

Papers in Presentation Order

Sunday, June 9, 2013

7:45 Registration

Keynote 1

Chair: *Person 1*

8:30 - P070. *Harold Marshall*, The acoustical design of the Christchurch Town Hall

Design and Existing Halls

Chair: *Person 2*

9:20 - P002. *Leo Beranek*, Concert hall design: some considerations

9:40 - P122. *Andreas Wagner, Juergen Reinhold*, Bolshoi Theatre, Moscow, Russian Federation: The secrets of the acoustical reconstruction

10:00 - P028. *Magne Skålevik*, Certainties and uncertainties from using a selection of data to predict concert hall preference

10:20 - P045. *Takayuki Hidaka*, An earthquake and a concert hall

10:40 Coffee and Posters

Rating Ambient Noise in Performing Arts Spaces

Chair: *Lily Wang*

11:20 - P119. *Robert Essert*, Why silence?

11:40 - P115. *Scott Pfeiffer*, Anticipating the challenges of modern mechanical system approaches in low-noise design

12:00 - P068. *Lily Wang, Brent Kraay*, Rating low levels of ambient noise in performing arts facilities

12:20 - P061. *Jonah Sacks, Robert William Wolff, Ana Maria Jaramillo*, Investigation of background noise conditions during music performance

12:40 – Lunch and Posters

Keynote 2

Chair: *Person 4*

13:40 - P074. *Eckhard Kahle*, Room acoustical quality of concert halls: perceptual factors and acoustic criteria - return from experience

Room Acoustic Quality: A Multidimensional Concept

Chairs: *Stefan Weinzierl and Tapio Lokki*

14:30 - P073. *Pamela Clements*, Orchestral performance practice and the perception of acoustic quality in concert halls

- 14:50 - P019. *Antti Kuusinen, Tapio Lokki*, Individual differences in quality judgments and preferences of concert hall acoustics
- 15:10 - P124. *Hans-Joachim Maempel, Jentsch Matthias*, Audio-visual interaction of size and distance perception in concert halls: a preliminary study
- 15:30 - P127. *Shin-ichi Sato, Alejandro Bidondo, Yuezhe Zhao, Suoxian Wu, Nicoli Prodi*, Effect of Acoustic and Visual Stimuli on Preference for Different Seating Positions in a Concert Hall and an Opera Theater

15:40 Coffee and Posters

- 16:30 - P103. *Anders Christian Gade*, Subjective and objective measures of relevance for the description of acoustics conditions on orchestra stages
- 16:50 - P086. *Zora Schärer Kalkandjiev, Stefan Weinzierl*, Room acoustics viewed from the stage: Solo performers' adjustments to the acoustical environment
- 17: 10 - P030. *Densil Cabrera, Manuj Yadav, Luis Jofre Miranda, Ralph Collins, William L. Martens*, The sound of one's own voice in auditoria and other rooms

Monday, June 10, 2013

Keynote 3

Chair: *Person 6*

- 8:30 - P110. *Michael Vorländer*, Simulation and evaluation of acoustic environments

Design Fundamentals

Chair: *Person 7*

- 9:20 - P012. *David Griesinger*, Optimizing loudness, clarity, and engagement in large and small spaces
- 9:40 - P047. *Umberto Berardi, Higiní Arau-Puchades*, Increasing Reverberation Time with Diffusers: a new acoustic design for more sustainable halls
- 10:00 - P046. *Jukka Pätynen, Sakari Tervo, Tapio Lokki*, Binaural dynamic responsiveness in concert halls
- 10:20 - P067. *Matthew G. Blevins, Adam T. Buck, Zhao Peng, Lily M. Wang*, Quantifying the just noticeable difference of reverberation time with band-limited noise centered around 1000 Hz using a transformed up-down adaptive method

10:40 Coffee and Posters

ISO3382-1 and Auditorium Design (Part 1)

Chair: *Michael Barron*

- 11:20 - P056. *Mike Barron*, Assessment of numerical data from ISO3382
- 11:40 - P089. *Oskar Lindfors, Jukka Ahonen, Henrik Möller*, Strength measurements with in-situ reference

