

8<sup>TH</sup> SYMPOSIUM



# AUTOMOTIVE NVH COMFORT LE MANS 2014



October 22 & 23, 2014 | Le Mans, France  
Palais des Congrès et de la Culture

# PROGRAMME

**SIEMENS**



Major Sponsors:



Partners:



北京汽车

# WELCOME



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

CTTM and SIA are joining together once again to organize the 8<sup>th</sup> edition of the **AUTOMOTIVE NVH COMFORT | LE MANS 2014** symposium on October the 22<sup>nd</sup> and the 23<sup>rd</sup> 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 latest 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.

# COMMITTEE

**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



# 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 22<sup>ND</sup>

08:30	- attendees registration   breakfast in the exhibition -	
	<b>KEYNOTE SPEECHES</b>	
09:00	<b>Impact of Composite Material on Interior Acoustics of Aircrafts</b> A. Peiffer, Head of Department Noise and Vibration Control   Airbus Group, Germany	
09:30	<b>Composite Materials: a Future for Automotive Industries? The Renault Point of View</b> G. Liraut, Expert Leader for Polymers   Renault, France P. Mordillat, Expert NVH Simulation   Renault, France	
10:00	- coffee break in the exhibition -	
	<b>CHINA MARKET - SPECIAL SESSION</b>	
10:30	<b>Keynote speech: NVH Architectures for the New Customer Requirements in China</b> T. Tabata   Beijing Motor, China	
11:25	<b>Reducing Turbocharger Whoosh Noise for a Gasoline Engine MPV</b> P. Li   China Automotive Engineering Research Institute, China	
11:50	<b>3M Acoustic Solution in China</b> T. Tang   3M, China	
12:15	<b>Analysis and Active Control of Low-Frequency Booming Noise in Car</b> Y. Cao, Z. Deng   China Automotive Engineering Research Institute, China	
12:40	- lunch break in the exhibition -	
	<b>SIMULATION</b>	<b>PERCEPTION</b>
14:00	<b>Keynote speech Improvement of CAE Prediction Quality of NVH Full Vehicle Models by Applying Hybrid Methods</b> J. Kohler, J-S Moeller   Daimler, Germany	<b>Psychoacoustic Evaluation of Vehicle Sounds</b> R. Sottek   HEAD Acoustics, Germany
14:25	<b>Road noise radiation inside and outside a vehicle</b> P. Gilotte, B. Surowiec   Plastic Omnium, France	<b>Renault's R-Sound Effect: an App for Changing Engine Sound</b> T. Schmitt, N. Le-Hir, J-P. Léandre, G. Guyader   Renault, France
14:50	<b>Vibroacoustics FE Simulations of Automotive Insulators: Automatic Meshing Tool for Fast Modeling</b> J. Monet Descombey, J-F. Rondeau   Faurecia, France	<b>Objectification of the Quality Impression of a Heavy Duty Vehicle, Related to the Noise Generated by the Engagement of New Air Compressor Concepts. Towards Validation Criteria for Compressor Suppliers</b> B. Mazeaud, A. Sicre, R. Poncet   Volvo, France
15:15	<b>Modeling composite materials using the Transfer Matrix Method</b> L. Jaouen, F. Chevillotte, F-X. Becot   Matelys, France	<b>Transient Combustion Noise of Diesel Engines</b> B. Lafon   PSA Peugeot Citroën, France
15:40	<b>Pressure Loss Acoustic Models of Automotive Exhaust Silencers: Prediction of Mean Mass Flow Impact on Silencer Acoustic Behavior</b> M. Boudoy, H-J. Kim   Faurecia, France	<b>Steering Wheel Vibration and Human Perception</b> C. Dendievel, T. Matharan, S. Naji   Valeo, France T. Buttin   UTC, France
16:05	<b>Truck Acoustics: Simulation Method for Airborne Noise Propagation in Low Frequency Range</b> O. Danilov, J. Lagneaux, N. Blairon, F. Andre   Volvo, France	<b>Auralization of Ambient Noise in Vehicles</b> D. Arsic, P. Grams   Müller-BBM, Germany
16:30	- coffee break in the exhibition -	



AEROACOUSTICS		EXPERIMENTAL METHODOLOGIES [1]	
17:00	<b>Numerical Prediction and Optimization of the Tonal Noise Radiated by an Automotive Alternator using a Lattice Boltzmann Method</b> V. Le Goff, V. Vidal   EXA corporation, France M. Fakes, E. Le Goff   Valeo, France	<b>A method to estimate automotive powertrain inertia properties using operational vibrations</b> F. Barillon, L. Polac, C. Thévenard   Renault, France	
17:25	<b>Direct Aeroacoustic Computation of Exhaust Mufflers Flow Noise</b> J-L. Adam, F. Morin   Renault, France	<b>Operational Transfer Path Analysis of Air-borne and Structure-borne Contributions to the Vehicle Noise</b> J. Putner, H. Fastl   TÜ München, Germany D. Arsic, M. Lohmann   Müller-BBM, Germany	
17:50	<b>Prediction of Wind Noise using a Multi-disciplinary CFD and Vibro-Acoustic Approach</b> R. Hallez, K. Vansant   LMS, Belgium	<b>Estimating Contributions of Vehicle Pass-by Noise Sources</b> A. Schuhmacher   B&K, Germany	
18:15	<b>Automotive HVAC Unit Noise Prediction</b> S. Bennouna, O. Cheriaux   Valeo, France S. Moreau, J-M. Ville   UTC, France	<b>PSA Diagnosis System for NVH Customer Complaints</b> C. Peronnet, G. Catusseau, L. Gavric   PSA Peugeot Citroën, France	
18:40	- exhibition visit   shuttle from conference venue to gala dinner venue -		
19:30	- gala dinner -		



