THE LARGEST OEM REPRESENTATION IN A UNIQUE INTERACTIVE GLOBAL AUTOMOTIVE ACOUSTICS & VIBRATION CONFERENCE

VENUE: Radisson Blu Hotel Manchester Airport

30 September-1 October 2019, Manchester, UK

Testimonials:

“The presence and contribution of this conference makes it unique in the UK”
Clive Sutton, Ricardo UK

“Great networking opportunity and chance to see high quality presentations”
Marco Tarabra, Ferrari S.p.A.

“Overall, a fantastic conference. Well planned out event to network with the industry experts and have the right dialogue on our technical challenges”
Mark Stickler, Ford Motor Company

“I’ve met many of the key players in the industry and understand their issues now so that we can look for solutions that suit their needs”
Phil Bownds, Brüel & Kjaer

“It exceeded all my expectations with respect to networking”
Peter Kosir, Akrapovic

“One of the best events we have ever seen on automotive NVH”
Diego Copiello, Free Field Technologies

“Based on the way that it has been organized and the high level of delegates that were here, including a lot of decision makers, we’ve met all the right people and I developed more leads than from most other exhibitions”
Matt Lucas, HBM Prenscia

“One of the best Forums I have been to with respect to networking opportunities. Very well organised”
Tony Shepperson, Head Acoustics UK, Ltd.

Scientific Committee & Keynote Speakers:

Matthew Aaron Hankinson
Chief Engineer Driven Attributes Engineering
Jaguar Land Rover, UK

Marco Ballatore
Head of Department, Whole Vehicle Physics
Bentley Motors Limited, UK

Alexandre Nunes
Associated Director, Vehicle Attributes
NIO, China

Johan Stenson
Senior Director Driving Dynamics and Noise & Vibration Centre
Volvo Car Group, Sweden

Ernesto Varricchio
NVH Testing Principal Engineer
McLaren Automotive Ltd, UK

Hear about the latest case studies on:
► NVH in chassis, powertrain and body engineering
► Active NVH control & sound quality enhancement
► Design of advanced pedestrian alert systems and minimization of environmental noise pollution

Discover innovative concepts in:
► Psychoacoustics, sound branding and balance between refinement and acoustic character
► Acoustic requirements and sound quality for EVs and HEVs and fully autonomous vehicles
► Full NVH simulation, testing and validation, acoustic integration and attribute balancing

Learn about advanced technologies in:
► Structural dynamics and materials science, solutions with lightweight passive NVH tools
► Aero-acoustics technologies, duct acoustics and combination of acoustic and thermal performance optimization

Join our interactive sessions and discuss with leading experts about:
► Cost efficiency and effective co-operation between OEMs and suppliers
► Passive NVH solutions versus active sound technologies
► Sound branding and marketing aspect of NVH
► NVH opportunities on autonomous, connected & shared vehicles

To Register: T +44 1618 841 208, +44 161 768 0059 | E info@internect.co.uk
https://www.internect.co.uk/content/3/international-forum-automotive-acousticsvibration-nvh-

BOOK & PAY BY MAY 17 & GET 40% OFF THE STANDARD PRICE!
Welcome to the International Forum
Automotive Acoustics & Vibration - NVH 2018

Dear members of the Automotive Acoustics & Vibration - NVH Community,

Following the last 4 successful series of our Automotive Acoustics & Vibration-NVH Forum, with representatives from more than 200 international companies and 20 countries, it is a great pleasure for us at Internect to host the 5th NVH Forum, 30 September - 1 October 2019 in Manchester, UK.

With a unique conference format that effectively combines high quality presentations with smart and innovative networking opportunities, Internect’s NVH Forum is a “must attend” event for all players in the Automotive Acoustics and Vibration market.

Our selective participant field, with decision makers, heads of departments, senior experts from international companies, NVH suppliers, prestigious research institutions and the largest representation of OEMs will bring together the latest acoustics ‘State of the Art’ through a variety of interactive sessions, panel discussions, workshops and industry case studies.

