CTTM and SIA are joining together once again to organize the 8th edition of the AUTOMOTIVE NVH COMFORT | LE MANS 2014 symposium on October the 22nd and the 23rd 2014 in Le Mans (France).

What is new this year?
The event will take place at the Palais des Congrès in Le Mans and we will benefit from new partners support: Société Française d’Acoustique, China Automotive Engineering Research Institute and Beijing Motor. Thanks to their contribution, a special session will be dedicated to the state-of-the-art of NVH in China with speeches from Chinese academic researchers, local automotive OEM and international companies which have R&D centers in China.

Like previous editions, this congress will address a large scope of NVH topics and the lastest developments in the automotive industry by the leading experts from OEMs, suppliers, engineering companies and research institutes such as PSA Peugeot Citroën, Daimler, Renault, Valeo, Faurecia, Müller BBM, HEAD Acoustics, TÜ Munchen, INSA de Lyon… who will present their recent progress.

We particularly look forward to listening to the two major keynote speakers of the congress: Dr Peiffer (Airbus Group) who will present the new composite materials applied to the aeronautic industry, and Dr Liraut (Renault) who will present the technical features of the prototype “Vehicle 2 litres / 100 km” which will be displayed at the Paris Motor Show just before our congress.

We are counting on you all to make Automotive NVH Comfort / Le Mans 2014 a big success
Charles Zhang, General Chair

Pascal BOUVET | Vibratec
Arnaud COURJAL | LMS, A Siemens Business
Nicolas DAUCHEZ | UTC
Arnaud DUVAL | Faurecia
Léon GAVRIC | PSA Peugeot Citroën
Jean GRATADOUR | SIA
Daniel JUVE | Ecole Centrale de Lyon
Saïd NAJI | Valeo
Charles PEZERAT | SFA
Hervé PICHON | CTTM
Laurent POLAC | Renault
Kresimir TRDAK | Autoneum
Charles ZHANG | Renault

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lcaytan@cttm-lemans.com
KEYNOTE SPEECHES

IMPACT OF COMPOSITE MATERIAL ON INTERIOR ACOUSTICS OF AIRCRAFTS
Alexander PEIFFER
Head of Department Noise and Vibration Control - Airbus Group

NVH ARCHITECTURES FOR THE NEW CUSTOMER REQUIREMENTS IN CHINA
Toshiyuki TABATA
Beijing Motor

COMPOSITE MATERIALS: A FUTURE FOR AUTOMOTIVE INDUSTRIES? THE RENAULT POINT OF VIEW
Gérard LIRAUT
Expert Leader for Polymers - Renault

IMPROVEMENT OF CAE PREDICTION QUALITY OF NVH FULL VEHICLE MODELS BY APPLYING HYBRID METHODS
Jürgen KOHLER
Senior Manager NVH CAR and vehicle concepts, Mercedes-Benz Cars Development
# Programme

