GENERAL INFORMATION

Your proposal should include:

- The title of your paper **in English**
- Information on its author(s) (title, name, forename, position, company, address, division, telephone and fax numbers, e-mail address together with brief biographical details) **clearly indicating the main author (speaker)**.
- The conference topic addressed by your proposal
- A summary of around 30 lines **in English**

Your proposal should be sent in a digital format (Word or PDF)

Other information:

The time allowed to speaker will be 30 minutes (20 minutes for presentation, 10 minutes for discussion). Complete instructions for paper layout will be sent to selected authors.
Official Language: English or French

Schedule:

- Proposals for papers must be returned **by April 10, 2012**.
- The list of papers will be selected by the programme committee and their authors will be notified accordingly before **May 4, 2012**.
- **By September 24, 2012**, the authors selected must submit a paper on their presentation for inclusion in conference proceedings.

Abstracts should be addressed in a digital format (Word or PDF file) to:

Pauline SENIS – SIA
79 rue Jean-Jacques Rousseau
92158 Suresnes Cedex – France
Tel: +33 (0)1 41 44 93 74
pauline.senis@sia.fr

EXHIBITION

An exhibition will take place near the conference room 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

Contact for the Exhibition

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

CTTM
CENTRE DE TRANSFERT DE TECHNOLOGIE DU MANS

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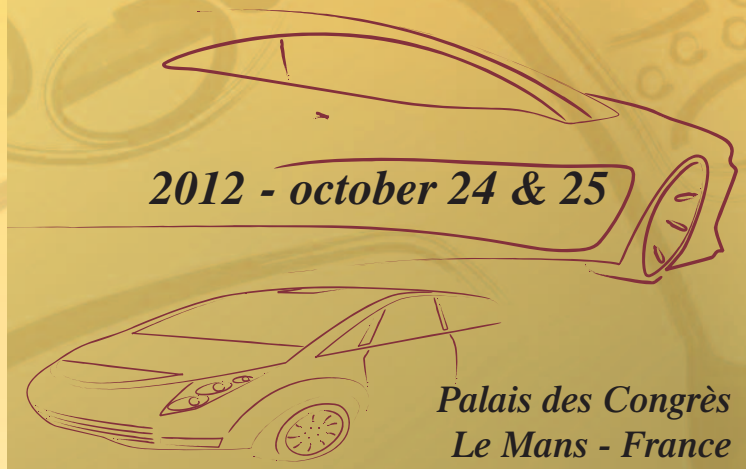
7th Symposium

AUTOMOTIVE AND RAILROAD COMFORT

Acoustics, Vibrations & Thermal issues

2012



2012 - october 24 & 25

Palais des Congrès
Le Mans - France

CALL FOR PAPERS
AND FIRST ANNOUNCEMENT

OVERVIEW AND OBJECTIVES

CTTM and the SIA join together once again to organize the 7th edition of the Automotive and Railway Comfort congress on October 24 and 25, 2012, at the Palais des Congrès – Le Mans – France.

Under environmental pressure, the transports industry still goes through extraordinary changes.

- In the long run, the depletion of fossil energy resources, in addition to the carbon emission issue, is pushing both the authorities and consumers to demand low fuel consumption vehicles. This demand leads the manufacturers to offer new technical solutions (new internal combustion, hybrid and electric engines), which are now massively reaching the market.
- In the mid-term, following worldwide evolution, the markets balance changes. China, along with its particularities, has become the world's largest market, and is likely to remain so for a long time. Other markets, however smaller, also become important. Altogether, this leads the manufacturers to adapt in terms of supply, geographical production location, and design.
- In the short term, as the economical crisis spreads, the market growth slows down, sometimes even turning to decay (Europe). For the industry, it results in strong adaptation constraints, along with financing difficulties.

In this context, this conference is the opportunity to share the recent improvements brought to automotive and railway comfort.

Although progress is still made in these fields, experiment and modelling are now reaching a certain level of maturity, and advances are to be looked for in new technological solutions and the new compromises they make possible.