Gain insight into the cutting-edge technologies through our exhibition and variety of presentations on powertrain and chassis NVH refinement, ANC technologies, sound branding, EV-HEV sound development, NVH simulation, CFD & wind tunnel testing, NVH for high performance and sports cars as well as lightweight noise control materials among many other topics. Join our round table discussions, interactive sessions, evening workshops and special evening event to exhaust your networking potential in this 2-day exclusive event for automotive NVH experts.

Don’t miss the opportunity to join the premier Automotive NVH Conference, the event with largest OEM representation, the NVH meeting venue for automotive manufacturers and suppliers!

We look forward to welcoming you in Manchester to make this event another success in the global automotive engineering calendar!

Kind regards

Maria Nikolopoulou
Managing Director
Internect Limited, UK
Sponsors and Exhibition Opportunities:

Are successful marketing strategies and fruitful networking opportunities among your biggest challenges?

Are you looking for an effective means to:

• Raise the profile of your business
• Enhance the perception of your brand
• Interact with a targeted international participant field of your prospective and existing clientele?

With our strategic marketing campaign ahead of the event we contribute to your company's recognition, positioning you as a leading supplier through verbal and online means. At the conference we offer you an excellent platform to display your solutions, services and products, network with your target audience and influence other companies' budgeting.

How?

Please contact us for detailed information:
Tel.: +44 161 841 208, +44 161 768 0059,
Email: info@internect.co.uk

MSC Software develops simulation software technology that enables engineers to validate and optimize their designs using virtual prototypes. Customers in almost every part of manufacturing use our software to complement, and in some cases even replace the physical prototype “build and test” process that has traditionally been used in product design.

http://www.mscsoftware.com/

Free Field Technologies (FFT), an MSC Software Company, is a leading global company focused on acoustic simulation and engineering services. Actran, FFT’s software suite, leads numerous technology trends of vibro and aero-acoustic modelling. Used by key actors of the Automotive, Aerospace, Home Appliance and Heavy Equipment industries, Actran helps engineers reduce noise and improve the sound quality of their products. Actran is chosen for both its powerful general purpose simulation features and its unique capabilities to address specific industrial needs.

www.fft.be

BETA CAE Systems transformed Simulation and Analysis world by introducing revolutionary automation software tools and practices into CAE for the Automotive Industry, almost 30 years ago. Committed to our mission to enable engineers to deliver results of high value, we continue to offer state-of-the-art, high-performance software and best-in-class services. Our Simulation Solutions liberate innovation of low risk and high Return-On-Investment.

http://www.beta-cae.com

Brüel & Kjær has led the Sound & Vibration field for over 75 years, and that is not about to change. Brüel & Kjær’s Automotive division helps customers solve NVH challenges by developing advanced technology for measuring and managing sound and vibration. The solutions and technology we provide shorten development time, ensure component quality and optimize vehicle performance. We offer advanced NVH solutions like the NVH Simulator and DISCOM NVH Analysis systems.

http://www.bksv.com

ESI Group is a leading innovator in Virtual Prototyping software and services. Specialist in material physics, ESI has developed a unique proficiency in helping industrial manufacturers replace physical prototypes by virtual prototypes, allowing them to virtually manufacture, assemble, test and pre-certify their future products. Coupled with the latest technologies, Virtual Prototyping is now anchored in the wider concept of the Product Performance Lifecycle™, which addresses the operational performance of a product during its entire lifecycle, from launch to disposal. The creation of a Hybrid Twin™, leveraging simulation, physics and data analytics, enables manufacturers to deliver smarter and connected products, to predict product performance and to anticipate maintenance needs.

http://www.esi-group.com/
FEATURED EXPERTS:
Further speakers to be confirmed

Matthew Aaron Hankinson
Chief Engineer Driven Attributes Engineering
Jaguar Land Rover, UK

Marco Ballatore
Head of Department, Whole Vehicle Physics
Bentley Motors Limited, UK

Alexandre Nunes
Associated Director, Vehicle Attributes
NIO, China

Johan Stenson
Senior Director Driving Dynamics and Noise & Vibration Centre
Volvo Car Group, Sweden

Ernesto Varricchio
NVH Testing Principal Engineer
McLaren Automotive Ltd, UK

Christopher Mills
NVH Manager
Hyundai Motor Europe Technical Center GmbH, Germany

Masashi Miyazawa
Assistant Chief Engineer
Honda R&D Co., Ltd., Japan

Nick Machiels
NVH Engineer
Volvo Car Group, Sweden

Axel Jalibert
Powertrain and Driveline NVH Engineer
Bentley Motors Limited, UK

Steven P. Homco
Supervisor, PT NVH
Ford Motor Co.

