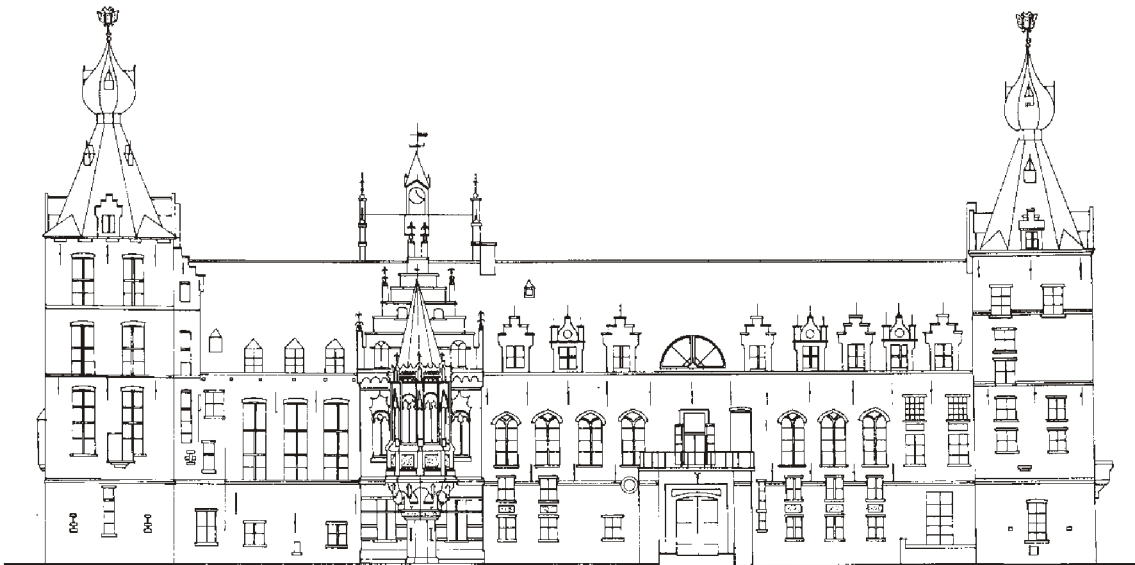




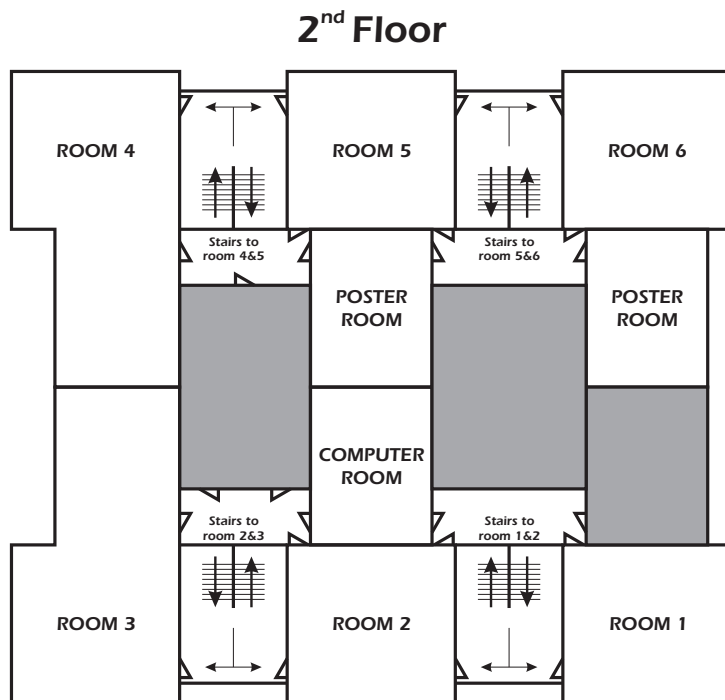
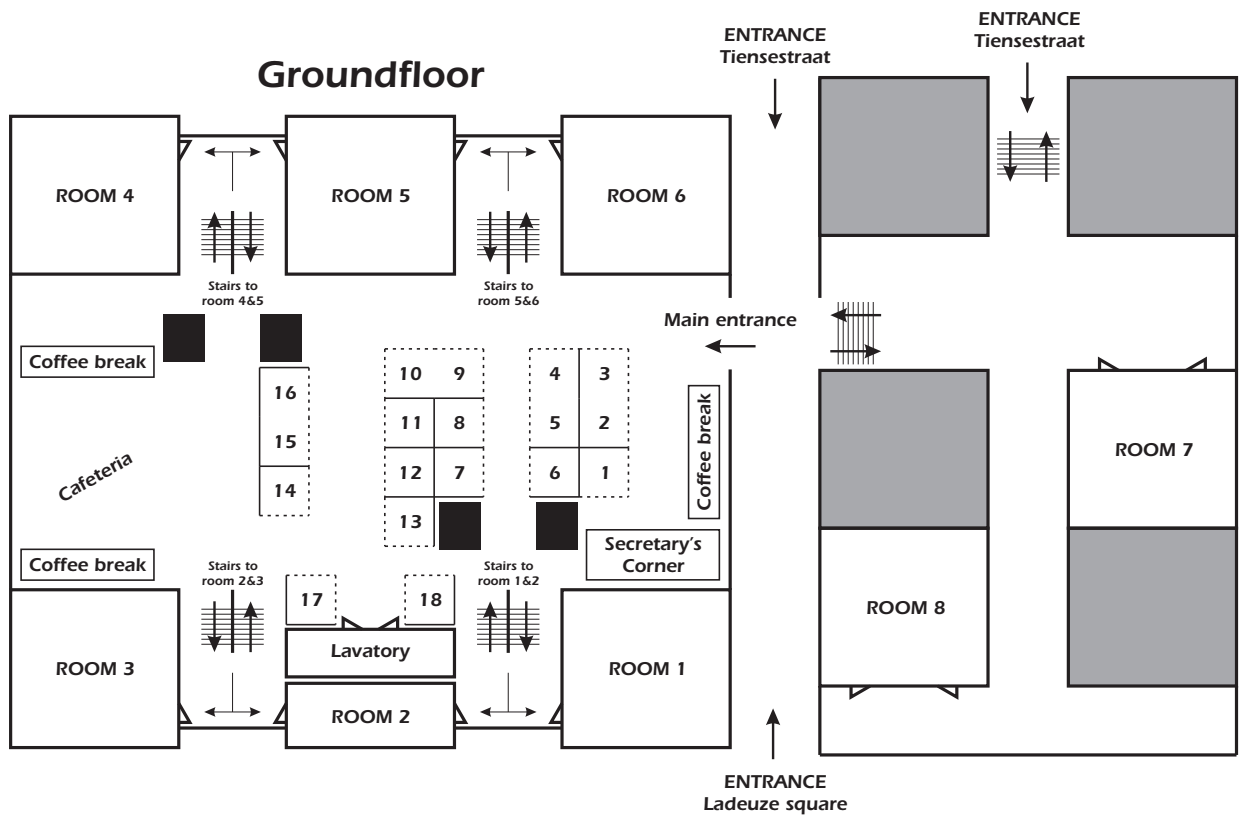
Programme and General Information



September 18-20, 2006
Katholieke Universiteit Leuven, Belgium



KATHOLIEKE UNIVERSITEIT
LEUVEN



Conference information

The ISMA2006 conference is sponsored and organised by the Division PMA (Production engineering, Machine design and Automation) of the Katholieke Universiteit Leuven.

