

 PROGRAMME



International Conference and Exhibition

AUTOMOTIVE NVH COMFORT LE MANS 2023

18-19 OCTOBER
2023

PALAIS DES CONGRÈS DU MANS
FRANCE

INTRODUCTION

In a context ever growing number of questions concerning the next mobility, car manufacturers are facing many challenges with even more constraints and the enhanced need to deliver emotional products that make sense. And this has to be done while managing supply chain, lowering carbon footprint, dampening cost variation of raw materials, as we are going through health crisis, conflicts and climate change.

Let's look forward and imagine what should be the next steps for automotive NVH

The idea of a fully autonomous vehicle is by now embodied by various levels of automation, that are gradually changing the driving experience, and EV are not exactly perfectly quiet vehicles. This experience is at the focal points of many research and development, and within it, the "sonic journey" is taking more and more space.

Audio HMIs are more and more developed and must provide clear information with no cognitive overload and in coherence with the global acoustic balance and vibe. Audio systems are going to be used for other things than just playing music: Active sound design, active noise cancelling, along with enhanced telephony and superior audio, all within constrained physical space and available CPU and memory.

Energy management system in a hybrid electric vehicle is not going to set operating point of the powertrain accordingly to drivers needs only, as alien intelligence is working for optimized fuel economy. The powertrain NVH feedback of the driver need is therefore modified and must be done in a right way... Welcome to the NVH of systems.

NVH engineering is shifting from noise control to life on board acoustic comfort enhancement, as sound perception in a car is one of the dominant emotional and sensorial experience.

And the questions raised in our last conference "automotive in soundscape" about the external noise impact are still the object of many similar efforts, from regulatory compliance to brand image sound signature and noise pollution control.

COMMITTEE

Thomas ANTOINE - RENAULT
 Pascal BOUVET - VIBRATEC
 Li CHENG - THE HONG KONG POLYTECHNIC UNI
 Nicolas DAYCHEZ - UTC
 Arnaud DUVAL - TREVES
 Leon GAVRIC - STELLANTIS
 Johan GREBERT - AUTONEUM
 Antoin GUELLEC - AUDI
 Alain LBERRY - SHERBROOKE
 François LOHR - MICHELIN
 Saïd NAJI - VALEO
 Louis-Ferdinand PARDO - RENAULT
 Charles PEZERAT - UNIVERSITÉ LE MANS
 Hervé PICHON - CTTM
 Jean-François RONDEAU - TREVES
 Kresimir TRDAK - HUTCHINSON
 Ming ZHOU - VALEO

PROGRAMME 18 OCTOBER

08:30 > Welcome coffee in the exhibition

OPENING PLENARY SESSION

09:00 > Welcome / Intro
Frédéric CHARON - SIA, Hervé PICHON - CTTM

09:10 > Keynote: Electrification impact on automotive design
Damien PIRANDA - STELLANTIS

09:30 > Keynote: NVH in the digital audio era
Laurent GAGLIARDINI - ACOUSTICS IN THE LOOP

09:50 > Keynote: New Electronic Architectures, what does that mean for the sound?
Cyril LAURY - FORVIA

10:10 > Panel session: Audio / Sound experience

11:10 > COFFEE BREAK AND NETWORKING IN THE EXHIBITION

11:40 > Keynote: Sound Quality Metrics using Psychoacoustic Standards
Rolland SOTTEK - HEAD ACOUSTICS

12:00 > Exhibitors Presentation
2 mm - 2 slides / exhibitors

12:40 > LUNCH

NEXT SOUND

SUSTAINABLE NVH

14:10 > A Software Defined Audio Architecture applied to Noise Cancellation and Sound Design.
Lawrence IVIANI - BLACKBERRY QNX

Metrics and benchmark recommendations for HVAC airflow noises
Olivier CHERIAUX - VALEO

14:35 > Active vibration control on a tire wheel assembly using sliding mode control and piezoelectric transducers
Antoine CARVALHO - INSA LYON

E-motor noise: topology optimization and damping optimization
Fabien MAUGAN - MMT

15:00 > Active airborne noise control in off-road cabs
Michel BESOMBES - CETIM

Characterization and modelling of the radiation of automotive engine encapsulation materials
Alexandre WILKINSON - UTC

15:25 > Real-time Synthesis in an NVH Simulator: Combine Live Powertrain Test Bench Data with TPA vehicle model
Marius DUTE - HEAD ACOUSTICS

Optimization of a silencer using Helmholtz resonator array under turbulent grazing flow
Rita MOUSSA - VALEO

16:15 > COFFEE BREAK AND NETWORKING IN THE EXHIBITION

NEXT MOBILITIES

NEXT TOOLS

16:45 > TE computation: comparison between MASTA and pure finite elements approach.
Alexandre RENAULT - VALEO

