Context and Objectives

Mechatronics has been defined as “approach aiming at the synergistic integration of mechanics, electronics, control theory, and computer science within the product design and manufacturing, in order to improve and/or optimize its functionality” (cf NF E 01-010), reliability, compactness and cost. Such a breakdown impacts:

- Development tools,
- Technologies
- And management of development teams.

The conference intends to offer a forum of discussion between many actors coming from different fields:

- The industrial field concerned by product development and manufacturing, including all actors in the supply chain,
- The industrial field of software tool editors, very much impacted by the mechatronics revolution,
- Academic laboratories and Institutes and Education entities.

This 7th edition of EMM will focus on the automotive industry (vehicles and production) but, as usual, best practices in other domains will be presented. The Automotive market is the one which offers great opportunities for mechatronics, and which is going drive it to a high degree of maturity. As for previous editions, the transversal principle of EMM assures a 360° treatment which, beyond car industry, will cover the various areas of ground transportation and mechatronics applications on automotive production systems. From mechatronic CAD to quality control, from sensors to mechatronic systems, from research organizations to purchasing strategies, the selected papers will offer a remarkable European benchmark, in a fast moving world.

Organizing committee

Denis BARBIER - Valeo
Alain BOUSCAYROL - Université L2EP Lille
Christophe COLETTE - Rhône-Alpes Automotive Cluster
Gérard COQUERY - INRETS
Pierre-Richard DAHOO - UVSQ
Laurent DECHESNE - CRITT MECA
Isabelle DUFOUR - Université IMS Bordeaux
Olivier DE GABRIELLI - Thésame
Laurent GERBAUD - Gzelab
Alain GUILLARD - ARTEMA
Franck GUILLEMARD - PSA
Emmanuel DE LAUZON - CETIM
Jochen LANGHEIM - STMicroelectronics

Stéphane LEFEBVRE - Université SATIE/SPEE Labs.
Hervé LENON - SNR
Dominique LHOTELLIER - Renault
Claude MARCHAND - SUPELEC
Daniel MARSON - Dassault Systèmes
Jean-Yves MARTEAU - PSA
Gérard-Marie MARTIN - Valeo
Bélahcène MAZARI - IRSEEM
Rodica MAYET - SPL Mecatronic Seine Amont
André MONTAUD - Thésame
Hervé MOREL - CNRS / GdR SEEDS
Adel RAZEK - CNRS / EPJ AP, LGEP/SPEE Labs
Michel ROZE - Phénix

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June 24, 2009

09:00 Participants registration
09:00 Opening session
09:30 Bernard ACCOYER - President of the French Assemblée Nationale
Jacques LACAMBRE - President of the French Automotive Cluster Mov’eo
Eric MOLEUX - President of the French Cluster Arve-Industries • EMT
Jean TOURNOUX - President of French Mechatronic Industries Association • SKF

Session 1: Winning Strategies and Management For Success Stories

René NANTUA - Arve-Industries Competitive Cluster, Vice President of Thésame

10:15 Keynote
Mechatronics: the viewpoint from a leading automotive supplier
G. DEVAUCHELLE - R&D Manager Valeo, France

10:45 Exhibition and posters area Visit / Refreshment Break

11:15 Mechatronics at Bosch Rexroth, the convergence of worlds
P. LAURIN - Bosch Rexroth, Germany

11:45 Energy saving in car industry and production
R. PARISOT, O. JOUBERT - SKF, France

12:15 Reducing CO2 emissions via a novel and innovative mechatronic exterior rearview mirror solution
M. GÄRTNER - STMicroelectronics, Germany
M. SCHILLER - Flabeg, Germany

12:45 Exhibition and posters area Visit / Lunch

Session 2: Technologies For Mechatronics

Dominique LHOTELLIER - Renault

14:30 Keynote
Innovative applications and controls for active composite material
H. DROBEZ, F. LAURENT - CETIM-CERMAT, France
J-M. FREYBURGER, G. L’HOSTIS, B. DURAND, A. COLLAINE – LPMT, France

15:00 LIN mechatronics applied to HVAC expansion valves
B. DE COCK - On Semiconductor, Belgium

15:30 Transmission chain for series-parallel hybrid vehicle: sizing and simulation using electric actuators
R. SEHAB, B. BARBEDETTE, G. FELD, N. RIZOUG - ESTACA, France

16:00 Small impact drive motors based on amplified piezoelectric actuators
C. BELLY, F. CLAEYSSEN, T. PORCHEZ, R. LE LETTY, C BENOIT - Cedrat Technologies, France

16:30 Exhibition and posters area Visit / Refreshment Break

17:00 On the simulation and control of a gasoline direct injection pump
J. M. BORG, K. TOKUO – Hitachi, Germany

17:30 Design and characterization of a scaled-down magneto-rheological damper for automotive suspensions
H. SLEIMAN, J. LOZADA - CEA – LIST, France
S. CLENET, B. SEMAIL - L2EP, France

