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The 2023 I-INCE Practice of Noise Control School

For Students and Other Young Professionals Registered at Internoise 2023
(By Invitation Only. If you are interested in attending, email daviesp@purdue.edu)
Sunday 20th August, 2023, 9:45am-3:30pm

9:45am-10:00am Sign-In and Introduction

10:00am-11:00pm
Noise Control Projects in Transportation, Renewable Energy Systems, and Community Planning
Dana Lodico, Senior Director, RSG, Denver, Colorado, USA

11:00am-Noon
Noise Control Standardisation: The Backbone of Best Practice
Douglas Manvell, CEO and Founder, DMdB, Charlottenlund, Denmark

Noon-1:00pm Lunch

1:00pm-2:00pm
Noise, Vibration and Harshness (NVH) for Vehicles - Active Noise Control and Sound Design
Seonghyeon Kim, Senior Research Engineer, Hyundai, Korea

2:00pm-3:00pm
Noise Control in Optimized HVAC Solutions for All Climate Needs in Buildings
Seong-Hee Choi, Chief Research Engineer, LG Electronics, Korea

3:00pm-3:30pm Closing Remarks and Photographs

Morning Sessions

Session 1: 10:00am-11:00am

Dana Lodico, Senior Director, RSG, Denver, Colorado, USA
Web page: https://rsginc.com/

Bio: Dana Lodico leads the acoustics practice at RSG. She received her BS from University of Colorado, Boulder and her MS in Building Science, Architectural Acoustics from Rensselaer Polytechnic Institute, both in the USA, and has 23 years of professional experience in acoustics. In her work, her focus is on identifying and utilizing the appropriate measurement, modeling, and analysis techniques to deliver high-quality solutions that meet clients' needs and budgets. At RSG she manages projects in all aspects of acoustics including industrial, institutional, land-use planning, recreation and residential projects, and is very active in work related to transportation noise, renewable energy systems, and community planning. Research investigations have included innovative noise barriers, quiet pavement evaluations, meteorological effects on traffic noise, noise model validation, truck noise source localization, thermo-acoustic refrigeration design, and classroom acoustics. Dana is a Professional Engineer and Board Certified in Noise Control Engineering. She is a Director of I-INCE and former Vice President and Director of INCE-USA.

Noise Control Projects in Transportation, Renewable Energy Systems, and Community Planning

Summary: A well designed project takes into consideration both the use of the project and how its use might affect the surrounding communities. Dana will describe the role of acoustical consultants in the planning, design, permiting, and post-construction phases of development projects and in addressing and solving acoustical problems as they arise. She will discuss potential noise and land-use conflicts and methods of reducing noise impacts to communities. Topics may include wind turbines, roadways, outdoor concert venues, recreational uses, and industry.

Session 2: 11:00am-noon

Douglas Manvell, CEO and Founder, DMdB, Charlottenlund, Denmark; Chair of ISO Technical Committee 43 on Acoustics.
Web page: https://www.DMdBSoundAdvice.com/

Bio: Douglas Manvell is CEO and founder of DMdB, based in Denmark, and is Chair of ISO Technical Committee 43 on Acoustics. He has 30 years' experience with noise and vibration control applications and solutions at market leading companies such as Brüel & Kjær, has spent over 20 years with environmental noise policy standardisation and legislation including EU Noise Policy and the Environmental Noise Directive, and has 25 years' experience both with environmental noise calculation software and with international conferences and exhibitions. The author of over 70 papers and session chair at several conferences, he is also Guest lecturer at the Danish Technical University, Environmental Acoustics (MSc module) 2006-2017, 2021-2022. DMdB is a dynamic and agile consultancy providing professional services within noise and vibration control. Based on over 30 years in the business of solutions for noise and vibration control, particularly in environmental noise and vibration, and in standards and legislation, DMdB provides knowledge of and experience in applications, regulations and solutions; a wide and strong network within the global noise and vibration control community; and as Chairman of ISO Acoustics, insight into standardization. He is also a Fellow of the UK Institute of Acoustics.

Noise Control Standardisation: The Backbone of Best Practice

Summary: Standards form the backbone of best noise control practice. Doug will describe the role of standards and how they interface with legislation, why standards are important, how standards are developed and maintained and by whom, as well as why and how to get involved. He will cover the roles of and interactions between global, regional, industry-specific and national standardisation, and the links with research. He will describe the path he took from graduation at Surrey University in UK to becoming convenor of the ISO Working Group on Environmental Noise Assessment and the Chair of the ISO Technical Committee 43 on Acoustics. He will provide examples from his vast experience with standardization to illustrate the topic in an entertaining and enlightening manner.

Afternoon Sessions

Session 3: 1:00pm-2:00pm

Seonghyeon Kim, Senior Research Engineer, Hyundai Motor Company, Korea
Web pages: https://www.hyundai.com/worldwide/en/

Bio: Seonghyeon Kim is a senior research engineer with extensive experience in the automotive and electronics industries. He received the B.S. and M.S. degrees in mechanical engineering from Hanyang University. He is currently pursuing the Ph.D. degree in electronic and computer engineering with Technische Universität Dresden, Germany. From 2006 to 2011, he was a Senior Research Engineer with the Chief Technology Officer Division, LG Electronics. Since 2011, he has been a Senior Research Engineer with the Institute of Advanced Technology Development, Hyundai Motor Group. His research interests include active sound control, active sound design, sound quality, multisensory perception and reproduction, and vehicle NVH. His research has been published in several peer-reviewed journals and conference proceedings. He is a highly motivated researcher who strives to solve intricate engineering problems and develop cutting-edge technologies for propelling the automotive industries forward.

Noise, Vibration and Harshness (NVH) for Vehicles - Active Noise Control and Sound Design

Summary: Seonghyeon Kim has worked for many years at the intersection of active sound control, sound perception, and sound design. His presentation includes descriptions of two (out of many) projects he has worked on and how the results of those studies have led to improvements in vehicle interior sound design at Hyundai. One project is focused on interior noise control to enhance acoustic comfort inside vehicles. This project involved the development and implementation of active noise control systems. Another project focused on interior sound design for luxury and sporty sedans, encompassing target sound development and the utilization of active sound design. Drawing from his 17 years of experience in both the automotive and appliance industries, he will also share his insights on how active noise and vibration control can enhance user experiences.

Session 4: 2:00pm-3:00pm

Seong-Hee Choi, Chief Research Engineer, LG Electronics, Korea
Web page: https://https://www.lg.com/levant_en/business/air-solution

Bio: Seong-Hee Choi received his BS in Aerospace Engineering from Busan National University and his MS from KAIST, South Korea. Since 2009, he has worked on vibration and noise engineering at STX and Daewoo Shipbuilding companies and joined LG Electronics in 2017. He is currently a Senior Research Engineer responsible for noise and vibration engineering in the Air Solution Division, with a particular interest in big data and data analytics

Noise Control in Optimized HVAC Solutions for All Climate Needs in Buildings

Summary: In this presentation, the noise and vibration generated by LG's air solution products will be discussed. The primarily emphasis will be on vibration noise phenomena and the corresponding solutions, with theoretical aspects being largely excluded. In the presentation details are given on solutions in five distinct areas: piping reliability, structural design, compressor noise insulation, radiation noise, and refrigerant noise. Furthermore, field issues related to noise and vibration will be briefly discussed.