12:00 - P016. *Wolfgang Ahnert, Tobias Behrens*, Acoustic measurements in a theatre during the performance

12:20 - P078. *Hyung Suk Jang, Jin Yong Jeon*, Evaluation of the absorption by the orchestra in concert halls using scale models and computer simulations

12:40 Lunch and Posters

Keynote 4

Chair: *Person 9*

13:40 - P040. *Tapio Lokki*, Throw away that standard and listen: your two ears work better

ISO3382-1 and Auditorium Design (Part 2)

Chair: *Michael Barron*

14:30 - P010. *Claus Lynge Christensen, Georgios Koutsouris, Jens Holger Rindel*, The ISO 3382 parameters: Can we simulate them? Can we measure them?

14:50 - P096. *Margriet Lautenbach, Martijn Vercaammen*, Stage Acoustics, ISO 3382 and beyond

Geometrical Acoustics Revisited - Traditional and NURB based Reflector Optimisation Design

Chairs: *Eckhard Kahle and John O'Keefe*

15:10 - P108. *Alban Bassuet, David Rife, Lucas Dellatorre*, Acoustical design through optimization

15:30 - P095. *John O Keefe, Payam Ashtiani, David Grant*, A new software tool to facilitate NURB based geometries in acoustic design

15:50 Coffee and Posters

16:30 - P042. *Tomas Mendez Echenagucia, Arianna Astolfi, Mario Sassone, Louena Shtrepi, Arthur Van Der Harten*, Interactive design methods for complex curved reflectors in concert halls

16:50 - P064. *Yann Jurkiewicz, Thomas Wulfrank, Eckhard Kahle*, How far should the geometry of a concert hall be optimized?

17:10 - P112. *Thomas Scelo, Simon Yu*, Integration of acoustics in parametric architectural design

Tuesday, June 10, 2013

Objective and Subjective Aspects of Scattering Surfaces in Performance Spaces

Chairs: *Jin Yong Jeon, Roberto Pompoli and Michelle Vigeant*

9:00 - P063. *Toshiki Hanyu*, Method for estimating diffuseness of sound fields by using decay-cancelled impulse responses

- 9:20 - P035. *Louena Shtrepi, Sönke Pelzer, Renzo Vitale, Arianna Astolfi, Monika Rychtáriková*, Subjective assessment of scattered sound in a virtual acoustical environment simulated with three different algorithms
- 9:40 - P039. *Aki Haapaniemi, Alex Southern, Tapio Lokki*, A finite-difference time-domain investigation of reflections from layered wall structures
- 10:00 - P014. *Markus Müller-Trapet, Michael Vorländer*, In-situ measurements of surface reflection properties
- 10:20 - P077. *Jin Yong Jeon, Hyung Suk Jang, Yong Hee Kim, Michael Vorländer*, Subjective and objective evaluations of scattered sounds in concert halls
- 11:20 - P009. *David T. Bradley, Markus Müller-Trapet, Jacob Adelgren, Michael Vorländer*, Comparison of hanging panels and boundary diffusers in a reverberation chamber
- 11:40 - P033. *Tetsuya Sakuma, Hyojin Lee*, Recent topics in acoustic scattering coefficient determination for wall surfaces
- 12:00 - P013. *Evan Green*, Systematic spatial variations of objective measures in a 1:25 scale model rectangular concert Hall with variable scattering
- 12:20 - *Akira Omoto, Kohta Sugiura*, Visualization and evaluation of reflections inside an enclosed space using sound intensity measurement

12:40 Lunch

13:40 Special Lecture-Demonstration Session

Jukka Pätynen, Sakari Tervo, and Tapio Lokki, Using the loudspeaker orchestra to better understand concert halls - design, implementation, recordings in concert halls, and playback and analysis in the laboratory

15:40 Conference closing

Posters - Sunday

Chair:

- P071. *Niels Adelman-Larsen*, New On/Off absorption technology that includes low frequencies
- P121. *Juergen Reinhold, Andreas Wagner*, Nuovo Teatro dell'Opera, Florence, Italy: Innovative solutions for a seemingly traditional auditorium
- P104. *Iara Cunha, Roberta Smiderle, Stelamaris Bertoli*, Influence of sound reinforcement system on acoustical performance in a Catholic Church
- P107. *Hoshi Kazuma, Hiroyuki Okubo, Jun Kanda, Takumi Asakura, Atsushi Marui*, A study to establish benchmarks for acoustical parameters derived from impulse responses

- P085. *Vishnu Thozhur Koller, Menino Allan S. M. Peter Tavares*, An acoustical inquiry into the 'Koothambalam' as an evolving form of a performance space
- P048. *Young-Ji Choi, Dae-Up Jeong, John Bradley*, The effects of occupancy on theatre chair absorption characteristics
- P062. *Roger Schwenke, Steve Ellison, Pierre Germain*, Active acoustics in physically variable spaces
- P114. *David Kahn*, Acoustical design of concert halls with small seating capacities
- P076. *Suyatno Suyatno, Harijono A. Tjokronegoro, IGN Merthayasa*, The effects of stage layout in 'Pendopo Isi Solo' hall on acoustics parameters of Javanese Gamelan instruments
- P087. *Ingo Witew, Dietrich Pascal, Sönke Pelzer, Michael Vorländer*, Comparison of strategies to model spatial fluctuations of room acoustic single number quantities
- P113. *Bård Støfringsdal*, Desired room acoustical response for amplified music
- P051. *Ayumi Ishikawa, Takane Terashima, Yasunobu Tokunaga*, A basic study on possibility to improve stage acoustics by active method
- P075. *Joko Sarwono, Wimanda Moestopo, Soelami FX Nugroho*, Acoustic measurements and simulations for the Gki Maulana Yusuf church in Bandung, Indonesia
- P082. *Lamberto Tronchin, Andrea Venturi, Angelo Farina, Amendola Alberto*, Implementing a spherical microphone array to determine 3-D sound propagation in the 'Teatro 1763' in Bologna, Italy
- P057. *Jeremy Rouch, Isabelle Schmich-Yamane, Marie-Annick Galland*, Under-balcony acoustics improvement with simple electro-acoustic means: A Theoretical development and numerical simulations
- P050. *Martin Guski, Michael Vorländer*, Noise compensation methods for room acoustical parameter evaluation
- P049. *Sakari Tervo, Jukka Pätynen, Philip W. Robinson, Lokki Tapio*, Spatial analysis of concert hall impulse responses
- P088. *Remy Wenmaekers, Constant Hak*, Early and Late Support measured over various distances: the covered versus open part of the orchestra pit
- P005. *Carlos Jiménez Dianderas*, Comparison of the acoustical behaviour of colonial churches of three architectural styles in Peru
- P080. *Hansol Lim, Hyung Suk Jang, Yong Hee Kim, Jin Yong Jeon*, Effects of stage volume on concert hall acoustics as a design element

- P032. *Luis Jofre Miranda, Densil Cabrera, Ken Stewart, Nicolas Epain, Craig Jin*, A concentric source-receiver transducer and its applications in stage measurements
- P043. *Tomas Mendez Echenagucia, Arianna Astolfi, Mario Sassone, Louena Shtrepi, Arthur Van Der Harten*, EDT,C80 and G driven auditorium design
- P020. *Massimo Garai, Simona De Cesaris, Dario D. Orazio*, Spatial distribution of monaural acoustical descriptors in historical Italian theatres
- P022. *Cerdá Salvador, Segura Jaume, Giménez Alicia, Cibrián Rosa, Montell Radha*, Sound quality maps of halls for classical music
- P017. *Daniel Protheroe, Bernard Guillemin*, 3-D impulse response measurements of spaces using an inexpensive tetrahedral microphone array
- P128. *Tor Halmrast*, When source is also receiver

Posters - Monday

Chair:

- P125. *Keiji Kawai, Kosuke Kato, Ueno Kanako, Tetsuya Sakuma*, Experiment on adjustment of piano performance to room acoustics: Analysis of performance coded into MIDI data
- P116. *Kazuma Hoshi, Toshiki Hanyu*, Theoretical modeling of room shape for ray tracing simulation
- P123. *Matthew Lella, Andrea Tocchini*, Refinements in raytracing technique for room shaping
- P111. *Yong Hee Kim, Yoshiharu Soeta*, Design of diffusive surfaces for improving the sound quality of underground stations
- P100. *Thomas Wulfrank, Yann Jurkiewicz, Eckhard Kahle*, Design-focused acoustic analysis of curved geometries using a differential raytracing technique
- P120. *Paul Luizard, Catherine Guastavino, Brian F.G. Katz*, Perception of reverberation in coupled volumes: discrimination and suitability
- P099. *Thibaut Carpentier, Markus Noisternig, Olivier Warusfel*, Parametric control of convolution based room simulators
- P097. *Thineshan Kathirchelvan, Prasanth Nair*, Shape Optimization using NURBS Definition of Acoustic Reflectors
- P081. *Chun Ki Seo, Jin Yong Jeon*, Acoustical design of Sejong M-theater with cubic diffusers
- P117. *Anne Guthrie, Terence Caulkins, Sam Clapp, Jonas Braasch, Ning Xiang*, Using Ambisonics for stage acoustics research

- P083. *Sönke Pelzer, Dirk Schröder, Lukas Aspöck, Michael Vorländer*, Interactive real-time simulation and auralization for modifiable rooms
- P044. *Milos Markovic, Søren Krarup Olesen, Dorte Hammershøi*, Room acoustics modelling using a point-cloud representation of the room geometry
- P092. *Constant Hak, Remy Wenmaekers*, Room in room acoustics: Using convolutions to find the impact of a listening room on recording acoustics
- P065. *Shin ichiro Koyanagi, Takayuki Hidaka, Toshiyuki Okano*, The error analysis and correction of the reflection calculation for the FDTD method
- P038. *Philip W. Robinson, Samuel Siltanen, Tapio Lokki, Lauri Savioja*, Concert hall geometry optimization with parametric modeling tools and wave-based acoustic simulations
- P090. *Remy Wenmaekers, Rick de Vos, Constant Hak*, Binaural sound exposure to the direct sound of one's own musical instrument
- P079. *Ho Cheul Park, Young Sun Kim, Yong Hee Kim, Jin Yong Jeon*, Preferred Acoustical Conditions for Musicians on Stage with Orchestra shell in multi-purpose halls
- P055. *Wieslaw Woszczyk, Jonathan Abel, Doyuen Ko, Travis Skare, Jonathan Hong*, Recreation of the acoustics of Hagia Sophia in Stanford's Bing Concert Hall for the concert performance of Cappella Romana
- P053. *Uwe Stephenson*, The effects of scattering surfaces on the reverberation Time and Flutter Echoes in rectangular rooms
- P036. *Louena Shtrepi, Arianna Astolfi, Monika Rychtáriková*, Influence of a volume scale factor on the scattering coefficient effects for the prediction of room acoustic parameters
- P054. *Rob Opdam, Diemer de Vries, Michael Vorländer*, Locally or non-locally reacting boundaries: Does it make a significant acoustic difference?
- P126. *Marco Palma, Maddealena Sarroto, Tomas Mendez Echenagucia, Mario Sassone, Arianna Astolfi*, Sound strength driven parametric design of an acoustic shell in a free field environment
- P037. *Hyun-Kyung Joo, Dae-up Jeong*, Subjective evaluation of reverberation with a non-exponential sound decay
- P018. *Young-Ji Choi*, An optimum combination of absorptive and diffusing treatments for classroom acoustic design
- P031. *Dae-Up Jeong, JeongSu Kim, Young-Ji Choi*, The subjective effect of random-incidence scattering coefficients
- P021. *Alan Boyd, William Whitmer, Michael Akeroyd*, Recording and analysis of head movements, interaural level and time differences in rooms and real-world listening scenarios

P011. *David Griesinger*, Physiologically based measures of clarity and engagement

P006. *Alejandro Bidondo*, Neuroacoustics: Study on the perception of stereo reverberant sound field at the cortical level