



**Hong Kong Institute of Acoustics**

# **SOUNDING BOARD**

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# Acoustics Certificate Course

## Jun to Aug 2016

On 27 June 2016 to 26 August 2016, a series of certificate courses for acoustics were smoothly completed. These continuous professional development courses were jointed with HKIOA, HKIE-MMNC and BEAM Society Limited. The schedule of this year was tight and which run almost three days per week. A total of 17 sessions and 6 assessments were being held with a total of 6 different certificates - Certificate on Noise Control, Certificate on Road Traffic Noise Assessment, Certificate on Road Traffic Noise Measurement, Certificate on 3D Noise Modeling, Certificate on Architectural Acoustics Design and Certificate on Railway Noise Measurement.

Lecture sessions were mainly held at Billion Plaza, 8 Cheung Yue Street, Cheung Sha Wan, Kowloon, HK (IVE Campus) and on-site practical session was carried out at Wan Chai. Mr James CHOI from ANEWR Consulting Ltd, Mr Tom HO from S & V Samford Instruments Co. Ltd, Mr Wilson HO from Wilson Acoustics Ltd, Dr HY WONG from Campbell Shillinglaw Lau Ltd, Dr CW LAW, Mr Benson LEE, Ir CK LEE, Mr Joe LEUNG & Mr CL WONG from Environmental Protection Department, and Ir Dr Clief TANG from Hong Kong Accreditation Service were the speakers. All of them were experienced professionals in the acoustics industry. The response was very encouraging and 56 participants were enrolled.

After the assessment, feedbacks from students were raised and those were positive. Participants considered that the certificate courses were useful in enhancing and refreshing their noise control knowledge, understanding of the relevant legislation. Some participants requested to extend the lecture hours.

by Ir. Dr Clief TANG



by Ir. Dr Clief TANG

# Symposium cum Exhibition on “Quiet Construction: Buy and Build Quiet (BBQ)” on 27 July 2016

This is a one-day symposium cum exhibition on “Quiet Construction: Buy and Build Quiet (BBQ)” which was held successfully on 27 July 2016 at Crowne Plaza Hong Kong Kowloon East at Tseung Kwan O with over 230 delegates. Complimentary Site Visits was arranged on 28 July 2016 and 30 July 2016.

This is the second event jointly organized by the Hong Kong Construction Association (HKCA) and the Hong Kong Institute of Acoustics (HKIOA), and supported by Environmental Protection Department (EPD). Distinguished speakers from Germany and Denmark as well as local speakers from government, private sector and construction industry.

While the construction skills for the new infrastructural projects as well as the redevelopments over the territory are of world class, various noise mitigation measures are required to be compatible with the needs, especially for those fast-track projects which are often conducted in a round-the-clock manner, conscientious efforts are needed to address the rising expectation from the local communities and stakeholders. The speakers had shared their valuable experience in better site management, more environmentally friendly practices and wider use of quiet technologies with the participants.



Symposium Organising Committee (from left to right): Mr. Henry Lam (HKCA), Mr. Patrick Tang (HKCA), Mr. Louis Chan (EPD) (Co-chairman), Ms. Grace Kwok (HKIOA) (Co-chairman), Mr. Barry Sin (HKCA) (Co-chairman), Mr. CL Wong (EPD), Dr. cw Law (EPD) & Mr. M K Cheung (HKIOA) (Secretary))



Ms. Christine LOH

in parallel, exhibitors have showed their latest development on the quiet construction technologies and relevant gears.