Baran Gümüş
Vehicle NVH CAE Engineer
Ford OTOSAN, Turkey
Further presentations to be confirmed

Forum Day One / Monday, 30 September 2019

Welcome & opening speech by the organiser
Maria Nikolopoulou
Managing Director
Internect Limited, UK

Keynote speech
[Morning session chaired by Marco Ballatore]
Marco Ballatore
Head of Department, Whole Vehicle Physics
Bentley Motors Limited, UK

Approaches to be More Efficient, Successful and Influential in Setting NVH Targets and Design Content (has been applied to other attributes with equal success)
Matthew Aaron Hankinson
Chief Engineer Driven Attributes Engineering
Jaguar Land Rover, UK
- Introduction of electrification and what it brings to the industry
- Understanding the challenge
- An era of collaboration and sharing
- Rationale, tools and methodologies

BETA CAE Presentation
Interactive session: Internect at speed
Introduce yourself to the other participants with this series of brief one to one meetings.
Get to know the other delegates and “break the ice”.

Climate NVH - Design and Attribute Balancing
Nick Machiels
NVH engineer
Volvo Cars Group, Sweden
- Engine sound enhancement for series production
- Feedback from a first experience
- Sound quality requirements
- ESE development technical issues

Brüel & Kjaer presentation
Active & Adaptive Exhaust Systems
Speaker to be confirmed
- Is loudness the only measure of performance?
- Alternative approaches to the development of desirable sound characteristics
- Solutions to implementation challenges: mechatronics & adaptive systems
- Enhancement & replacement of motor sound with other sources

NVH CAE Development Process of the New Ford Truck; F-Max
Baran Gumus, Vehicle NVH CAE Engineer
Ford Otosan, Turkey
- Target setting & benchmark
- Modelling
- Body & chassis NVH analyses
- Vehicle NVH simulations
- Multidisciplinary optimization

Vehicle Attributes: What changes are on Autonomous Driving
Alexandre Nunes
Director, Vehicle Attributes, NIO, China
- NVH role on meeting user expectations
- LS electric vehicles and the NVH experience
- Base EV Architecture and NVH challenges
- LS Specific Attributes development
- Motion Control, Comfort and NVH
- Vibration and sensing integration

Full NVH Simulation, Testing & Validation
Speaker to be confirmed
- Advanced CAE-based methodologies for acoustics and vibration comfort
- Full vehicle NVH simulation from early concept design stage
- CAE for reduction of project time
- Hardware-in-the-loop and person-in-the-loop experiences
- Cross-attributes balancing and NVH enablers
- New testing tools
- Delivery process

Interactive Session - Panel discussion:
Delivering a Brand; How do we Define Success in NVH - Innovation and Core Brand Values
Chaired by our Scientific Committee

Innovative and Cost-Efficient Structures and Materials
Speaker to be confirmed
- E-driveline development
- NVH trends and challenges
- Interior and exterior EV acoustic and vibration challenges: alternative approaches
- HEVs: smart managing NVH in the transitions between EV mode and ICE mode

Closing remarks by the organisers and surprise lottery
Maria Nikolopoulou
Managing Director
Internect Limited, UK

Evening Workshops: Led by the Workshop leader, the aim of this session is to offer you the chance to interact with your peers, raise questions, share views and opinions in a targeted participant field.