Within this scope, the following topics are of particular importance:

- Lightweight, which is becoming significant on newer vehicles
- New engines and transmissions (internal combustion, hybrid and electric), in the perspective of reducing consumption in compromise with comfort
- Possibilities and constraints of electronics with regards to :
  - » Vehicles and component command and control, in relation with comfort optimization
  - » Artificial sound
  - » Vehicle-driver interface, in relation with acoustics

ORGANIZATION COMMITTEE

Pascal BOUVET - Vibratec
Jean-Pierre CIOLCZYK - Hutchinson
Nicolas DAUCHEZ - SUPMECA
Arnaud DUVAL - Faurecia
Jean GRATADOUR - PSA Peugeot Citroën
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Hervé PICHON - CTTM
Laurent POLAC - Renault
Dominique ROMY - LMS
Kresimir TRDAK - Rieter
Charles ZHANG - Renault

TOPICS TO BE ADDRESSED

(light vehicles, commercial vehicles, motorcycles, trains)

1 - Customer perception of noise and vibration

- ➤ Evolution of the customer's expectations within different targeted markets
- ➤ Acoustic and vibration synthesis in the perception of comfort
- ➤ Psychoacoustics, vibration perception and objectivation of expectations
- ➤ Type grading of acoustics and trade-offs between service characteristics

2 - Acoustics and vibration in internal combustion engines - ICE powertrains

- ➤ New combustion concepts
- ➤ Reduction in cylinder capacity and number of cylinders
- ➤ Powertrain mounting
- ➤ Stop & Start

3 - Acoustics and vibration of electric and hybrid vehicles

- ➤ Management of drive change
- ➤ Noise and vibration of electrical components
- ➤ New components and new constraints on conventional components
- ➤ New life cycle situations

4 - Noise and vibration of gearboxes

- ➤ AT developments
- ➤ DCT (Double Clutch Transmission)
- ➤ CVT (Continuously Variable Transmission)
- ➤ Advances in coupling
- ➤ Whines, banging of gears (rattle/growl)

5 - Noise and vibration from equipment

- ➤ Braking & steering systems
- ➤ Opening systems
- ➤ Engine environment systems (cooling fans, fuel feed, depollution additives, etc.)
- ➤ Constraints and opportunities associated with controlled systems

6 - Recent advances in NVH of components

- ➤ Powertrain mounting (optimization of filtering elements, active or controlled systems, new powertrain suspensions)
- ➤ Sealing systems
- ➤ Exhaust systems
- ➤ Intake
- ➤ Fuel injection devices
- ➤ Windshield wipers

7 - Rolling noise and vibration

- ➤ Tire – road interaction
- ➤ Acoustic radiation of tires
- ➤ Vehicle body suspension
- ➤ Structure-borne noise transmission through the vehicle body

8 - Flow-induced noise / Aeroacoustics

- ➤ HVAC noise
- ➤ Exterior turbulence noise (side-mirror, wiper, bogie...)
- ➤ Flow-induced vibrations

9 - Acoustic insulation of vehicle body and powertrain

- ➤ Weight reduction and soundproofing strategies
- ➤ Lighter sound package: impact on performance and cost
- ➤ Acoustic sealing (door seals, body cavities)
- ➤ Implementing damping materials
- ➤ Integration of functions

10 - Squeak & rattle noise, perceived quality

- ➤ Body noise (dashboard, seats, trim, etc.)
- ➤ Mechanical noise (clanking, squeaking, etc)
- ➤ Control in manufacturing

11 - Use of controlled systems

- ➤ Controlled powertrain suspension
- ➤ Variable damping
- ➤ Exhaust system
- ➤ Control of acoustics type grading

12 - Vehicle audio system

- ➤ Use of synthetic sound (alerts)
- ➤ Audio equipment

13 - Regulatory and environmental changes

- ➤ Driving conditions per markets
- ➤ Road surfaces
- ➤ Acoustic regulations (outside, inside, tire)
- ➤ Test tracks and standards
- ➤ Impacts on vehicle design

14 - Recent advances in simulation and test methods

- ➤ Sensors, signal processing, indicators
- ➤ Benefits of simulation (tool for understanding, decisional aid)

15 - Quality processes

- ➤ Breakdown of objectives
- ➤ Product/process definition
- ➤ Process capability
- ➤ Manufacturing quality control

Experts in the topics mentioned above who would like to take part in this conference are invited to submit their abstracts by **April 10, 2012** to: **pauline.senis@sia.fr**