18:00 MR-Drive: a new 1-Degree of Freedom magneto-rheological fluid based haptic interface
F. PERIQUET, J. LOZADA, S. ROSELIER, R. POLIZZI, M. ANASTASSOVA, M. HAFEZ - CEA – LIST, France

18:30 Cocktail and networking party

The organisers reserve the right to make changes to the programme.
# Session 3: Tools For Mechatronics Life Cycle Processes And Development

**Keynote**

**08:30**

Vincent LEBUGLE - *Journalist specialised in software tools for industry*

Modeling guidelines and tools comparison for electromechanical system design in automotive applications

*G. REMY, C. MARCHAND, P. LEFRANC – LGEP / SPEE-Labs, CNRS*

**09:00**

Mechatronics role in PLM strategies

*E. MILLER – CIMdata, USA*

**09:30**

A model based design compliant framework for mechatronics systems development

*D. LAROUDIE – Geensys, France*

**10:00**

Involving AUTOSAR rules for mechatronics systems design

*P. GOURIET – PSA Peugeot Citroen, France*

**10:30**

Exhibition and posters area Visit / Refreshment Break

**11:00**

Multiphysics simulation of mechatronic systems with finite elements

*J-L. BLANCHARD – Valeo, France*

**11:30**

Mechatronic modelling of a flexible robot with SAMCEF

*P. ANDRY, M. BRUYNEEL, F. D’AMBROSIO, P. PASQUET – SAMTECH, Belgium*

**12:00**

A knowledge based system for mechatronics extended with ontological level

*R. BEN MOSBAH, S. DOURLENS, N. LEVY, A. RAMANE-CHERIF, A. SOUKANE – Université de Versailles, France*

**12:30**

Exhibition and posters area Visit / Lunch

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# Session 4: Testing and Qualifying For Safety And Reliability

**Emmanuel DE LAUZON - CETIM**

**14:00**

Simulation, modelling and testing of a load sensor bearing

*F. GUERRE-CHALEY - SNR Roulements*

**14:30**

Reliability Growth for Mechatronic modules

*O. BRUNEL – Electricfil Automotive, France*

**15:00**

Qualifying Mechatronic Devices for use in High Temperature and High Vibration Environments

*A. LOVE – Honeywell Turbo Technologies, France*

**15:30**

Round table on design process, methodologies, tools and standardization for mechatronics

*Emmanuel DE LAUZON – CETIM*

**16:00**

Exhibition and posters area Visit

**17:00**

End of conference

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*The organisers reserve the right to make changes to the programme.*
Exhibition

The congress will be accompanied by an exhibition where companies will be able to present information to the participants, highlight their new products and create new privileged contacts within this unique gathering of targeted decision-makers. This offer is limited, and it is highly recommended to book your space as early as possible.

4 m² fitted-out booth:
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- 1 table + 2 chairs + 1 display rack, 1.5 kW power strip
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8 m² fitted-out booth:

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1815 € ex VAT (2170, 74 € VAT Incl)

To order any other items, such as audiovisual equipment, furniture and extra fittings, please refer to our supplier:

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Useful information:
Cité Internationale Universitaire de Paris, Maison Internationale, Espace ADENAUER.

Venue : Cité Internationale Universitaire de Paris, France www.ciup.fr
Construction: Tuesday June 23, 2009 from 2 pm to 6 pm
Exhibition: From Wednesday June 24 (9 am) to Thursday June 25 (5 pm)
Dismantling: Thursday June 25, at the end of the conference (after 5 pm)

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REGISTRATION CONDITIONS

• Registration fees include participation in the conference, CD of proceedings, book of abstracts, refreshment breaks, lunches and cocktail.
• 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 symposium, we regret that you will not be allowed entry to the symposium.
• When we have received the registration form, we will send you a confirmation letter and an invoice. Please indicate the accounts department address where necessary.
• In case of cancellation before June 5, 2009, 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.
General Informations

You will find all up-to-date information on www.emm2009.eu
Official language : English

Venue / Access

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17, bd. JOURDAN
75014 Paris
Accueil : 01 44 16 64 00

Public transports

→ RER B : stop at « Cité universitaire »
   (15 minutes from Paris City Center),
→ Tramway T3 : Cité universitaire station
→ Métro ligne 4 : Porte d’Orléans station
→ Bus (21, 67 et 88).

By car

→ Take the « Périphérique Sud » (South Périphérique)
Get off at « Porte d’Orléans or Porte de Gentilly
Car parks :
→ Parking Saemes Charlety Coubertin
   17 avenue Pierre de Coubertin - 75013 PARIS - (400 m from conference place) or :
→ Parking Saemes Porte d’Orléans
   1 rue de la Légion Etrangère - 75014 PARIS - (1300 m from conference place)

Hotel Accommodation

→ We have selected a list of the most convenient hotels situated near the CIUP. Delegates are
   encouraged to make their own hotel reservations early, directly with the hotels of their choice

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<td>Novotel Porte d’Orléans</td>
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<td>Mercure Paris Porte d’Orléans</td>
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<td>Etap Hôtel</td>
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For further information on Paris
www.parisinfo.com

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