Workshop A: NVH in Downsized Turbo-Charged Engines
Matthew Aaron Hankinson
Chief Engineer Driven Attributes Engineering
Jaguar Land Rover, UK

Workshop B: Passive NVH Solutions versus Active Sound Technologies
Speaker to be confirmed

08:00 Dinner and Evening Event
Enjoy our evening get-together with your colleagues in a relaxed atmosphere with live music entertainment, dinner and drinks.
**Forum Day Two/ Tuesday, 01 October 2019**

*Further presentations to be confirmed*

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00</td>
<td>Registration with Coffee &amp; Tea</td>
</tr>
</tbody>
</table>

**Keynote speech**

[Morning session chaired by Aaron Hankinson]

- **Aaron Hankinson**, Chief Engineer Driven Attribute Engineering
  Jaguar Land Rover, UK

- **Axel Jalibert**, Powertrain and Driveline NVH Engineer
  Bentley Motors Limited, UK
  - Airborne and structure-borne road contributions
  - Wind noise contribution
  - Comparison and evaluation of TPA methods
  - Best practice
  - Subjective influence of individual contributions

**Comparison of Alternative Road and Wind Noise TPA Methods in a Modern Premium Class Vehicle**

- **Christopher Mills**, NVH Manager
  Hyundai Motor Europe Technical Center GmbH, Germany
  - Introduction to the regulation ECE-R 51.03
  - Practicalities of testing Pass-By noise
  - Benefits of Indoor Pass-By noise testing
  - Design at the early development stage
  - Importance of Noise source contribution

**Design of Advanced Pedestrian Alert Systems**

- Speaker to be confirmed
  - Vehicle sounds and the requirements of visually impaired pedestrians
  - Minimising environmental noise pollution
  - Intelligent alert systems and alternative solutions

**Efficient Exhaust Orifice Noise Development**

- **Steven P. Homco**, Supervisor, PT NVH
  Ford Motor Co.
  - Introduction
  - Current state of exhaust NVH development
  - More efficient exhaust NVH development process with enablers
  - Case study / example(s)
  - Conclusions and summary

**Acoustic requirements for EVs and HEVs**

- Speaker to be confirmed
  - E-driveline development
  - NVH trends and challenges
  - Interior and exterior EV acoustics and vibration challenges: alternative approaches
  - HEVs: Smart managing NVH in the transitions between EV mode and ICE mode

**Voting for the Best Automotive NVH Supplier Award & Award Ceremony**

**Voting for the Best Speaker Award & Award Ceremony**

**Closing remarks by the organiser**

- **Maria Nikolopoulou**, Managing Director
  Internect Limited, UK

**Workshop C:**

- **Noel Oliver**, Director of Road & Powertrain
  Jaguar Land Rover, UK
  - Introduction to CAAF
  - New tools for CAAF

**Workshop D:**

- **Johan Stenson**, Senior Director Driving Dynamics and Noise & Vibration Centre,
  Volvo Car Group, Sweden
  - Noise Optimisation for Electric & Hybrid Vehicles
  - Full Vehicle NVH Simulation & Testing

**Extra Sessions**

- **Dr. Mohsen Rostami**, NVH Engineer
  McLaren Automotive Ltd., UK
  - NVH in modern high performance vehicles

- **Leonard Deslbons**, Senior NVH Engineer
  McLaren Automotive Ltd., UK
  - NVH in autonomous vehicles

**Refreshment & Networking Break - Exhibition**

**Networking Lunch - Exhibition**

**Join us on Facebook**

https://www.facebook.com/Group/6824283

Visit our website for more information:

https://www.internect.co.uk/content/3/international-forum-automotive-acousticsvibration-nvh-2019/-
## Delegate participation packages

<table>
<thead>
<tr>
<th>Conference Packages</th>
<th>Early-Early Bird Discount Price until 17th May</th>
<th>Early Bird Discount Price until 31st of August</th>
<th>Standard Price from 1st of September (upon availability)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Premium Package</strong> (2-day conference + 2 workshops)</td>
<td>£915 + VAT</td>
<td>£1,025 + VAT</td>
<td>£1,280 + VAT</td>
</tr>
<tr>
<td><strong>Upgraded Package</strong> (2-day conference + 1 workshop)</td>
<td>£870 + VAT</td>
<td>£980 + VAT</td>
<td>£1,220 + VAT</td>
</tr>
<tr>
<td><strong>Basic Package</strong> (2-day conference)</td>
<td>£760 + VAT</td>
<td>£870 + VAT</td>
<td>£1,070 + VAT</td>
</tr>
</tbody>
</table>