Organising committee

Paul Sas	Conference chairman	Bert Stallaert	Conference manager
Wim Desmet	Conference program	Peter Kindt	Conference manager
Ward Heylen	Conference program	Kris Smolders	Exhibition
Jan Swevers	Conference program	Paul Bielen	Exhibition
Dirk Vandepitte	Conference program	Filip De Coninck	Social events
		Maarten De Munck	Conference proceedings

Conference administrator

Mrs. Lieve Notré
Katholieke Universiteit Leuven
Department of Mechanical Engineering, PMA
Celestijnenlaan 300B
B-3001 Heverlee
BELGIUM
Tel (+32) 16 32 24 82 ; Fax (+32) 16 32 29 87
email: lieve.notre@mech.kuleuven.be

Scientific committee

R. Allemang (USA)	S.D. Fassois (GR)	R. Ohayon (F)
J.R. Arruda (Br)	M. Friswell (UK)	N. Okubo (J)
F. Augusztinovicz (H)	L. Gaul (D)	G. Pavic (F)
E. Balmes (F)	J.C. Golinval (B)	A. Preumont (B)
D. Brown (USA)	P. Göransson (S)	H. Ramon (B)
P. Citti (I)	D. Inman (USA)	B. Randall (AUS)
J. Cooper (UK)	F. Jacobsen (DK)	H. Rice (IRE)
J.P. Coyette (B)	W. Lauriks (B)	J. Schoukens (B)
W. D'Ambrogio (I)	J. Leuridan (B)	A. Sestieri (I)
J. De Baerdemaeker (B)	M. Link (B)	C. Soize (F)
A. de Boer (NL)	B. Mace (UK)	G. Tomlinson (UK)
G. De Roeck (B)	N. Maia (P)	G. Vermeir (B)
J. De Schutter (B)	J. Mottershead (UK)	J. Viñolas Prat (E)
S. Elliot (UK)	N. Niedbal (D)	H. Van Brussel
D. Ewins (UK)	A. Nilsson (S)	H. Van der Auweraer

Conference objectives

The 2006 Leuven Conference on Noise and Vibration Engineering is held from September 18 to 20 in Leuven, Belgium. It is the 12th international conference in a series of annual courses and biennial conferences on structural dynamics, modal analysis and noise and vibration engineering, organised by the Department of Mechanical Engineering of the Katholieke Universiteit Leuven. The conference provides a forum for engineers, researchers and other professionals active in the field of modelling, analysing, testing and improving the noise and vibration characteristics of mechanical systems and civil structures. The conference combines expertise in the noise and vibration fields by stressing common measurement, modelling, analysis and control technologies. The meeting provides a further impetus to the cross fertilisation of ideas in both areas.

Conference site

The plenary opening session will be held in auditorium Pieter De Somer. The eight parallel technical sessions and the plenary poster sessions will be held in the new building of College De Valk. The technical exhibition will be organised in the foyer.

Opening session - Registration office on September 18, a.m.

Registration starts at 8.00 on September 18, 2006, at:
Auditorium Pieter De Somer
Deberiotstraat 24
3000 Leuven
Look for the signs ISMA2006.

Conference venue - Registration office on September 18, p.m.

College "De Valk"
Tiensestraat 41
3000 Leuven
Look for the signs ISMA2006.

Conference secretariat

During the conference messages for the participants can be left at the conference secretariat. Telephone number: +32 16 325290 between 8.00 - 12.00 and 14.00 - 18.00. Fax number +32 16 325505. These numbers are only connected during the conference (18-20 September). Before and after the conference, the organisation can be reached at telephone number +32 16 322482 and fax number +32 16 322987.

Course - seminar

In conjunction with the conference, a short course and seminar have been scheduled.

- Intensive course on 'Modal Analysis: Theory and Practice' ISMA31, September 21 - 22, 2006.
- Seminar on 'Advanced Techniques in Applied and Numerical Acoustics' ISAAC17, September 21 - 22, 2006.

The course and seminar will be organised at the Heverlee campus of K.U.Leuven (Department of Mechanical Engineering). More details can be found on the website <http://www.isma-isaac.be>

Proceedings

The **CDROM** with the proceedings of ISMA2006 is included in the registration fee. The CDROMs of previous editions of ISMA are available during the conference.

ISMA23 (1998) – ISMA2004	40 EUR
ISMA library CDROM	120 EUR (papers from ISMA13 (1988) to ISMA21 (1996))
“The past of ISMA”	200 EUR (papers from ISMA13 (1988) to ISMA2004)

Name badge

All registrants for ISMA2006, exhibitors, deskstaff and technical staff members will receive a badge. Everybody is asked to wear this badge at all sessions and social events.