Ms. Christine LOH, JP, Acting Secretary for the Environment, gave us the keynotes speech on “Tackling of Noise in One of the Highest Density Cities in the World – HK”. Ms. LOH shared the results from the survey conducted by the Census and Statistics Department in 2012 that the renovation noise has been identified as the most annoying noise affecting the domestic premises and the incentives provided by the government to encourage the use of Quality Powered Mechanical Equipment (QPME) which include in the “Pay for the Environment and Safety” set up by the Development Bureau for public works projects and tax deduction allowable by the Inland Revenue Department. Also 3 more equipment have been added into the original list of 12 under the QPME system this year.

by Mr MK CHEUNG & Mr Schroeder TAM



Mr. Chris Fabris



Mr. Chris Middleton



Ir. CF Leung

Mr. Chris Fabris, Scientific Officer of Federal Environment Agency in Germany, presented “Low Noise Construction in Germany”, and showed the analysis result of different measures and examples of Germany’s authority and their measures for construction noise abatement. He also informed about the relevant European Directives as well as the implementation of the environmental label ‘The Blue Angel’ into public contracting in Germany concerning low -noise machinery.

Mr. Chris Middleton, Senior Solutions Specialist, Brüel & Kjær EMS, Denmark, spoke “Construction Noise and Vibration Management to Maintain Operational and Social Licenses”. Nowadays, Government and communities are demanding tighter control and access to information, tighter operational controls, and more governance. But if the responses are typical defensive and simply producing reports that ‘show’ compliance, it only can create a typical Us versus Them situation. Mr. Middleton showed a system of continuous monitoring in real time of noise and vibration can help to optimise the operations to work up to the limits without exceeding them and help to manage community impact, building trust and provide effective way to reduce the risk.

The afternoon highlights mainly Ir. CF Leung, Green Building Faculty Member, Hong Kong Green Building Council, speaking on “Boosting a Better Acoustical Environment with the Green Building Rating Tool”. He introduced the local green building rating tool “BEAM Plus”, outlines the assessment criteria of acoustics and noise related credits and provides cases studies in demonstrating compliance.

Others renowned speakers including Ir. Leung Kwok-tung, Assistant Director (Structural Engineering), Architectural Services Department, who has talked the Noise and Vibration Control in Arch SD Projects; Mr. Lau Wai-tat, Chief Project Manager, Hospital Authority, has talked Quiet Construction – HA’s Perspective; Ir. Chris Kwan, Senior Project Manager, Link Asset Management Limited, has talked Acoustic Design Approach and Noise Control Management of Asset Enhancement Projects; Dr. Kin Cheng, Senior Environmental Protection Officer, Environmental Protection Department has talked Construction Noise Permit – A Driving Force for Quiet Construction.

Also we have Mr. Roger Lee, QSE Manager of Dragages Hong Kong Ltd . and Mr. Peter Leung, Deputy Project Manager of Chun Wo – SELI Joint Venture to share their valuable experience in noise control management in mega size tunnel project and 24hrs TBM Mining works next to Residential Area with the participants.

Follow the symposium, two site visits have been organised by the committee, the participants have a close view on the use of noise mitigation measures; mainly the noise barrier, semi and fully noise enclosure on the piling and 24-hour continuous tunnel excavation works.

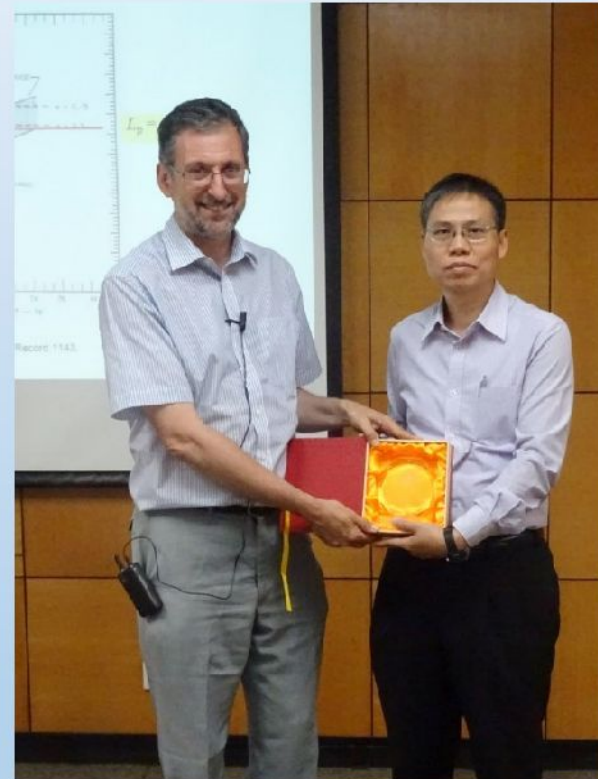
In summary, the Symposium cum Exhibition with complimentary site visits was very successful and received good feedbacks from the participants.