Advance simulation method for aero-acoustic vehicle design
Philippe MORDILLAT - RENAULT GROUP

17:10 > Multiobjective and robust NVH optimization of automotive ePowertrain including gearbox and motor excitations
Adrien PARPINEL - VIBRATEC

Evaluation of the impact of glazing on the acoustic comfort in cars submitted to aerodynamic excitations
Sylvain GERMES - SAINT-GOBAIN

17:35 > Contribution of machine learning and deep learning to the inspection of automotive parts.
Charfeddine MECHRI - CTTM

Using simulation models for virtual road noise improvement, with combined TEST-CAE virtual vehicle assemblies
Bert VAN GENECHTEN - SIEMENS

18:00 > Tonal noise generated by Valeo eDrive electric powertrains: a methodology to keep it under control
Yannick LEFEBVRE - VALEO

Modular NVH development for road noise using complex power and component TPA
Eric PASMA - VIBES TECHNOLOGY

18:30 > Cocktail in the exhibition

19:15 > PIANO CONCERT & SHOW

20:00 > GALA DINNER

PROGRAMME 19 OCTOBER

08:30 > Welcome coffee in the exhibition

PLENARY

09:00 > Keynote: ROAD NOISE POLLUTION; a Breakthrough approach
Thomas ANTOINE - RENAULT GROUP

09:20 > Keynote Bruitparif
David BERNFELD - BRUITPARIF

09:40 > STUDENT AWARDS

10:00 > COFFEE BREAK AND NETWORKING IN THE EXHIBITION

NEXT SOUND

SUSTAINABLE NVH

10:30 > Combining Ray Acoustics simulations and higher order ambisonics for immersive vehicle interior noise auralization
Eddie MUNSON - SIEMENS

Tire sound emission modelling and its impact on vehicle compliance to pass-by noise regulation
Yannick DENOUAL - RENAULT GROUP

10:55 > Tailored sound design: simulations and biometric data for a better sound experience
Antoine CHARON - SOUND TO SIGHT
Giorgio ADRIANO - VI-GRADE
Marco MANDOLFO - PHEEL LAB, de POLITECNICO MILANO

Holistic approach for the design of a sustainable sound package for tire noise
Johan GREBERT - AUTONEUM

11:20 > Immersive smart trims design using linear inertial transducers for a better audio sound quality and easier vehicle integration
Arnaud DUVAL - TREVES

Sustainability applied in the domain of the transmissions
Eric RUMEAU - VALEO

11:45 > Private sound zones created by actuator-based headrests
Philipp NEUBAUER - CONTINENTAL

Characterization and modeling of the elastic behavior of heterogeneous materials made of recycled foams
Fabien MARCHETTI - MATELYS

12:10 > LUNCH

NEXT MOBILITIES

NEXT TOOLS

14:00 > NVH assessment of new thermal embedded systems within the electrification trend
Saad BENNOUNA - VALEO

Hybrid method for characterization of NVH performance of axle system on test rig
Shanjin WANG - RENAULT GROUP

14:25 > INTERIOR ROAD NOISE - A simplified source modeling approach
Christophe THEVENARD - RENAULT GROUP

Optimizing damping pad designing and positioning through frequency response mapping
Marcelo DONATTI GUBERT - AUTONEUM

14:50 > Acoustic Stealth of Armoured Vehicles - Test, Modelling and Parametric Analysis
Arkli KHELIFI - NEXTER SYSTEMS

The use of the irrotational intensity field to investigate the transmission paths of vibration energy
Frédéric BORNET - STELLANTIS

15:15 > NVH integration of electric powertrains in tomorrow's mobilities
Stéphane MAGNE - VALEO

3D noise source reconstruction using the m-IPTF method: application on an E-Powertrain
Sandra FORGET - RENAULT GROUP

15:45 > CONCLUSION OF THE CONGRESS

LE MANS & THE PLANTAGENET CITY



USEFUL INFORMATION




ACCESS

Palais des Congrès et de la Culture du Mans
Rue d'Arcole - 72 000 Le Mans, France

Paris > Le Mans

2 hours by car

 Car park available: entrance at boulevard Demorieux or rue Barbier

54 minutes by train, from Montparnasse station

Le Mans station is 7 minutes from the Palais des Congrès by foot.

Public transportation in Le Mans

Bus line 17 (stop at "Palais des Congrès")

HOTEL ACCOMMODATION

IBIS STYLES***

+33 (0)2.43.85.49.00

HOTEL CHANTECLER***

+33 (0)2.43.14.40.00

IBIS LE MANS CENTRE**

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IBIS HÔTEL

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