Computer facilities

Computers are available to allow participants to check the CDROM proceedings and for e-mail and internet access (room 01.08) from 08.00 till 18.00.

Wireless network

A wireless network is available in the main conference building.

Switch off your mobile phone

All conference participants are kindly requested to switch off their mobile phone during the presentations.

Coffee breaks and lunches

Mid-morning and afternoon coffee will be served in the exhibition area. Lunch is not included in the registration fee. However a large number of restaurants are located in the surroundings of the conference site within walking distance. People wishing to sample the wide variety of cuisines available have a large number of choices in Leuven and the surroundings. Belgium is world famous for its beers, numbering more than five hundred, and today Leuven is still proud to be known as the beer capital of Belgium.

Conference social event

On Monday evening, September 18 at 19.00, a reception will be organised in the famous fourteenth century University Hall (Jubileumzaal). The University Hall is located near to the conference venue (Naamsestraat 22, 3001 Leuven). All conference participants are invited to attend this event which is sponsored by LMS International and InterBrew. Don't miss this opportunity to taste some of the typical Belgian specialities.

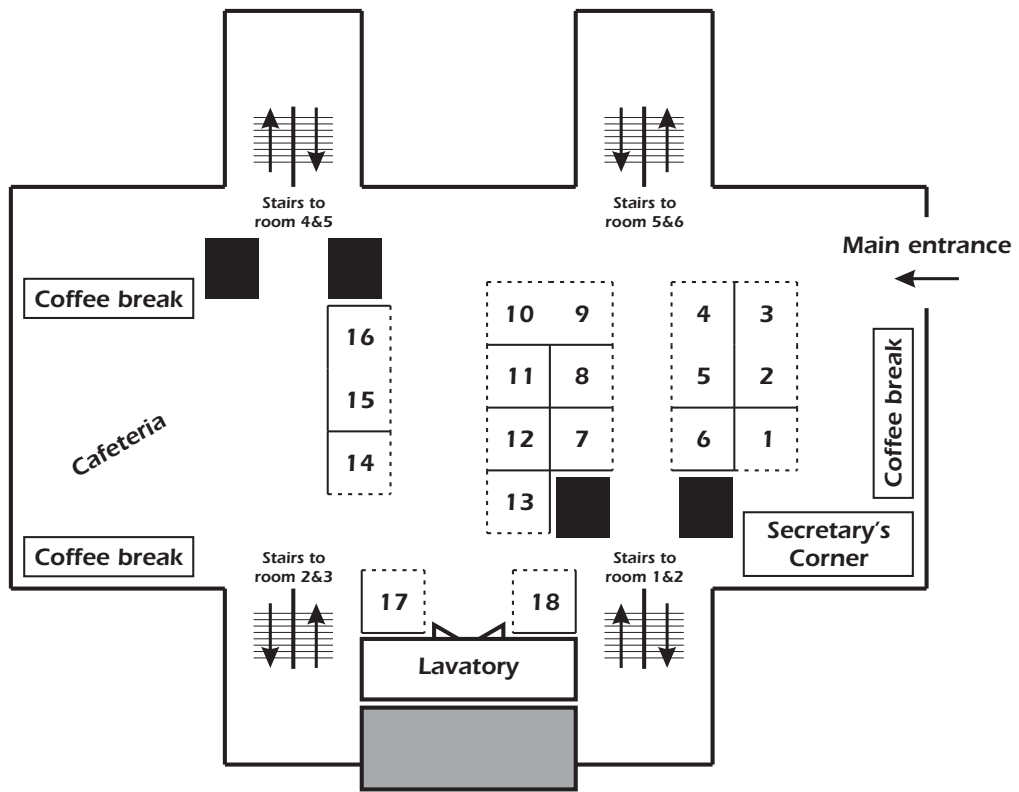
Conference dinner

The dinner will be organised in the Faculty Club (Groot Begijnhof 14 in Leuven, tel: +32 16 329500) on Tuesday evening, September 19, at 19.30. Only participants who have registered for the dinner can participate.