# OCTOBER 23<sup>RD</sup>

08:30	- welcome breakfast -		
MATERIALS & SQUEAK AND RATTLE ANALYSIS		EXPERIMENTAL METHODOLOGIES [2]	
09:00	<b>Comparison of Constrained Layer Damping on Steel and Aluminium using a Particle Velocity Probe</b> J. Fisk, D. Owen   Shiloh Industries, USA	<b>Double Spherical Array for Vehicle Interior Acoustic Optimization</b> S. Paillasseur, L. Lamotte, O. Minck   Microdb, France	
09:25	<b>NVH Polyurethane Foams: Continuous Emissions Improvements, Weight Reduction and Productivity Optimization keeping Comfort/Acoustic Performances</b> S. Grassini, V. Thiede, E. Quintanilla, A. Birch   Dow Europe, Switzerland and Germany	<b>Method for Analyzing Transient Noise Based on Instantaneous Intensity Measurements</b> F. Fohr, E. Portier   CTTM, France	
09:50	<b>Implementation of Squeak and Rattle Analysis in Standard Simulation Process</b> I. Benhayoun, L. Fredriksson   Altair, Sweden	<b>A Point on FUI Project TESSA: Structure-borne Noise Sources Characterization and Modelling</b> S. Puvilland, J-L. Wojtowicki   CEVAA, France	
10:15	- refreshment break in the exhibition -		
POWERTRAIN [1]		BRAKE NOISE PREDICTION	
11:10	<b>Reduction of Three-cylinder Engine Vehicle Vibrations by Use of Switchable Mounts</b> A. Kreis, S. Boudart   PSA Peugeot Citroën, France A. Bellamy   Hutchinson, France	<b>Excellent Brake NVH Comfort by Simulation – Creating a Stability Map using Advanced Methods</b> R. Helfrich, M. Klein   INTES, Germany S. Carvajal, D. Wallner   Porsche, Germany	
11:35	<b>Vibrations Instabilities in Clutch System</b> H. Mahé, Y. Aktir   Valeo, France	<b>Automotive Friction-induced Noises: from Phenomenological Models to finite Element Models</b> J-M. Duffal, A. Elmaian   Renault, France	
12:00	<b>Modeling of Gearbox Whining Noise and Comparison with Measurements</b> A. Carbonelli, P. Bouvet, J. Perret-Liaudet, E. Rigaud   Vibratec, France	<b>Brake Noise Simulation using Multibody Analysis</b> B. Leblanc, L. Fredriksson   Altair, Germany and Sweden	
12:25	- lunch break in the exhibition -		
POWERTRAIN [2]		ELECTRICAL MACHINE	
13:30	<b>A New Method for analysing the Power Train Internal Forces with Regard to the Vibrations and Radiated Forces</b> J. Gratadour, C. Rougier, L. Gavric   PSA Peugeot Citroën, France	<b>Noise Reduction of E-machines Based on Multi-physics Modeling: Principle and Industrial Application Cases</b> J-L. Wojtowicki, J-B. Dupont   Vibratec, France S. Desenclos   Valeo, France	
13:55	<b>Numerical Vibration Study of a Complex Kinematics High Efficiency Engine</b> F. Desarnaud   IFP Energies Nouvelles, France	<b>Numerical Methodologies to address Electromagnetic Noise at each Phase of Development of Electric Machines</b> G. Fritz, H. Mechmeche   Renault, France	
14:20	<b>Improvement of Engine NVH for the New Pass-by Noise Regulation</b> S.Wang, G. Nghiem   Renault, France		
14:45	<b>Source Separation in Diesel Engines using Wiener Filtering: Physical Interpretations</b> Q. Leclere, C. Sandier   INSA de Lyon, France O. Sauvage   PSA Peugeot Citroën, France		
15:10	<b>Validation of a Wind Noise Source Characterization Method for Vehicle Interior Noise Prediction</b> D. Blanchet, A. Golota   ESI, Germany		
15:35	- end of conference -		



# EXHIBITION & SPONSORING

An exhibition will take place near the conference rooms during the 2 days of the symposium. This exhibition will allow you to inform the participants, to present your news and to create privileged contacts within this unique gathering of target decision-makers. Maximize your visibility by becoming a sponsor! With a corporate sponsorship, you gain unmatched recognition as an industry leader and generate an abundance of goodwill.