**October 22nd**

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<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker(s)</th>
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<tr>
<td>08:30</td>
<td>- Attendees registration</td>
<td>- Breakfast in the exhibition -</td>
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<tr>
<td>09:00</td>
<td><strong>Keynote Speeches</strong></td>
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<tr>
<td>09:00</td>
<td>Impact of Composite Material on Interior Acoustics of Aircrafts</td>
<td>A. Peiffer, Head of Department Noise and Vibration Control</td>
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<tr>
<td>09:30</td>
<td>Composite Materials: a Future for Automotive Industries? The Renault Point of View</td>
<td>G. Liraut, Expert Leader for Polymers</td>
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<tr>
<td>09:30</td>
<td></td>
<td>P. Mordillat, Expert NVH Simulation</td>
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<tr>
<td>10:00</td>
<td>- Coffee break in the exhibition -</td>
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<tr>
<td>10:30</td>
<td><strong>China Market - Special Session</strong></td>
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<tr>
<td>10:30</td>
<td>Keynote speech: NVH Architectures for the New Customer Requirements in China</td>
<td>T. Tabata</td>
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<tr>
<td>11:25</td>
<td>Reducing Turbocharger Whosh Noise for a Gasoline Engine MPV</td>
<td>P. Li</td>
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<tr>
<td>11:50</td>
<td>3M Acoustic Solution in China</td>
<td>T. Tang</td>
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<tr>
<td>12:15</td>
<td>Analysis and Active Control of Low-Frequency Booming Noise in Car</td>
<td>Y. Cao, Z. Deng</td>
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<tr>
<td>12:40</td>
<td>- Lunch break in the exhibition -</td>
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<td>14:00</td>
<td><strong>Simulation</strong></td>
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<tr>
<td>14:00</td>
<td>Keynote speech: Improvement of CAE Prediction Quality of NVH Full Vehicle Models by Applying Hybrid Methods</td>
<td>J. Kohler, J-S Moeller</td>
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<tr>
<td>14:25</td>
<td>Road noise radiation inside and outside a vehicle</td>
<td>P. Gilotte, B. Surowiec</td>
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<tr>
<td>14:50</td>
<td>Vibroacoustics FE Simulations of Automotive Insulators: Automatic Meshing Tool for Fast Modeling</td>
<td>J. Monet Descombes, J-F. Rondeau</td>
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<tr>
<td>15:15</td>
<td>Modeling composite materials using the Transfer Matrix Method</td>
<td>L. Jaouen, F. Chevillotte, F-X. Becot</td>
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<tr>
<td>15:40</td>
<td>Pressure Loss Acoustic Models of Automotive Exhaust Silencers: Prediction of Mean Mass Flow Impact on Silencer Acoustic Behavior</td>
<td>M. Boudoy, H-J. Kim</td>
</tr>
<tr>
<td>16:05</td>
<td>Truck Acoustics: Simulation Method for Airborne Noise Propagation in Low Frequency Range</td>
<td>O. Danilov, J. Lagneaux, N. Blairom, F. Andre</td>
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<tr>
<td>16:30</td>
<td>- Coffee break in the exhibition -</td>
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# OCTOBER 23RD

## AEROACoustics

### 17:00
- **Numerical Prediction and Optimization of the Tonal Noise Radiated by an Automotive Alternator using a Lattice Boltzmann Method**
  - V. Le Goff, V. Vidal | EXA corporation, France
  - M. Fakes, E. Le Goff | Valeo, France

### 17:25
- **Direct Aeroacoustic Computation of Exhaust Mufflers Flow Noise**
  - J.-L. Adam, F. Morin | Renault, France

### 17:50
- **Prediction of Wind Noise using a Multi-disciplinary CFD and Vibro-Acoustic Approach**
  - R. Hallez, K. Vansant | LMS, Belgium

### 18:15
- **Automotive HVAC Unit Noise Prediction**
  - S. Bennouna, O. Cheriaux | Valeo, France
  - S. Moreau, J.-M. Ville | UTC, France

## Experimental Methodologies (1)

### 17:00
- A method to estimate automotive powertrain inertia properties using operational vibrations
  - F. Barillon, L. Polac, C. Thévenard | Renault, France

### 17:25
- Operational Transfer Path Analysis of Air-borne and Structure-borne Contributions to the Vehicle Noise
  - J. Putner, H. Fastl | TU München, Germany
  - D. Arsic, M. Lohmann | Müller-BBM, Germany

### 17:50
- Estimating Contributions of Vehicle Pass-by Noise Sources
  - A. Schuhmacher | B&K, Germany

## Materials & Squeak and Rattle Analysis

### 08:30
- **Welcome breakfast**

### 09:00
- **Comparison of Constrained Layer Damping on Steel and Aluminium using a Particle Velocity Probe**
  - J. Fisk, D. Owen | Shiloh Industries, USA

### 09:25
- **NVH Polyurethane Foams: Continuous Emissions Improvements, Weight Reduction and Productivity Optimization keeping Comfort/Acoustic Performances**
  - S. Grassini, V. Thiede, E. Quintanilla, A. Birch | Dow Europe, Switzerland and Germany