by Mr MK CHEUNG & Mr Schroeder TAM

# Two-Day Training Course “Noise and Vibration from Rail Transport Systems” on 20-21 Sep2016

HKIOA was honoured to have Professor David Thompson from the University of Southampton, who is a leading international expert in railway noise and vibration, to come to Hong Kong and be the speaker for a two-day training course on “Noise and Vibration from Rail Transport Systems”.

The training course was supported by the China Hong Kong Railway Institution (CHKRI), the Mechanical, Marine, Naval Architecture & Chemical Division and the Environmental Division of The Hong Kong Institution of Engineers (HKIE), the Hong Kong Institute of Qualified Environmental Professionals (HKIQEP), and MTR Corporation Limited. Special thanks are also given to the Environmental Protection Department (EPD) from the government for their support to the event.



Prof. David Thompson and Mr. Wilson Ho

by Mr. Wilson Ho



# Technical Seminar on Racing Aerodynamics



Prof. Xin Zhang

On 7 October 2016, a technical seminar on "Racing Aerodynamics" was organized by HKIOA and HKIE-MMNC Division.

The seminar features the insightful sharing of Prof. Xin ZHANG, the Chair Professor of Mechanical and Aerospace Engineering and Swire Professor of Aerospace Engineering at the Hong Kong University of Science and Technology, on racing aerodynamics and how racing car performance is influenced by aerodynamics.

Prof. Xin ZHANG is an internationally recognized expert in aircraft and racing car aerodynamics and was formerly Airbus Professor of Aircraft Engineering. He has collaborated with Formula 1 racing car industry (including major teams such as Honda Racing, Tyrrell, BAR, Jaguar, etc.). The seminar provided a precious opportunity for our members to enrich in the knowledge of the application of aerodynamics in daily life .

By Chris Kwok



# Technical seminar on Tyre/road Noise Measurement with Close-Proximity Method in Hong Kong

The seminar on tyre/road noise measurement with close-proximity method in Hong Kong" was held by HKIE-MMNC Division and Department of Civil and Environmental Engineering of the Hong Kong Polytechnic University on 9 November 2016.

Dr WT Hung and Dr Randolph CK Leung, the Associate Professor in the Department of Civil and Environmental Engineering, and the Associate Professor in the Department of Mechanical Engineering from The Hong Kong Polytechnic University respectively presented the recent research findings on tyre/road noise measurement using the close-proximity (CPX) method in Hong Kong.

Dr Hung presented the practical tyre/road noise measurement project deployed in Hong Kong, using CPX vehicles, a measurement methodology based on ISO/FDIS 11819-2. The design and special features of two local fabricated CPX trailers were also introduced in detail with related drawings and photos. He shared the findings on the relationships between vehicle speed, temperature and friction on the noise generated on the road.

Dr Leung introduced other noise influencing factors which were not described in ISO/FDIS 11819-2, namely vibration-induced error, and the effect of road curvature and temperature on the noise measurement results. A methodology based on laboratory and on-road testing was devised to correct the error. Dr Leung presented an evaluation study showing that the error was significant. He also presented the findings regarding the relationship between road curvature and temperature on tyre/road noise based on CPX measurements conducted on local public roads. The findings were taken into account by the ISO working group, who made reference to the publications by Dr Hung and Dr Leung, in their formulation of the final standard.

The seminar provided an excellent opportunity for over 110 participants to discuss various issues in carrying out acoustic engineering research as well as the successes and challenges encountered in this research project.