Join the companies which have already booked a stand!

MÜLLER-BBM  
VibroAkustik Systeme



SIEMENS



	Bronze	Silver	Gold
<b>RATES (exc. VAT)</b>	2 000 €	2 700 €	3 200 €
Fitted-out booth	6 sqm	9 sqm	12 sqm
Included invitations	1	2	3
Logo on all congress documents		X	X
Ad in the book of conference			X
Banner in the e-mailing campaigns			X
Extra badges		490 €	



# ADVERTISING

Do not miss the opportunity to advertise in the congress documents: a portal to leading decision-makers in the automotive industry.

RATES (exc. VAT)	Back cover	Inside	Inside front cover	Inside back cover
Book of conference (distributed to all attendees)	1 000 €	800 €	-	900 €
Insertion of leaflet in the conference bags			1 000 €	
Cords and badges supply		600 €		
Conference bags supply		600 €		

SPONSORING & EXHIBITION  
CONTACT

Luce CAYTAN - CTTM

Technopole Université - 20 rue Thalès de Milet • 72000 Le Mans - France  
Tel: +33 (0)2 43 39 46 44 • lcaytan@cttm-lemans.com

# REGISTRATION FORM

« Automotive NVH Comfort » symposium | October 22 & 23, 2014 – Le Mans, France



## PLEASE COMPLETE AND RETURN THIS FORM TO:

> **by mail:** CTTM - Luce CAYTAN - Technopole Université – 20 rue Thalès de Milet – 72000 Le Mans – France | Tel : +33 (0)2 43 39 46 44

> **by e-mail:** [lcaytan@ccttm-lemans.com](mailto:lcaytan@ccttm-lemans.com)

### Please use BLOCK CAPITALS

M<sup>rs</sup>  M<sup>s</sup>  M<sup>r</sup>  D<sup>r</sup>  Dipl-Ing

Family Name: \_\_\_\_\_ First Name: \_\_\_\_\_

Company: \_\_\_\_\_ Department: \_\_\_\_\_

Position: \_\_\_\_\_

Address: \_\_\_\_\_

Postcode: \_\_\_\_\_ City: \_\_\_\_\_ Country: \_\_\_\_\_

Tel: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

VAT number: \_\_\_\_\_

### Registration fees

- 1140 € VAT Incl.** (950 € VAT exc) - Non members
- 1008 € VAT Incl.** (840 € VAT exc) - SIA, CTTM, SFA members
- 588 € VAT Incl.** (490 € VAT exc) - Co-authors/Small companies/Labs/Researchers/Univ.\* (<100 employees)
- 144 € VAT Incl.** (120 € VAT exc) - PhD students\*\*
- 48 € VAT Incl.** (40 € VAT exc) - Students\*\*
- 0 € VAT Incl.** (0 € VAT exc) - Main speaker > register online [www.sia.fr](http://www.sia.fr)

\*Small firms, Researchers and laboratories must not come under the control of big firms (> 100 employees)

\*\*Please attached your student card

### Payment (Please precise the invoice address)

- By check in Euros** made payable to: "CTTM"
- By bank transfer in Euros** made payable to: "CTTM" (please enclose a copy)  
BNP Chasse Royale, F-72000 Le Mans  
IBAN: FR76 3000 4016 4800 0210 5878 120 – BIC: BNPAFRPPVLE - VAT number: 41 387 707 102  
**Please, precise your company name**

**Date and signature:** \_\_\_\_\_

**Company stamp:** \_\_\_\_\_

#### REGISTRATION CONDITIONS

- Registration fees include participation in the conference, CD of proceedings, book of abstracts, refreshment breaks, lunches and dinner.
- 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<sup>nd</sup> 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.




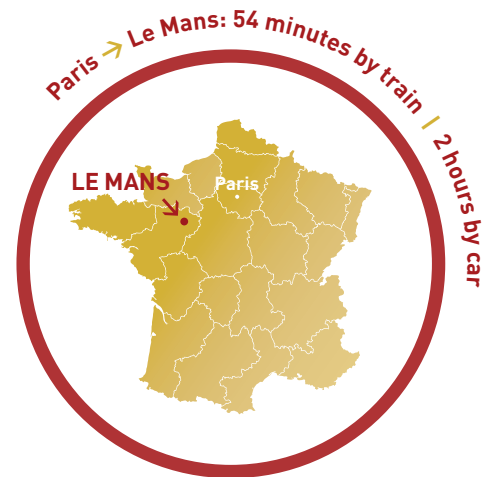
# USEFUL INFORMATION

## 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 TRANSPORT

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

## HOTEL ACCOMMODATION

### IBIS STYLES \*\*\*

+33 (0)2.43.85.49.00

### IBIS LE MANS CENTRE \*\*

+33 (0)2.43.23.18.23

### HOTEL CHANTECLER \*\*\*

+33 (0)2.43.14.40.00

### HOTEL LE CHARLESTON \*\*

+33 (0)2.43.24.87.46



# LE MANS



© Ville du Mans Gilles Moussé

Public partners:

