Sounding Board

March 2022 Issue

Sounding Board is an official publication of the Hong Kong Institute of Acoustics, prepared and edited by the Publication Sub-committee. Articles in this publication do not necessarily reflect the views and opinion of the Hong Kong Institute of Acoustics.

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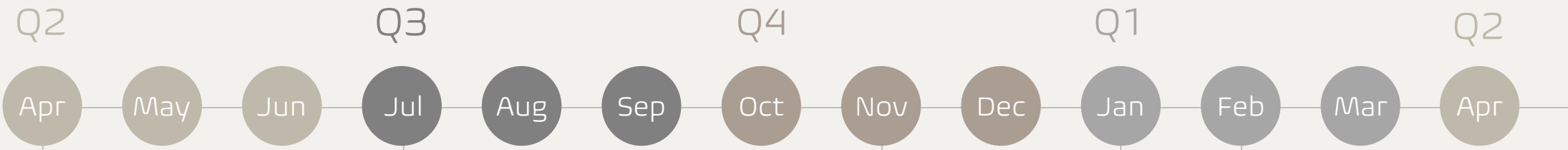

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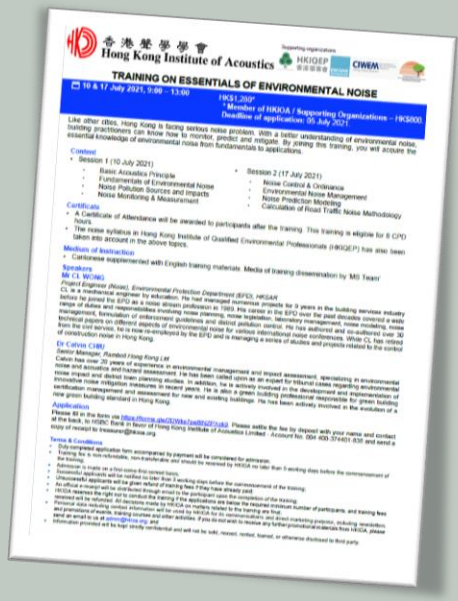
01 Report: Annual General Meeting 2021

The Annual General Meeting (AGM) of HKIOA was held on 21 April 2021. In light of the COVID-19 pandemic situation, physical attendance of the meeting at Centre O conference room in Wai Chai was available to the Executive Committee and nominees standing for the election of Executive Committee members, while the attendance with the Zoom online meeting system was available to all members. A total of 30 corporate members and 3 non-corporate members attended the meeting, and proxies from 77 corporate members had been received by the Secretariat.

The Chairman, Mr. William Fung reported the activities organized by the Institute throughout Session 2020–2021. He expressed gratitude towards the support of partner institutes, the Executive Committee, Organizing Committees and those who participated in the activities for the great success of the events. The Chairman's report was followed by an election for the election/re-election of Executive Committee Members that there were 5 nominees standing for the election of 4 vacancies. While votes from members were being counted, the Hon. Treasurer, Dr. Calvin Chiu reported that the Institute's finance remained in a healthy condition and the Auditor for the coming session was appointed during the meeting. Before the end of the meeting, the results of the election were announced, and that Dr. Calvin Chiu, Dr. Randolph Leung, Mr. Henry Chan and Mr. Wilson Ho were re-elected as Committee Members of the Institute.

02 Report: Training on Essentials of Environmental Noise


香港聲學學會
Hong Kong Institute of Acoustics

TRAINING ON ESSENTIALS OF ENVIRONMENTAL NOISE

Since 2020, HKIOA has launched a certificate training workshop to provide the local practitioners with a structured training, including the essential concepts of acoustics, road traffic noise, noise prediction model, control and management. The event is supported by HKIQEP, EMAHK, and HKIEIA. The training workshop covers the essential knowledge of environmental noise and the noise syllabus of the HKIQEP Qualification Examination. The training can better prepare the participants for the said examination.

The certificate training workshop in 2021 was held on 10 & 17 July via the Microsoft Teams virtual meeting system. We were honoured to have Mr. CL Wong, Project Engineer (Noise) from Environmental Protection Department of HKSAR and Dr. Calvin Chiu, Senior Manager from Ramboll Hong Kong Limited as our speakers. The workshop was well received and 33 participants attended the training.

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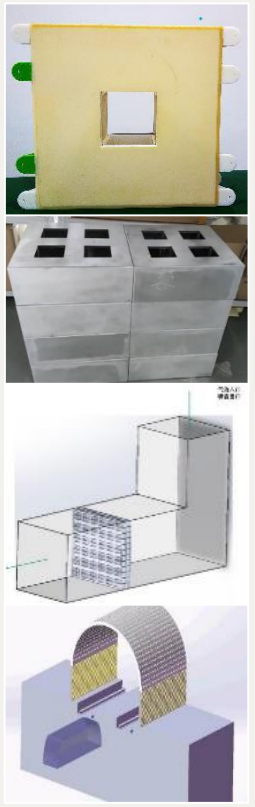
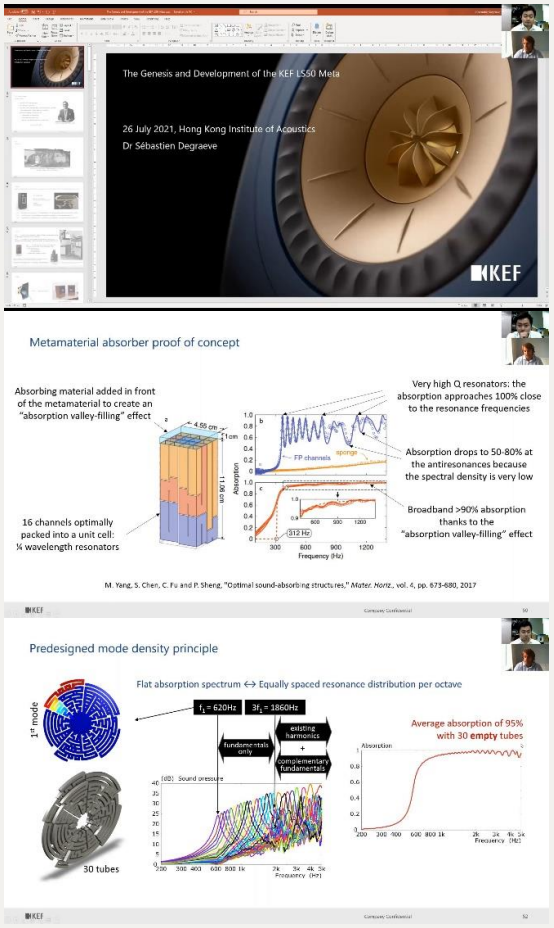
Report: Technical Webinar – Acoustic Metamaterial Series

The HKIOA had organized a series of Technical Webinar focusing on the latest engineering development with Acoustic Metamaterial on 14, 26 and 28 July 2021. The webinar series covered the following topics:



"Product Development from Membrane-type Locally Resonant Acoustic Metamaterials" by Prof. Zhiyu Yang

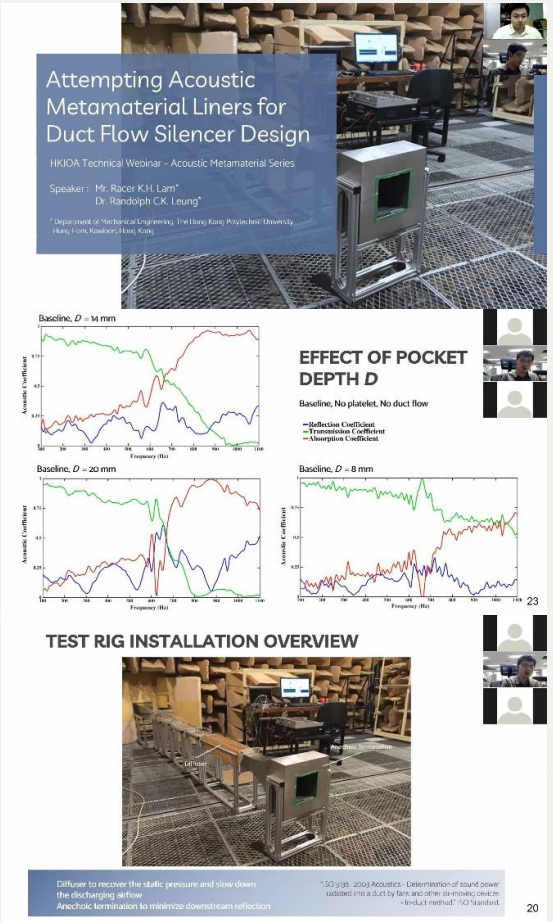
The webinar introduced the innovative integration of acoustics metamaterial into noise barrier panels, silencers, etc., for building services application. Those products demonstrated the opportunity for optimizing the acoustic performance and weight ratio using acoustic metamaterials.



"The Genesis and Development of the KEF LS50 META" by Dr Sebastien Degraeve

This webinar introduced the technical advancement in sound reproduction using a compact Hi-Fi loudspeaker as an

an example, to illustrate how the sound quality can be significantly improved. Dr. Degraeve discussed in details the interaction of the electro-magnetic response, the kinematics of the driver motion, as well as the structural design optimized for the desirable sound field. In particular, the newly introduced sound absorber was carefully designed and fine-tuned with acoustic metamaterial, and as result they have significantly improved the acoustic performance of the loudspeaker.



"Attempting Acoustic Metamaterial Liners for Duct Flow Silencer Design" by Mr. Racer Lam and Dr. Randolph Leung

Mr. Lam introduced the development of an acoustic liner with acoustic metamaterial. A series of metamaterial resonators, tuned for different frequencies, were integrated into the design of the liner, and the effect of different design parameters were carefully evaluated. The liner performance was verified by comprehensive laboratory tests. As a result, a very effective liner which was much compact and lighter, and with a superior performance even under various air flow conditions.

The response of the webinar series were good, and a total of 66, 60 and 53 attendances participated in the webinars respectively.

04 Report: Career Talk for Young Members

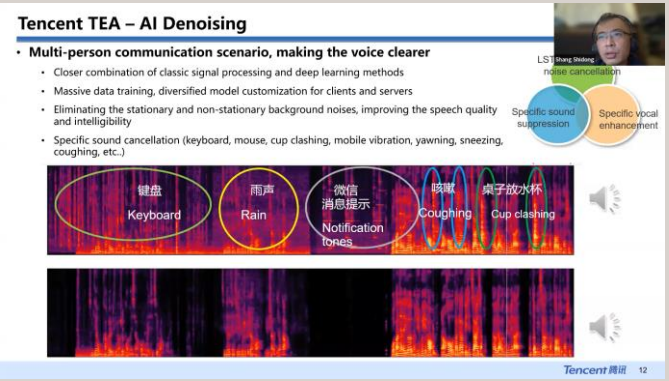
The Career Talk for Young Members organized by the Women in Acoustics Subcommittee of HKIOA was held on 30 November 2021 in The Hong Kong Polytechnic University.

There were 4 speakers for the Career Talk, Mr. Henry Chan (Associate Director from Ove Arup & Partners Hong Kong Limited), Mr. Ivan Ho (General Manager from Thinktech Sound & Vibration Company Limited), Dr. C. W. Law (Senior Environmental Officer from Environmental Protection Department) and Ms. Lisa Poon (Chief Environmental Manager (Capital Works) from MTR Corporation Limited). They vividly shared their experiences along their career paths; from the work as a supplier of acoustic materials to an acoustics consultant, as a supplier and an expert of noise and vibration measuring equipment, from a supplier of acoustic materials to a government officer, and as an environmental engineer and leader for new railway projects.

The career talk was well received with a total of some 50 participants, including many students and young engineers.

05 Report: Technical Webinar – Indoor Acoustics Series

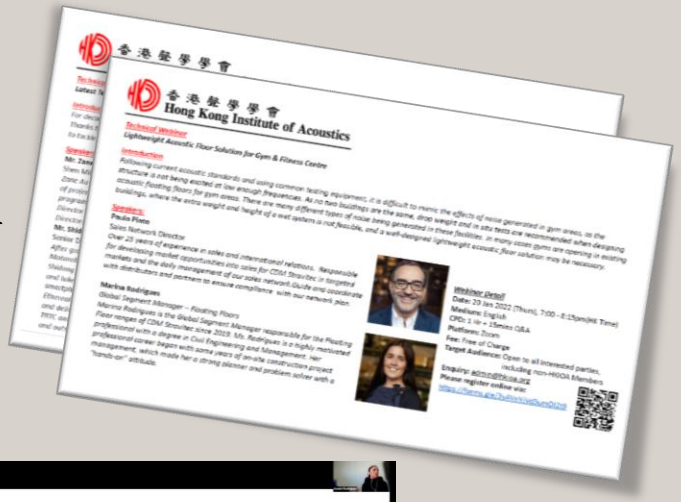
The first technical webinar of the Indoor Acoustics Series, on the Latest Technology Solutions for Challenging Acoustics Environment, was held on 18 January 2022. Some 85 participants attended the webinar.



Mr. Zane Au from Shen Milsom & Wilke presented some examples of how technology can better facilitate collaborations and communications even in a noisy environment, including using different voice pickup techniques.

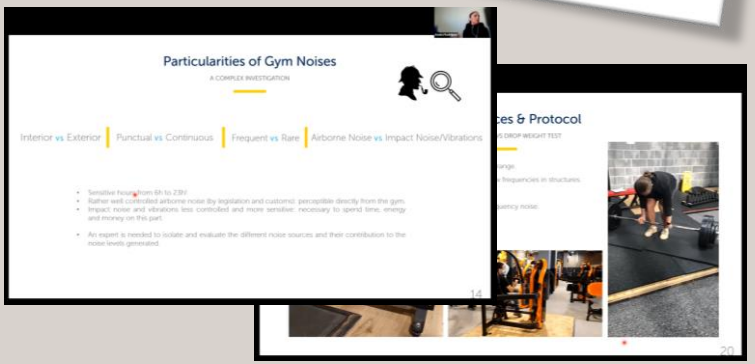
Mr. Shidong Shang from Tencent Ethereal Audio Labs also shared his study using AI noise elimination techniques with demo videos/audios to significantly reduce the unwanted noise through digital process and re-create a "noise-free" natural experience of face-to-face communications. Apart from the noise cancellation technology, he also pointed out some other important features in signal processing such as far-field sound pickup, beamforming, echo cancellation and speaker tracking etc.

The second technical webinar of the Indoor Acoustics Series, on "Lightweight Acoustic Floor Solution for Gym & Fitness Centre" was held on 20 January 2022. Some 70 participants attended the webinar.



Ms. Marina Rodrigues and Mr. Paulo Pinto from CDM Stravitec shared their interesting experiences in the investigation and isolation of gym noise.

Marina introduced some common sources and classifications of gym noise and shared some considerations in the investigation of the gym noise. She provided some noise requirements in some European countries for reference, and explained the limitation of some common test methods. She highly recommended to use in-situ measurements to reduce the chance of discrepancy between regulation compliance and the actual perception.



Paulo explained the design, working principle and impact isolation performance of a lightweight floor system. He shared with the audience the important considerations in choosing impact isolation products, including the selection between concrete floating floor system and lightweight floor system, and design elements like the selection of discrete resilient support and load distribution layer.

06 Report: Technical Webinar – Spatial Sound Perception Experience in a Virtual Reality (VR) World

The Technical Webinar on Spatial Sound Perception Experience in a Virtual Reality (VR) World was held on 15 February 2022. A total of 131 participants attended the webinar.

Mr. James Choi, Director of ANewR Consulting Limited, first provided some background to the audience on the potential use of VR and the procedures in preparing a VR application: from the preparation of a 3D model, the import to 3D engine, the setup of audio source in 3D audio spatializer, to the export of scene and spatial audio support to the head mount device. He further shared his points with the help of videos and some available VR applications, which included the interactive application developed by the Environmental Protection Department of HKSAR for public education and demonstration of the traffic noise reduction performance using innovative acoustic window design; and maps incorporated with soundscape features.

07

Notice

Waiver of Membership Fee for Year 2022

In view of the COVID-19 situation and given that the institution is still in a good financial condition, the Executive Committee had decided to waive the membership fee for both Year 2021 and Year 2022. This waiver is applicable only to those who had paid their relevant membership subscriptions in full for Year 2020 and before.

Congratulations to Chris on the Arrival of the New Family Member!

Chris Kwok's baby Maison was born in June 2021. Let's extend our warmest congratulations to Chris and his family for their lovely boy!

Upcoming Event

Tentatively, the Annual General Meeting this year was scheduled to be held in May 2022. The Executive Committee will keep in view of the latest situation of the COVID-19 and confirm the date closer to the time. Please stay tuned for the announcements.