be stick on an available poster board at the beginning of the poster session.
- Authors must be present in the poster area at least ½ hour before the poster session ends.
- Poster must be removed before the next poster sessions starts.
EXHIBITION

Euronoise 2003 Exhibition Area (14 booths and tables for technical material distribution) is located at Ground Floor.

Alphabetic list of exhibitors:

**01dB Italia srl**
Via Gandhi 13, 10051 Avigliana (TO), Italy
[www.01db.it](http://www.01db.it)

**ACO Pacific, Inc.**
2604 Read Ave., Belmont, CA 94002, USA
[www.acopacific.com](http://www.acopacific.com)

**Bruel & Kjaer**
Skodsborgvej 307, DK-2850, Naerum, Denmark
[www.bksv.com](http://www.bksv.com)

**DATAKUSTIK GmbH**
Gräfelfinger Strasse 133 a, 81375 München, Germany
[www.datakustik.de](http://www.datakustik.de)

**DOW Italia srl**
Via Patroclo 21, 20151 Milano, Italy
[www.dow-immotus.com](http://www.dow-immotus.com)

**G.R.A.S. Sound & Vibration**
Staktoften 22D, 2950 Vedbaek, Denmark
[www.gras.dk](http://www.gras.dk)

**INNOSOURCE**
Madame Curiestraat 6, 2171 TW Sassenheim, The Netherlands
[www.innosource.nl](http://www.innosource.nl)

**Instrumentation Devices srl**
Via Giulini 10, 22100 Como, Italy
[www.instrumentation.it](http://www.instrumentation.it)

**LSI Spa**
Località Dosso, 20090 Settala (MI), Italy
[www.lsi-lastem.it](http://www.lsi-lastem.it)
ING. Franco LUCHSINGER snc
Via Bergamo 25, 24035 Curno (BG), Italy
www.luchsinger.it

Maxitalia srl
Via Limitese 120/a, Loc. Spicchio, Vinci (FI), Italy
www.maxitalia.it

METRAVIB RDS
200, Chemin des Ormeaux, 69578 Limonest, France
www.metravib.fr

MICROBEL
Via Livorno 60, 10144 Torino, Italy
www.microbel.it

Microflown Technologies BV
PO Box 300, 6900 AH Zevenaar, The Netherlands
www.microflown.com

MODULO UNO srl
Via Cuorgne 21, 10156 Torino, Italy
www.modulouno.it

S.C.S. Controlli e Sistemi srl
Via Antoniana 278, 35011 Campodarsego (PD), Italy
www.scs-controlsys.com

Saint Gobain Isover Italia
Via Romagnoli 6, 20146 Milano, Italy
www.isover.it

Spectra srl
Via F. Gliera 110, 20043 Arcore (MI), Italy
www.spectra.it

SVANTEK Ltd.
ul. Ks. Jana Sitnika 1/68, 01-410 Warszawa, Poland
www.svantek.com

WÖLFEL GmbH
Max Planck Strasse 15, D 97204 Hochberg, Germany
www.woelfel.de/wms/wms_e.htm
PARALLEL MEETINGS

Sunday 18     Time: 10.00-17.00     Royal Palace Ground Floor P. Plebiscito
General Assembly of EUROPEAN ACOUSTICS ASSOCIATION EAA

Monday 19     Time: 16.45-17.00     Room: E4
Meeting of the GAA (Gruppo di Acustica Ambientale) of AIA

Tuesday 20,    Time: 13.45-15.00    Room: E2
General Assembly of ASSOCIAZIONE ITALIANA DI ACUSTICA AIA

Wednesday 21  Time: 13.45-15.00    Room: E2
Meeting of the TC “Noise” of the EUROPEAN ACOUSTICS ASSOCIATION EAA

Wednesday 21  Time: 14.00-16.00    Room: E5
Meeting of the EC WG-AEN “Assessment of Exposure to Noise”

Thursday 22 –Friday 23     Time: 9.00-17.00     Faculty of Engineering 11°Floor DETEC
Meeting of WG 28/ISO/TC43/SC1 “Basic machinery noise emission standard”

Thursday 22    Time: 9.00-17.00     Faculty of Engineering Floor 2 Room S
Meeting of WG18/ISO/TC43/SC2/AHG2
SOCIAL EVENTS

These Social Events are included in the Congress registration fee.

MONDAY 19 May 2003

WELCOME PARTY AND CONCERT

The welcome party and concert will be held Monday evening at the famous Opera House Teatro di S.Carlo
www.teatrosancarlo.it.

Program

19.30    Welcome Party

20.30   History and Acoustics of the Teatro di San Carlo

Carmine Ianniello, Luigi Maffei
Chairmen Euronoise 2003

Gioacchino Lanza Tomasi
Sovrintendente del Teatro di S.Carlo

21.00 p    Concert

Nicola Martinucci, tenore
Riccardo Fiorentino, piano

E lucean le stelle.....from Tosca by Giacomo Puccini
Vesti la giubba.....from Pagliacci by Ruggero Leoncavallo
Intermezzo from Manon Lescaut by Giacomo Puccini (piano solo - transcription by R.Fiorentino)
Ah, la paterna mano.... from Macbeth by Giuseppe Verdi
Ch’ella mi creda libero e lontano.... from La fanciulla del West by Giacomo Puccini
Parafrasi da Concerto (piano solo) from Rigoletto by Giuseppe Verdi- Franz Liszt
Niun mi tema.....from Otello by Giuseppe Verdi
‘O sole mio  by Di Capua - Capurro
Welcom Party and Concert
TUESDAY 20 May 2003

TOUR AND DINNER IN SORRENTO

A tour and dinner in Sorrento has been organized for Tuesday afternoon and evening.

Program

17.30 Buses leave from the Congress Venue to the tourist Port (Molo Beverello)
18.15 Boats leave Naples for a cruise across the Gulf towards Sorrento
19.45 Arrival in Sorrento and free time
21.00 Dinner at the Restaurant “La Favorita- O’ Parrucchiano”
23.00 Buses leave Sorrento to Naples
24.00 Arrival in Naples (Piazza Municipio- Old town)
OTHER TOURS

These tours are not included in the Congress registration fee.
The travel agency AVI has been charged to organize for you the following special tours.
If you are interested please contact

AVI srl
Euronoise 2003 Booking office
Corso Italia 155-159- 80067 Sorrento (Napoli) Italy
Fax: 0039 081 8773777 / tel.: 0039 081 8070209
e-mail: euronoise2003@avitravel.com
Contact: Mrs. Marinella Porzio

prior the Conference dates or directly the AVI desk at the first floor during the Conference’s days.

All prices are net, VAT included and valid with a minimum of 30 paying participants.

Half day "Historical Naples" : Euro 30.00 per person (scheduled on Tuesday morning)
A partly walking tour of "Spaccanapoli", the street that cuts the historical and oldest quarter of Naples with chance of visit of Church of Gesù and Closter of Santa Chiara.
Entrance fees to be paid directly.
The price includes: half day coach, half day guide. Meal and entrance fees excluded.

Half day Pompeii: Euro 30.00 per person (scheduled on Wednesday and Thursday)
Leave by coach to Pompeii which holds an intense fascination for visitors, as following the eruption of Mt Vesuvius in the year 79 AD, the town lays buried and forgotten for hundreds of years. You will slowly lead by a guide throughout some of the ancient streets where you can see the baths, forums and fabulously preserved villas with frescoes and statues built by the Romans.
The tour includes: half day coach, half day guide. Meal and entrance fees excluded.

Capri/Anacapri : Euro 70.00 per person (scheduled on Thursday)
Sail across the bay of Naples for the visit of the unforgettable island you cannot miss during your stay in Naples.
You will be guided by minibus to the top of the island for the visit of Villa San Michele, once the fabulous villa of Dr Axel Munthe built on the ruins of a Roman villa affording wonderful views of the island. Entrance fee at your charge.
You will admire the colourful Augustus Gardens overlooking the famous Faraglioni Rocks and the main tiny square with the pretty church. Time at leisure during the day to enjoy lunch and shopping time.
The price includes: coach hotel/Naples harbour/hotel, full day guide, r/t hydrofoil Naples/Capri, minibus for tour of the island. Meal and entrance fees excluded.
REGISTRATION

The Secretariat Office at the Congress Venue will be opened Monday 19 starting at 7.00 a.m.

Pre-registered attendees can collect their Conference Bags at the Information Desk (ground floor) starting at 8.00 a.m. Monday 19.

Attendees that are not pre-registered must go to the Secretariat Office (first floor) and fill the registration form.

Only payments by cash or credit card (VISA or MASTERCARD) are accepted.

Secretariat Office telephone number during the conference: 349-8154589

LUNCHES

Buffet lunches will be served during the 3 days Conference at the first floor. A continuous coffee point is available at the ground floor.

TRAVELLING

Naples International Airport (www.gesac.it) is only 5 km from the city centre. Daily direct flights from Amsterdam, Athens, Barcelona, Basel, Colon, Brussels, London, Marseille, Munich, Nice, and Paris are scheduled.

From airport to city centre:
- Taxi. Outside arrival hall
- City Bus ANM-3S. Main stops: Airport- Central Train Station FS- Piazza Municipio (port). Departure every 15 minutes. Tickets may be purchased at the Sunstore.
- Alibus Shuttle Service. Airport- Central Train Station FS- Piazza Municipio (port). Departure every 30 minutes outside arrival hall. Tickets may be purchased on board.

Railway connection from Rome to Naples is available every hour and takes about two hours.
In the following pages for each paper the session, day, time and room for presentation are reported. Cross reference to each abstract (printed in the supplement of ACTA ACUSTICA united with Acustica) by the paper ID and the Authors’ index in the supplement.
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<td>Mon.</td>
<td>16.00</td>
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<td>547</td>
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<td>Tues.</td>
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