Exhibition

The exhibition is organised in the foyer of the new building of College De Valk. The exhibition will be officially opened after the opening session on Monday, September 20 at 13.00. We would like to emphasise that it is forbidden to park around the College De Valk.

Opening hours: Monday, September 18: 13.00 - 18.25
Tuesday, September 19: 8.50 - 18.35
Wednesday, September 20: 8.50 - 13.00



Booth	Company
1	National Instruments
2-3	LMS International
4-5	Microflown Technologies
6	G.R.A.S. Sound & Vibration A/S
7	Data Physics Corporation
8	Sony Manufacturing Systems Europe
9-10	Brüel & Kjær
11	ESI GROUP
12	Oros
13	PCB Piezotronics, Inc.
14	J.J. Bos BV
15-16	Polytec
17	ENERGOCONTROL GROUP
18	IWT - IRC

Useful hints

Weather

September is late summer in Belgium, with the daily temperatures ranging from 15°C to 20°C, although occasionally the maximum may reach 25°C. On average, the weather is sunny with a few days of rain. An umbrella and a light raincoat are advisable.

Electricity

The electric power is 220 V AC, 50Hz.

Opening hours banks and stores

Banks are generally open from 09.00 till 15.30, department stores from 09.30 till 18.00, while most other shops stay open from 09.00 till 18.00. Mid-day, most shops generally remain open, although you may find a few closed from 12.00 till 14.00. On Fridays, supermarkets and department stores are generally open until 20.00. Money changing after banking hours is possible at the airport.

Credit cards

Shops and restaurants usually accept major international credit cards such as EuroCard-MasterCard, Visa, American Express, Diners Club, with a preference to EuroCard-MasterCard and Visa.

Car rental

If you wish to rent a car, it is often advantageous to do so from your own country, often in conjunction with the purchase of your airline ticket. Local car rental companies are : AVIS, Budget, Car Rental, Hertz, Europcar.

Rules of the road In Belgium, the speed limit on freeways and divided four-lane highways is 120 km/h. On most other roads, it is 70 km/h, but in towns and cities, you are restricted to 50 km/h. Wearing seat and shoulder belts is mandatory for both the driver and passengers. In parts of most towns and cities, you have to pay for parking.

Taxi service

Taxi service in Leuven is available at telephone number: 016/20.20.20 (Taxi Breckpot).

Parking in and near the city centre of Leuven

It is very hard to find a free parking spot in the City centre of Leuven (The maximum length of stay is usually limited to a maximum of 2 hours). Most of the streets in the city centre of Leuven have parking meters and the police and “stadswacht” regularly patrol the streets in order to give out fines to illegally parked cars.

Visitors are therefore advised to park their cars in one of the following:

PAYING parking lots (7 days a week, 24 hours a day)

Parking Ladeuze: 744 parking spots, underground

Address: Ladeuzeplein 20, it's entry is indicated from the “Tiense Poort” onwards

This is just opposite the conference venue

Stationsparking (De Bond): 388 parking spots at the railway station, underground

Address: Martelarenplein 18 (entry by way of the tunnel)