Dr. WT Hung (left) and Ir C. K. Lee

By Ir LEUNG Kim Keung and Mr LAM Yat Ken

# Soundscape Certificate Course

## Soundscape – Forming noise control to soundscape planning

HKIOA has co-organized a 2-day “Soundscape – Forming noise control to soundscape planning” course with the HKIE-MMNC Division in November 2016.

The course features the insightful from Professor LAM Kin-che, the Adjunct Professor in the Chinese University of Hong Kong, on the formulation of taking into account soundscape in the modern planning, a step ahead of conventional noise control. Professor LAM introduced the role of soundscape in planning, and explored ways to evaluate different kinds of soundscapes by engaging participants to experience a “Soundwalk” in Hong Kong. Professor LAM also provided a review on international knowhow on how to measure sound quality. Participants have been given a valuable opportunity to holistically explore how quality of sound could affect the future acoustic industry development, from control to planning.

This 2-day course has attracted 24 participants and has provided 12 CPD hours for our members' continuous development..



Professor LAM Kin-che

# Career Sharing by The Elites from Acoustic & Environmental Industries

On the 23rd May 2016, a share session, Career Sharing by The Elites from Acoustic & Environmental Industries, organized by PolyU Student Branch and IVE Student Branch, was successfully completed in PolyU campus. This sharing aimed to provide students a board understanding about the engineering industry in Hong Kong, especially in the acoustic and environmental area. Senior professionals from various disciplines were invited as panel speakers. During the event, the speakers had shared many experience on their career development, discussed with students on the expectation from the view of an employer, and the view of prospect in different fields.

The sharing was conducted through interactive discussion. A casual and friendly atmosphere was encouraged, which students could enjoy the refreshments with the guests together and raise any question anytime. Guests also shared many interesting stories in their career life .



by Mr. Horus Chan, Chairman of HKIOA PolyU Student Branch

In this event, guests explained the structure of acoustic and environmental field and the relationship between different stakeholders to the students, such that they would start to think of the interested aspect to kick-off their career. Additional to the technical knowledge learned from the university, all professionals emphasised the communication and other soft skills would also be important to lead their way to success. They also shared different challenges they got through in their career and encouraged students to be brave to take over challenges in their life, which that could help them to explore some unexpected opportunities.



Guests (first row from left to right): Mr. Henry LEUNG (Environmental Manager, MTR Corporation Limited), Mr. Y. T. TANG (Executive Director, AECOM), Ms. Grace KWOK (Managing Director, Allied Environmental Consultants Limited), Mr. Tom HO (Founder and Managing Director, S&V Samford Instruments Ltd.), Dr. Kin CHENG (Senior Environmental Protection Officer, EPD), Mr. Dr. CHONG Fan (Director, Acoustic Testing Services Limited), Mr. Fred CHAN (Managing Director, Kinetics Noise Control (Asia) Limited)

by Mr. Horus Chan, Chairman of HKIOA PolyU Student Branch

# Upcycle Thumbiano (Thumb-Piano) Workshop



On the 21st January 2017, an Upcycling Thumbiano (Thumb-piano) Workshop was held in the St. James' Settlement Jockey Club Upcycling Centre organized by the PolyU Student Branch for all the HKIOA student members. This workshop aimed to promote the idea of upcycling, to reuse or transform the 'waste' material or product into new product for better environmental value. Some of the executive committee members also joined the activity to support the idea of this event.

Thumbiano comes from the idea of an ancient African instrument Kalimba, and this environmental friendly version is solely made of 'waste material' from broken bikes and wine boxes. This upcycled thumbiano is designed by a Hong Kong designer Kelvin Cheung, he used to design consumer products using 'waste materials'. In this workshop, there were some hand works requiring students to polish the pre-cut components, assemble them as a thumbiano and tune the notes to the correct pitch by adjusting the length of each metal rod. Afterwards, Kelvin showed us some interesting designs and his studio in the upcycling centre. All of us had a very nice conversation and idea exchanges with him on upcycling and waste reduction.

The feedback from participants were very positive, in which they were inspired by the idea of upcycling and think this might help reduce waste production.

by Mr. Horus Chan, Chairman of HKIOA PolyU Student Branch