### 09:50
- **Implementation of Squeak and Rattle Analysis in Standard Simulation Process**
  - I. Benhayoun, L. Fredriksson | Altair, Sweden

### 10:15
- **Refreshment break in the exhibition**

## Powertrain [1]

### 11:10
- **Reduction of Three-cylinder Engine Vehicle Vibrations by Use of Switchable Mounts**
  - A. Kreis, S. Boudart | PSA Peugeot Citroën, France
  - A. Bellamy | Hutchinson, France

### 11:35
- **Vibrations Instabilities in Clutch System**
  - H. Mahé, Y. Aktir | Valeo, France

### 12:00
- **Modeling of Gearbox Whining Noise and Comparison with Measurements**
  - A. Carbonelli, P. Bouvet, J. Perret-Liaudet, E. Rigaud | Vibratec, France

### 12:25
- **Lunch break in the exhibition**

## Brake Noise Prediction

### 11:10
- **Excellent Brake NVH Comfort by Simulation – Creating a Stability Map using Advanced Methods**
  - R. Helfrich, M. Klein | INTES, Germany
  - S. Carvajal, D. Wallner | Porsche, Germany

### 11:35
- **Automotive Friction-induced Noises: from Phenomenological Models to finite Element Models**
  - J-M. Duffal, A. Elmaian | Renault, France

### 12:00
- **Brake Noise Simulation using Multibody Analysis**
  - B. Leblanc, L. Fredriksson | Altair, Germany and Sweden

## Powertrain [2]

### 13:30
- **A New Method for analysing the Power Train Internal Forces with regard to the Vibrations and Radiated Forces**
  - J. Gratadour, C. Rougier, L. Gavric | PSA Peugeot Citroën, France

### 13:55
- **Numerical Vibration Study of a Complex Kinematics High Efficiency Engine**
  - F. Desarnaud | IFP Energies Nouvelles, France

## Electrical Machine

### 13:30
- **Noise Reduction of E-machines Based on Multi-physics Modeling: Principle and Industrial Application Cases**
  - J.-L. Wojtowicki, J-B. Dupont | Vibratec, France
  - S. Desenclos | Valeo, France

### 13:55
- **Numerical Methodologies to address Electromagnetic Noise at each Phase of Development of Electric Machines**
  - D. Fritz, H. Mechehch | Renault, France

### 14:20
- **Improvement of Engine NVH for the New Pass-by Noise Regulation**
  - S. Wang, G. Nghiem | Renault, France

### 14:45
- **Source Separation in Diesel Engines using Wiener Filtering: Physical Interpretations**
  - Q. Leclerc, C. Sandier | INSA de Lyon, France
  - O. Sauvage | PSA Peugeot Citroën, France

## Materials & Squeak and Rattle Analysis

### 09:25
- **Double Spherical Array for Vehicle Interior Acoustic Optimization**
  - S. Paillas, L. Lamotte, O. Minck | Microbon, France

### 09:50
- **Method for Analyzing Transient Noise Based on Instantaneous Intensity Measurements**
  - F. Fohr, E. Portier | CTM, France

### 10:15
- **A Point on FUI Project TESSA: Structure-borne Noise Sources Characterization and Modelling**
  - S. Puvilland, J-L. Wojtowicki | CEVAA, France

### 15:10
- **Validation of a Wind Noise Source Characterization Method for Vehicle Interior Noise Prediction**
  - D. Blanchet, A. Golota | ESI, Germany

### 15:35
- **End of conference**
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• Where it is not possible to send the payment together with the form, each registration should be accompanied by an official purchase order. Failing reception of an official purchase order or payment on the day of the congress, we regret that you will not be allowed entry to the congress.
• When we have received the registration form, we will send you a confirmation message and an invoice. Please indicate the accounts department address where necessary.
• In case of cancellation before September 22* 2014, 30% of the registration fees will be retained by the organisers. After this date, the entire registration fee will be retained.

Registered participants not able to attend may nominate a substitute. Written notice must be provided.
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• 54 minutes by train, from Montparnasse station
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