10 minutes walk from the conference venue

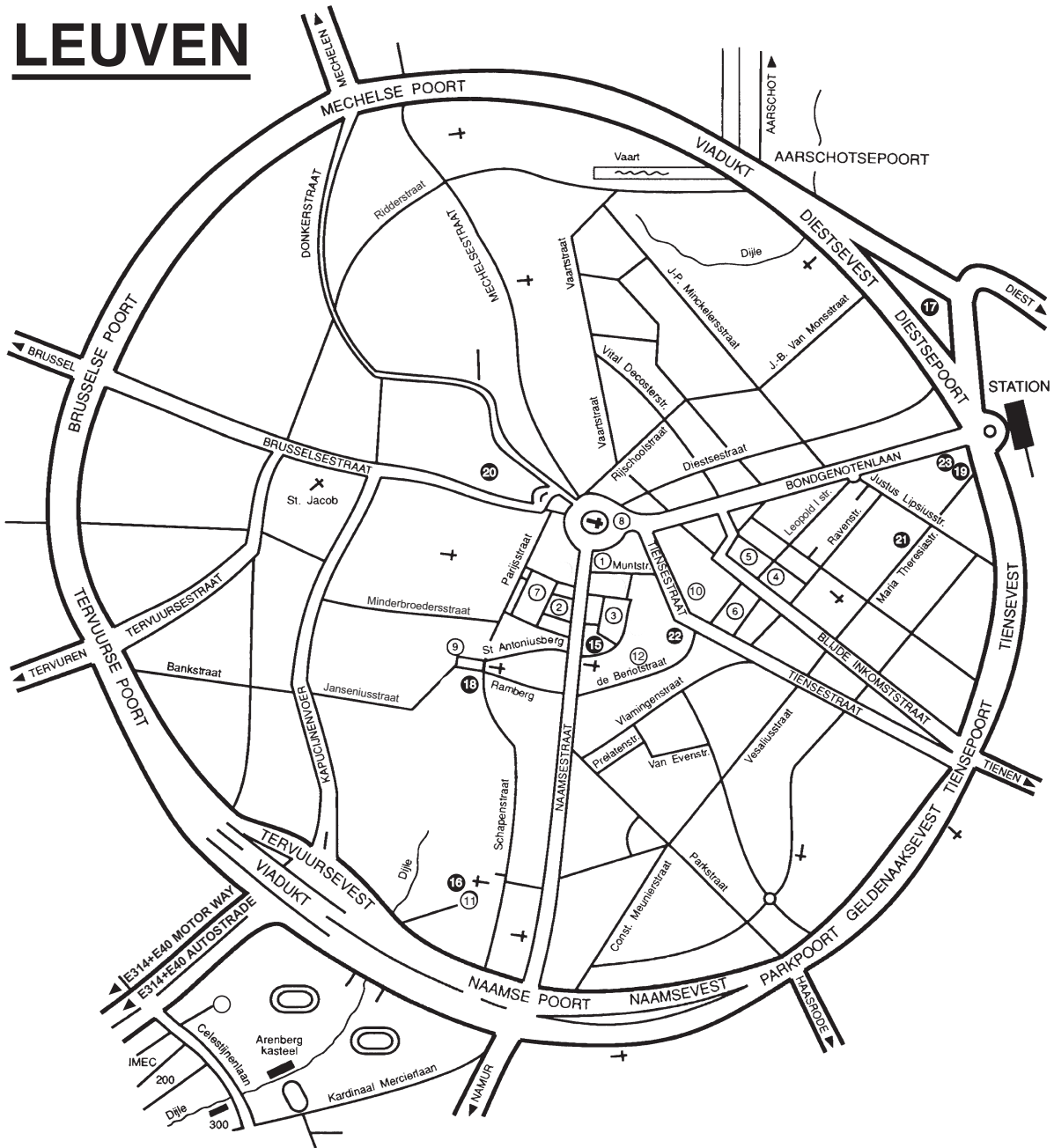
FREE parking lots **outside of the ring:**

Parking Bodart: 165 parking spots, overground

Address: Veilingweg

30 minutes walk from the conference venue

LEUVEN



- | | |
|--|----------------------------------|
| ① Stadhuis / Town Hall | ⑮ Gasthof "De Pastorij" |
| ② University Hall (Reception) | ⑯ Begijnhof Congres Hotel |
| ③ Hogeschoolplein | ⑰ Novotel Leuven Centrum |
| ④ University library | ⑱ Hotel New Damshire |
| ⑤ Mgr. Ladeuzeplein / Parking | ⑲ Hotel La Royale |
| ⑥ Herbert Hooverplein | ⑳ Hotel Ibis Leuven Centrum |
| ⑦ Oude Markt | ㉑ Hotel Binnenhof |
| ⑧ Fochplein | ㉒ Hotel Holiday Inn Garden Court |
| ⑨ Damiaanplein | ㉓ Hotel Industrie |
| ⑩ College De Valk (Conference) | |
| ⑪ Faculty Club (Dinner) | |
| ⑫ Auditorium Pieter De Somer (Opening session) | |

