PROGRAM
November 23, 2021

AAC 2021
AACHEN ACOUSTICS COLLOQUIUM

Welcome and Opening

08:30 Prof. Michael Vorländer
Institute for Hearing Technology and Acoustics (IHTA), RWTH Aachen University

Prof. Klaus Genuit
HEAD acoustics GmbH

Innovatinon Meets Culture - The Carbon Quintett of Collegium Musicum of RWTH

Active Sound Design and Active Components

Session Chair: Prof. Klaus Genuit
HEAD acoustics GmbH

09:00 Which Sound Type are you? – The Mercedes-Benz Sound Experience

Dr. Thomas Küppers
Rawand Baziany
Mercedes-Benz AG

09:45 Modular Sound Design for Electric Vehicles

Benedikt Streicher
FEV Europe GmbH

10:15 Coffee Break & Snacks

Vehicle Acoustics I

Session Chair: Dr. Norbert Alt
FEV Group GmbH

10:45 Tire Road Noise Analysis through Measurement and Simulation

Guillaume Demazière
Manufacture Française des Pneumatiques Michelin

11:15 The Hearing Sense of Vehicles – Recognition of Sound Patterns in the Vehicle Environment for Enhanced Situation Awareness

Michael Kwade
Institute for Automotive Engineering (ika)
RWTH Aachen University

11:45 Tyre Noise Correction of Indoor Vehicle Pass-By Measurements

Dr. Andreas Schuhmacher
Hottinger Brüel & Kjær A/S

12:15 Lunch

Numerical Simulation

Session Chair: Prof. Michael Vorländer
Institute for Hearing Technology and Acoustics of RWTH Aachen University

13:30 Calculation of Metal Cushion Dampers Based on Manufacturing Processes

Rüdiger Schroth
Hutchinson Stop-Choc Gmbh & Co. KG

14:00 3D Experience of Numerical NVH Results in a Virtual Reality

Dr. Sören Keuchel
Novicos GmbH

14:30 Coffee Break

Drive Train Acoustics (Engine, Gearbox, Drive Shafts)

Session Chair: Dr. Christoph Steffens
FEV Europe GmbH

15:00 Deduction of Vehicle Related Limits and Subsequent Classification of Gearbox Noises using Support Vector Machines to Overcome Limitations of Current Acoustic End-of-Line Testing

Jonas Knappe
Volkswagen AG

15:30 Correlation of Geometric Deviations and Structure-Borne Noise in Highly-Integrated Powertrain Topologies

Jakob Bonart
BMW AG

16:00 Coffee Break & Snacks

NVH Measurement, System-Analysis, Measurement Technology I

Session Chair: Dr. Gottfried Behler
Institute for Hearing Technology and Acoustics of RWTH Aachen University

16:30 Pass-by Noise Prediction with Gradient Boosted Models as a Part of the Acoustical Digitalization of Automotive Product Development Processes

Fabian Knappe
Next Data Service AG

17:00 Improving Accuracy of Sound Source Localization using Machine Learning Methods

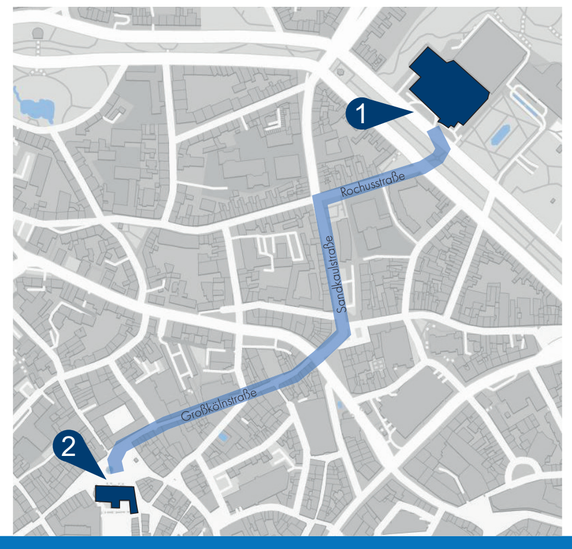
Thiago Henrique Gomes Lobato
HEAD acoustics GmbH

17:30 Characterization of Damping Material with the Power Injection Method (PIM)

Dr. Georg Eichhorn
3M Deutschland GmbH

Banquet

19:30 Reception and welcome at the historical city hall of Aachen



1 Parkhotel Quellenhof
Monheimsallee 52
52062 Aachen

2 City Hall Aachen
Markt
52062 Aachen

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Acoustics of Electric Drives, Fuel Cell Systems and Hybrid Cars

Session Chair: Prof. Lutz Eckstein, fka GmbH

09:00 Perceived Sound Quality Analysis of Electric Drive Units under Different Switching Control Strategies
Dr. Jean Le Besnerais, Eomys Engineering

09:30 Multiobjective and Robust NVH Optimization of Automotive ePowertrain Including Gearbox and eMotor Excitations
Pascal Bouvet, VibraTec

10:00 The Sound of Silence – Sound Design Requirements for Electric Vehicles
Prof. André Fiebig, TU Berlin

10:45 Coffee Break & Snacks

NVH Measurement, System-Analysis, Measurement Technology II

Session Chair: Prof. Roland Sottek, HEAD acoustics GmbH

11:15 Vehicle Road Noise Prediction by Transferring Tire Test-Rig Blocked Forces including Rolling Influence
Simona Anna Ottaiano, Siemens Industry Software NV

11:45 Structural Analysis by Combination of TPA and Modal Analysis
Dr. Matthias Wegerhoff, HEAD acoustics GmbH

12:15 Chassis Isolation Requirements of Electric Vehicles Regarding Combined Load Cases
Ruslan Latfullin, Institute for Automotive Engineering (ika), RWTH Aachen University

12:45 Lunch

Vehicle Acoustics II

Session Chair: Prof. Jan-Welm Biermann, fka GmbH

14:15 NVH Challenges in Electric Vehicle Development
Marius Lauen, FEV Europe GmbH

14:45 The Contribution of Transfer Paths on the Roughness of Combustion Engines and its Perception
Christian Dreier, Institute for Hearing Technology and Acoustics (IHTA), RWTH Aachen University

15:15 Sound intensity-based panel noise contribution analysis for improving the acoustic performance of a vehicle interior
Engin Güven, Hyundai Motor Europe Technical Center

15:45 **Conclusion and Final Remarks**
Prof. Lutz Eckstein, fka GmbH
Dr. Norbert Alt, FEV Group GmbH

16:00 End of Colloquium

SAVE THE DATE 2022

AACHEN ACOUSTICS COLLOQUIUM

21. - 23.11.2022