

PROGRAM

21ST & 22ND NOVEMBER

November 21st

19:00 Welcome Reception for Colloquium Attendees

The welcome reception will take place at the exhibition, Parkhotel Quellenhof Aachen, with drinks and food. The reception is free of charge for our participants.

November 22nd

08:30 Welcome and Opening

Prof. Lutz Eckstein / Dr. Norbert Alt

Sound Quality, Trouble-Shooting, Sound Design I

Session Chair: Prof. Michael Vorländer
Institute for Hearing Technology and Acoustics (IHTA),
RWTH Aachen University

08:45 Designing Soundscapes for Tomorrow

Dr. Renzo Vitale
BMW Group

09:30 Urban Sound Auralization for Noise Studies in Virtual Environments

Christian Dreier
Institute for Hearing Technology and
Acoustics (IHTA),
RWTH Aachen University

10:00 Coffee Break & Snacks

NVH Measurement, System-Analysis, Measurement Technology I

Dr. Norbert Alt
FEV Group GmbH

10:30 Digital Transformation of NVH Development Based on Data Science and Big-Data

Dr. Daehun Song
Hyundai Motor Company

11:00 Smart Vehicle and Powertrain NVH Development Supported by Machine Learning

Tongfang Fu
Chair of Thermodynamics
of Mobile Energy
Conversion Systems,
RWTH Aachen University

11:30 Making Modal Analysis Easy and More Reliable – Reference Points Identification and Model Size Estimation

Dr. Tim Kamper
HEAD acoustics GmbH

12:00 Lunch

Numerical Simulation

Session Chair: Dr. Gottfried Behler
Institute for Hearing Technology and Acoustics (IHTA),
RWTH Aachen University

13:15 Approximation Method to Enable Mass, Stiffness, and Damping Perturbations in Virtual SEA Subsystems

Andre Antonio Andrade Paiva
Hexagon/University of Liege

13:45 Numerical Flow Noise Simulation of an Axial Fan with a Lattice-Boltzmann Solver

Evangelos Antoniou
Dassault Systemes Deutschland GmbH

14:15 Coffee Break

Vehicle Acoustics

Session Chair: Prof. Lutz Eckstein
fka GmbH

14:45 BIW Sensitivity Analysis By Using ERP and Verification

Junmin Park
Hyundai Motors Europe Technical Center GmbH

15:15 A Simulation Framework for Comparing Different Electric Drive and Structural Arrangements on System-Level Steering Gear Noise

Dr. Andreas Scholz
ZF Friedrichshafen AG

15:45 Coffee Break & Snacks

Multi-Modality - Noise and Vibrations

Session Chair: Prof. Jan-Welm Biermann
fka GmbH

16:15 Vibroacoustic Metamaterials for Noise and Vibration Reduction in the Automotive Industry

Sebastian Rieß
Fraunhofer Institute for Structural Durability
and System Reliability LBF

16:45 Effect of Uncertainty of Biot Parameters on Transmission Loss, Surface Absorption and Cabin Response

Denis Blanchet
dBVibroAcoustics

17:15 A New Tool for Efficiently Designing and Positioning Damping Treatments

Marcelo Donatti Gubert
Autoneum Management AG

19:00 Reception and Welcome

19:30 Banquet

Opening by Prof. Lutz Eckstein
The banquet will take place at the Ratskeller.

Ratskeller, Aachen
Markt 40, 52062 Aachen

**Sound Quality, Trouble-Shooting,
Sound Design II**

Session Chair: Prof. Klaus Genuit
HEAD acoustics GmbH

**08:30 NVH of Electric Motors –
a Study on Potential NVH Metrics**

Dr. Marcos Ricardo Souza
Loughborough University

**09:00 Evaluating the Capability of Acoustic
Characteristic Values for Accessing the
Gearbox Quality**

Marius Willecke
Laboratory for Machine Tools and Production
Engineering (WZL), RWTH Aachen University

**09:30 Auditory Space in the Brain -
a Solvable Problem in Auditory Neuroscience**

Prof. Marc Schönwiesner
University of Leipzig

10:15 Coffee Break & Snacks

**NVH Measurement, System-Analysis,
Measurement Technology II**

Session Chair: Dr. Christoph Steffens
FEV Europe GmbH

**10:45 Moment-Based Transfer Path Analysis –
Capability of Experimental Approaches**

Olaf Uszynski
Institute for Automotive Engineering (ika),
RWTH Aachen University

**11:15 Auralization of Transfer Path Analysis
Predictions in the Time-Domain**

Javier del Fresno Zarza
KU Leuven

**11:45 Full Vehicle Sound Pressure Prediction from
an Electric Powertrain Characterized in an
Engine Dyno Test Cell Using
3D Sound Intensity**

Engin Güven
Hyundai Motor Europe Technical Center

12:15 Lunch

Active Sound Design and Active Components

Session Chair: Dr. Aulis Telle
HEAD acoustics GmbH

**13:45 Efficient Simulative Design, Verification,
and Experimental Validation of an Active Noise
Control Measure for Airborne Sound Radiation**

Maximilian Budnik
Fraunhofer LBF

**14:15 Active Sound Design for High Performance
Electric Vehicles**

Dr. Markus Bodden
neosonic GmbH

**14:45 An Interactive Holistic Approach for Design and
Development of Electric Vehicle Sounds**

Marijn Kooy
Müller-BBM Active Sound Technology GmbH

**15:15 Active Sound Design Methods –
Abilities vs Resources**

Jeroen Lanslots
Siemens Digital Industries Software

15:45 Final Remarks

Prof. Klaus Genuit / Prof. Michael Vorländer

**SAVE THE
DATE 2023
27. - 29.11.
AACHEN
ACOUSTICS
COLLOQUIUM**