

The background of the entire page is a photograph of a car driving through a tunnel at night. The car's headlights are on, and the tunnel walls are lined with circular lights that create a bokeh effect. The car is dark, and the overall scene is in shades of blue and black with bright white highlights from the lights.

SAE 2020

NOISE AND

VIBRATION

FORUM

SEPTEMBER 22-23

**Courtyard by Marriott Shanghai-Pudong
Shanghai, China**

sae.org.cn/events/nvc

SAE 2020 NOISE AND VIBRATION FORUM

ORGANIZERS



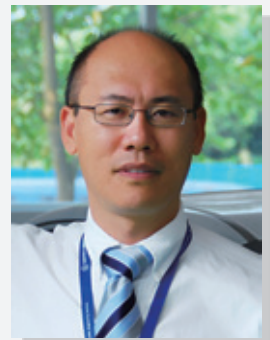
GU Pengyun

Chief NVH Engineer & Vice President
Geely Automobile Research Institute



LI Peiran

Deputy Director of NVH Tech Center
CAERI



PANG Jian

Vice President & Chief Engineer
Chang An Global R&D Center



Pranab Saha

Co-founder & Principal Consultant
Kolano and Saha Engineers, Inc.



WAN Quan

NVH expert at Automotive and
Aerospace Solutions Division
3M China Limited

HOST



CO-ORGANIZER





SAE 2020 NOISE AND VIBRATION
FORUM 噪声与振动论坛

TECHNICAL PROGRAM

DAY 1 TUESDAY, SEPTEMBER 22

8:00 **REGISTRATION**

9:30 **WELCOME SPEECH**

9:45 **KEYNOTE**

Charles ZHANG Chief Expert in NVH, BYD

10:30 Tea Break

11:00 **TRENDS IN NOISE AND VIBRATION**

The session covers the latest noise and vibration regulations, standards, and consumer expectations impacting vehicle design. Discussions will include the latest technology advancements to address these evolving requirements.

Gabriella Cerrato Manager of Global Engineering Services, Bruel&Kjaer
WEI Yintao Professor of School of Vehicle and Mobility, Tsinghua Univ
XIA Tiequan Chief Engineer, NVH Tech Center, CAERI

12:30 Lunch

14:00 **INSTRUMENTATION: SYSTEMS, SENSORS, AND METHODS**

This session covers instrumentation sensors, systems and methods used in the measurement and analysis of noise and vibration. Analysis methods internal to instrumentation will also be covered.

Chad Musser Vibro-Acoustics Solution Director, ESI

Invited:

Altair, University of Michigan

15:30 Tea Break

16:00 **WORKSHOP: NVH SIMULATOR**

TECHNICAL PROGRAM

DAY 2 WEDNESDAY, SEPTEMBER 23

8:00 **REGISTRATION**

9:30 **KEYNOTE**

Invited:

General Motors

10:15 Tea Break

11:00 **NOISE AND VIBRATION CONTROL FOR ELECTRIC VEHICLES**

This session discusses the noise sources, signatures, control strategy, and NVH technology unique to electric vehicles. It is intended to bring a greater awareness of the NVH characteristics of these vehicles as well as provide a forum so that advances in power systems, drivetrains, batteries, and energy storage can be addressed with appropriate NVH technology as needed.

Invited:

FORD, VOLVO & BorgWarner

12:30 Lunch

14:00 **NOISE SOURCE IDENTIFICATION AND MITIGATION**

This session contains presentations addressing research and development of noise mitigation techniques and materials development for a variety of noise sources--body, chassis, tire/road, and wind noise. Noise source identification, material selection and aerodynamic design are discussed.

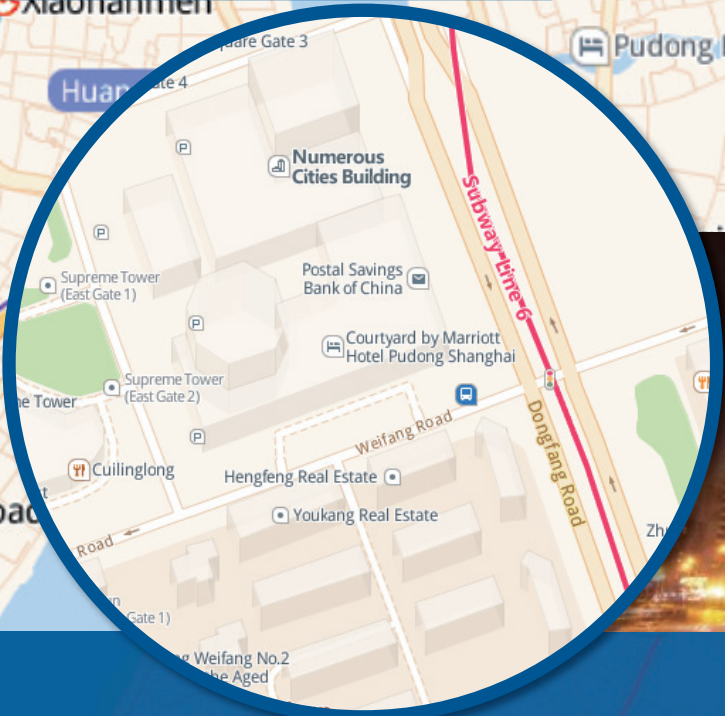
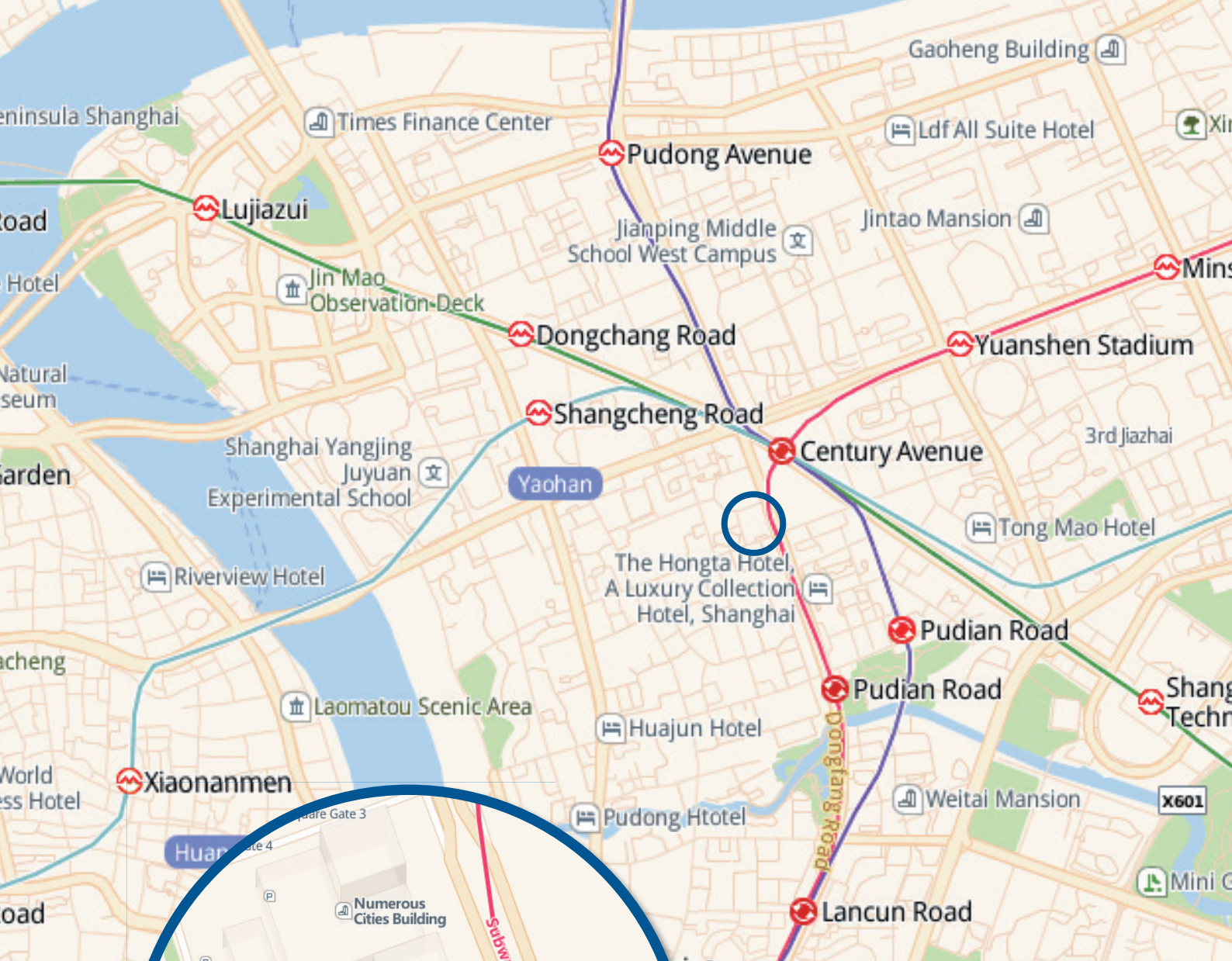
HOU Hangsheng Technical Director, China FAW Group Corporation R&D Center

CHU Zhigang Professor, Chongqing University

MA Fangwu Professor, Jilin University

15:30 Tea Break

16:00 **WORKSHOP**



VENUE

Courtyard by Marriott Shanghai-Pudong

Address: No.838 Dongfang Road, Pudong New Area, Shanghai

Phone: +86-21-5180-1133

REGISTRATION FEE CNY 3,000

NOTES

- Organizers, Speakers, Exhibitors & Journalists are free to participate in the forum. Advance registration is required, please contact SAE.
- Complimentary simultaneous interpretation handset rental with valid photo id required.
- Registration Fee includes: 1 Attendee, Event materials, Lunch & Tea break, excluding travel and accommodation.

More Information and Registration, Please Visit:

<http://www.sae.org.cn/events/nvc>

or Scan The QR Code



CONTACT US

REGISTRATION & EXHIBIT & SPONSORSHIP

China Region

Yasmine MIAO

Phone: +86-21-6140-8955

Email: Yasmine.Miao@sae.org

Global

Megan McCoy

Phone: +1-724-772-4037

Email: Megan.McCoy@sae.org



CO-LOCATED SEMINAR

Sound Package Materials for Vehicle Noise Control

ID#: 92032

Date: Sep 24-25 (2 day)

Instructor: Pranab Saha

Language: English

CEU (US): 1.3

Shanghai CEU: 3.0

Address: Shanghai

Fees: CNY 4,000 (VAT Included)

OVERVIEW

The sound package materials for vehicle noise control seminar provides a detail and thorough analysis of three different classes of acoustical materials - namely absorbers, barriers, and dampers, how they are different from each other, and acoustical properties that materials should possess for optimum vehicle noise control. The seminar addresses new advances in acoustical materials, primarily in absorption materials that impact the vehicle acoustics. The seminar covers ways to evaluate the acoustical performance of these materials using different test methods, including material, component, and vehicle level measurements. The two day seminar starts with the fundamentals of NVH and sound quality related to sound package materials and discusses the importance of various noise sources that impact the development of sound package treatments in a vehicle.

- Describe ways that acoustical materials work and how they differ from each other
- Road map for vehicle sound package development
- Distinguish test methods used to evaluate the acoustical performance of material

WHO SHOULD ATTEND

Designed for OEM or supplier employees responsible for various noise activities, such as design, evaluation, trouble-shooting, procuring, supplying, and/or manufacturing noise control treatments and parts, this seminar will also benefit those with responsibilities including the areas of manufacturing, design, engineering, process, noise and release engineering, supervision or management. Attendees should have an undergraduate engineering degree and/or a working knowledge of noise control and automotive acoustics.

OBJECTIVES

By participating in this web seminar, you will be able to:

- Identify various descriptors that are used in NVH and sound quality while working with sound package materials
- Recognize various noise sources and paths in a vehicle
- Identify three different classes of acoustical materials

OUTLINE

- Fundamentals of NVH and Sound Quality
 - Defining acoustical performance of acoustical parts
 - Definition of terms
 - Human response to sound
 - Various noise and vibration instrumentation
- Vehicles Noise Sources and Solutions
 - The noise system

- o Vehicle noise sources
- o Road and wind noise
- o Miscellaneous noise sources
- o Noise control solution - source, path, receiver
- o Noise control system using sound package materials
- Materials for Vehicle Noise Control
 - o Absorber, including case studies and test methods
 - o Barrier, including case studies and test methods and the effect of holes
 - o Damper, including case studies and test methods
 - o Isolator
- Different Automotive Measurements
 - o Vehicle
 - o Component
 - o Material

INSTRUCTOR: Pranab Saha

Pranab Saha is an entrepreneur, co-founder, and a Principal Consultant of Kolano and Saha Engineers, Inc., an independent professional engineering and consulting company in acoustics, noise, and vibration. A well-known authority on automotive noise, body interior systems, and sound package materials, Dr. Saha has directed and participated nationally and internationally in numerous advanced noise control engineering programs and training seminars for various OEM companies and their suppliers in three different continents. Dr. Saha is an active member of SAE International, ASA, ASME, ESD, INCE-USA, and NSPE/MSPE. He is the past Chair of the SAE Engineering Meetings Board, SAE Noise and Vibration Conference, SAE Acoustical Materials Committee, and the past contributing editor of Sound and Vibration magazine. He has written a document on how to write an SAE technical paper, has helped develop several SAE standards in acoustics, is a Professional Development Instructor, and

Lead Faculty Member of the SAE Vehicle Interior Noise Academy. He has presented technical papers and has organized and chaired numerous technical sessions sponsored by SAE and other professional organizations. Dr. Saha has also won several awards presented by SAE International, the Michigan Society of Professional Engineers (MSPE), and the Engineering Society of Detroit (ESD). He is an INCE-USA Board Certified Member, a Fellow Member of SAE International and ESD, and has been named an SAE Master Instructor. Dr. Saha holds a Ph.D. in Mechanical Engineering (Acoustics Specialty) from Georgia Institute of Technology.

CONTACT US

Easy LI

Phone: +86-21-6140-8959
Email: Easy.Li@sae.org

CO-LOCATED SEMINAR

Road Noise Control Technology

ID#: C2005

Date: Sep 24-25 (2 day)

Instructor: PANG Jian

Language: Chinese

CEU (US): 1.3

Shanghai CEU: 3.0

Address: Shanghai

Fees: CNY 4,000 (VAT Included)

OVERVIEW

In this lecture, we will focus on an issue facing the whole industry: road noise. Road noise is the top 1 source of noise, and this problem becomes even more severe in the case of EVs. Road noise has much influence on sound quality. It is the main source of pass-by noise.

Currently, there are no dedicated courses or books on road noise within the industry. Our lecturer is working on a book titled Road Noise: Theory and Practice (both English and Chinese) and this course, which will fill in the blank for China and the industry.

There are many people who need to take this course, including engineers on NVH, suspension design and car design in OEMs, engineers from tire companies, engineers from makers of suspension-related components (such as suspension rubber cover) and so on.

The course covers a wide range of topics including tire structure vibration, tire tread and noise control, tire cavity noise, identification of suspension vibration and force, the vibration control of structural beam and board over structure-borne road noise, the control of car acoustic package on airborne road noise.

OBJECTIVES

By participating in this web seminar, you will be able to:

- Describe causes of road noise

- Understand influence of tires on road noise and control methods
- Understand influence of suspension structure on road noise and control methods
- Understand influence of body structure on road noise and control methods
- Identify target system and control process of road noise

WHO SHOULD ATTEND

Engineers in NVH, Suspension Design and Body Design. Background in NVH or suspension design will be helpful.

OUTLINE

DAY ONE

- The concept of road noise and road noise from tire tread
 - o The concept of road noise and related systems
 - o Near-field road noise and far-field road noise
- Tire structure vibration and tire cavity noise
 - o Tire structure vibration
 - o Tire cavity modality and cavity noise

DAY TWO

- Recognition and control of suspension vibration, transmission force
 - o The vibration of suspension system

- o Identification of suspension transmission force and suspension control
- The transmission of air-borne and structure-borne road noise and body vibration control
 - o In-vehicle transmission mechanism of road noise
 - o The control of vehicle body and acoustic packaging over road noise

INSTRUCTOR: PANG Jian

Pang Jian holds a master's degree from Shanghai Jiaotong University and a PhD in Mechanics from the University of Oklahoma, U.S. Dedicated to the R&D and study in noise and vibration products, he is one of the first national special experts, the first SAE China members, special expert of SAE China and special expert in Chongqing government.

He used to work in Ford Motors for ten years and once served as vice general manager of Automotive Engineering Institute, Changan Automobile Group. He has won many awards including the China Automotive Industry Science and Technology Awards (first winner).

He holds positions such as team leader of China Noise Team of OICA, editorial board member of Automotive Noise and Vibration and other international journals, vice director of State Key Laboratory of Vehicle NVH and Safety Technology and vice director of the academics committee, vice director of NVH branch, SAE China and so on. He is visiting professor and doctoral supervisor of Tongji University and Chongqing University. He published academic monographs including

Noise and Vibration Control in Automotive Bodies, Vehicle Noise and Vibration Control, Vehicle Noise and Vibration: Theory and Practice, Road Vehicle Dynamics, Road Vehicle Dynamics – Problems and Solutions.

He has published more than 80 academic papers.

CONTACT US

Easy LI

Phone: +86-21-6140-8959
Email: Easy.Li@sae.org

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