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Hong Kong Institute of Acoustics



THE PHILHARMONIE DE PARIS ACOUSTIC DESIGN

Jointly Organized by The Hong Kong Institute of Acoustics and the Department of Mechanical Engineering of Hong Kong Polytechnic University.

Speaker: Dr Thomas SCELO, Director – Marshall Day Acoustics – HK
Venue: Room HJ304, The Hong Kong Polytechnic University, Hung Hom, Kowloon.
Date & Time: 18 June 2015 (Thursday), from 18:30pm to 20:30pm

Programme Highlights:

The conceptual acoustical design for the 2,400 seat Philharmonie de Paris has its origins in 45 years of acoustical discovery and research. The architectural/acoustical competition instructions required "a new typology" for a concert hall. The concept aimed at balancing early and late acoustic energies by nesting an intimate audience chamber within a larger acoustic volume. The acoustic/architectural concept and its genesis will be presented. In addition to the 3D acoustic simulations, challenged by the complexity of the design, modern principles and tools for parametric acoustic design were developed to assist with the acoustic design. These were extensively used to speed up the design and achieve a higher degree of collaboration with the architect. These new tools for acoustic design will be presented in particular how the critically acclaimed Loudness, Envelopment and Clarity were achieved. To balance the early and late energy, in a fixed architecture without variable geometry, coupling calculations were conducted to estimate the presence of a late reverberant field and ensure sufficient strength to the late reverberant response of the hall. These calculations will be presented. Finally, a new in-house tool to measure 3D impulse responses and orchestra interactions were used to validate and commissioned the hall. The presentation will conclude with quoted comments from the international press around the time of its opening on 14 January 2015.

Dr Thomas Scelo is a director at Marshall Day Acoustics. Dr Scelo gained his PhD in architectural acoustics from the Acoustic Research Centre laboratory, created by Sir Harold Marshall at the University of Auckland, New Zealand. Prior to this, Dr Scelo completed a Master Thesis at the Laboratoire d'Acoustique of the Université du Maine, France.



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He was responsible for the implementation of the acoustic concept for the Philharmonie de Paris project. He worked closely with Sir Harold Marshall over the design of several performing arts centres in New Zealand, Europe and Asia, including the Philharmonie de Paris.

Dr Scelo is now responsible for the acoustic design of several major performing arts centres in Hong Kong, Mainland China and Europe. His current projects include the Lyric Theatre Centre and Freespace on the West Kowloon Cultural District, the Cross-District Community Cultural Centre in Kwun Tung, the Jiangsu Grand Theatre in Nanjing, Sichuan Grand Theatre in Chengdu, Tianjin O-Show concert hall and the Gstaad Festival Hall in Switzerland.

Dr Scelo is a pioneer in parametric acoustic design. His work on real-time ray-tracing tool has permitted several architects to push the boundaries of the traditional acoustic architecture. His work with Jean Nouvel, Zaha Hadid, Gerhy and Rudi Ricciotti have earned him recognition in this new field and invited papers at international room acoustics conferences.

Registration

For registration, please fill in and submit the form by 8 June 2015 at the following website http://www.wal.hk/hkioa/application_of_variable_acoustics.html. The seminar is free of charge for members of HKIOA and students of HKPolyU in first-come first-served based (HK\$ 100/person will be charged for non-members of HKIOA, and other interested persons). Hence, please register early to reserve your seat. Certificates of attendance will be provided upon request.

Wilson HO

Chairman, Activities Sub-committee of HKIOA