**Evening Networking Event & Dinner on the 30/09/2019 (Price £100 + VAT) ☐ Yes ☐ No**

(Evening networking event & formal dinner including drinks and music entertainment on the 30th of September)

Please choose evening workshop(s) on the 30th of September and/or the 1st of October 2019:

- ☐ Workshop A: NVH in Downsize Turbo-Charged Engines
- ☐ Workshop B: Passive NVH Solutions versus Active Sound Technologies
- ☐ Workshop C: Noise Optimisation for Electric & Hybrid Vehicles
- ☐ Workshop D: Full Vehicle NVH Simulation & Testing

**NOTE:** Workshops A and B on the 30th September as well as C and D on the 1st of October run simultaneously

## Delegate Details:

- Title: ☐ Mr ☐ Mrs ☐ Dr ☐ Prof
- First Name: __________________________ Last Name: __________________________
- Job Title: __________________________ Department: __________________________
- Email: __________________________ Telephone: __________________________

Payment must accompany this registration form. Registration will be confirmed only on receipt of full payment.

## Payment Details

- Billing Address: __________________________
- Contact Person (Fill out only if contact person is different from delegate):
  - First Name: __________________________ Last Name: __________________________
  - Email: __________________________ Telephone: __________________________
- Organisation: __________________________
- Address: __________________________
- Postcode/Town: __________________________ Country: __________________________
- Approving Manager: __________________________
- Signature: __________________________

I agree to Internect Limited payment terms.

## Payment Methods

☐ PAY BY BANK TRANSFER QUOTING REFERENCE NVH FORUM

Payment details will be sent with invoice.

☐ PAY BY CREDIT CARD: ☐ VISA ☐ Mastercard ☐ American Express ☐ Diners ☐ JCB

For payment by credit card please call us at: +44 161 841 208, +44 161 768 0059

*The ban on credit card fees within the EU applies to consumers and not to companies. Please note that we only accept company credit/debit card payments.

## Ways to Register

- Online: https://www.internect.co.uk/step1.asp?id=3
- Email: Please send completed scanned booking form to info@internect.co.uk or fax it to +44 1618841287
- Phone: +44 161 841 208, +44 161 768 0059

## Enquiries

For event enquiries please call +44 161841208, +44 161 768 0059 or email info@internect.co.uk

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**Conference Location & Accommodation:***

Radisson Blu Hotel
Manchester Airport Chicago Avenue, Manchester Airport M90 3RA, United Kingdom

Conference delegates may take advantage of a limited number of rooms at a reduced rate at the conference hotel by booking until the 16th of August 2019.

Please go to our website at: https://www.internect.co.uk/content/3/international-forum-automotive-acousticsvibration-nvh-2019-?ref=500automotive-acousticsvibration-nvh-2018-?ref=500

for more information on how to claim your discount.

**PAYMENT & CANCELLATION POLICY**

Attendance at the event will only be confirmed with payment received in full and may be subject to cancellation by Internect. Payment by bank transfer must be received within 5 working days from the date of registration. The registration fee does not include travel and accommodation costs. You are welcome to substitute delegates at any time by providing advance notice to Internect. In the event that Internect cancels or postpones an event for any reason, a credit to the value paid will be issued which may be used for a rescheduled date for the conference, if applicable, or another Internect conference for up to 2 years from its date of issue. Except as specified above, no credits or refunds will be issued for cancellations, postponements or alterations. It may be beyond the control of Internect or as may be deemed necessary by Internect management, to be in the best interest of the conference generally, to alter the programme without notice including the substitution, alteration or cancellation of speakers, topics or the alteration of the dates and venue of the event. Internect reserves the right to make such alterations and cancellations. Such alterations will be updated on our website. Internect shall assume no liability whatsoever in the event this conference is cancelled, rescheduled, postponed or altered.

**LIMITATION OF LIABILITY**

Internect Limited does not assume liability for any injuries or losses or any nature incurred by participants to the event, nor for loss of equipment or personal belongings.

**PERSONAL DATA**

Internect gathers your personal data in accordance with the General Data Protection Regulation (GDPR) and the Data Protection Act 2018.