Conference schedule

Monday September 18, 2006

- 8:00 - 11:30 Registration - Auditorium Pieter De Somer (Foyer)
9:20 - 11:30 Opening Session - Auditorium Pieter De Somer
9:20 Welcome
Paul Sas, Conference Chairman
9:30 Welcome
Louis Tobback, Mayor of Leuven
9:50 Opening
Ludo Froyen, Dean of the Faculty of Engineering, Katholieke Universiteit Leuven
10:00 Keynote lecture
A Future for Experimental Structural Dynamics
David Ewins, Imperial College London, UK
10:45 Keynote lecture
Auralisation of Structure-Borne Sound
Michael Vorländer, Institute of Technical Acoustics, RWTH Aachen University, Germany
11:30 - 13:00 Lunch Break
13:00 - 18:25 Technical Sessions - College "De Valk"
13:00 - 18:25 Plenary Poster Sessions - College "De Valk"
13:00 - 18:25 Exhibition - College "De Valk"
19:00 Conference Reception, University Hall (Jubileumzaal)

Tuesday September 19, 2006

- 8:50 - 12:35 Technical Sessions - College "De Valk"
8:50 - 12:35 Plenary Poster Sessions - College "De Valk"
8:50 - 18:35 Exhibition - College "De Valk"
12:35 - 14:00 Lunch Break
14:00 - 18:35 Technical Sessions - College "De Valk"
14:00 - 18:35 Plenary Poster Sessions - College "De Valk"
19:30 Conference Dinner - Faculty Club

Wednesday September 22, 2004

- 8:50 - 12:35 Technical Sessions - College "De Valk"
8:50 - 13:00 Exhibition - College "De Valk"
12:35 - 14:00 Lunch Break
14:00 - 16:30 Technical Sessions - College "De Valk"

Technical program

The technical program of ISMA2006 includes two keynote lectures, five tutorial lectures and about 360 technical papers in specialised areas of noise and vibration engineering and structural dynamics. The conference focuses on experimental and numerical analysis methods, with special attention to recent applications in automotive, railway, aerospace and civil engineering. Fields with a strong interaction between noise and vibration behaviour are stressed.

The topics of the technical sessions are:

- Active noise control (ANC)
- Active vibration control and smart structures (AVC)
- Aeroacoustics and flow noise (AA)
- AMS Special seminar (AMS)
- Application of (new) vibroacoustic methods to complex systems (AVM)
- Damage monitoring and identification (DMI)
- Damping (D)
- Dynamic behavior of civil structure (DCS)
- Dynamic modelling (DMOD)
- EDSVS (EDSVS)
- Flite Eureka 2 (FLI)
- FRIENDCOPTER Rotorcraft noise and vibration (FCOP)
- Ground vibrations (GRV)
- Human vibrations (HUM)
- Instrumentation (I)
- Maduse (MAD)
- Material characterisation based on dynamic measurements (MAT)
- Medium and high frequency techniques (MHF)
- Modal testing and FRF estimation (MT)
- Model updating and correlation (MU)
- Multi-body dynamics and control (MB)
- Non-linearities: identification and modelling (NL)
- Non-stationary sound and vibration analysis and applications (NSV)
- Operational modal analysis (OMA)
- Operational Modal Analysis in presence of exogeneous inputs (OMAX)
- Optical measurement techniques OPTIMESS (OPT)
- Parameter estimation (PE)
- Passive noise and vibration control (PNVC)
- Rotating machinery: monitoring and diagnostics (RMM)
- Rotating machinery:dynamics (RMD)
- Self-excited vibrations (SEV)
- Substructuring and coupling (SC)
- Transfer path analysis and source identification (TPA)
- Uncertainties in structural dynamics and acoustics (UNC)
- Vehicle noise and vibration (NVH)
- Vibro-acoustic analysis (VAA)
- Vibro-acoustic modelling and prediction (VAM)

Advanced Mechatronic Systems (AMS) Special Seminar

Tuesday September 19, 9:00 - 17:45, room 1

AMS is a research network of the “Interuniversity Attraction Poles” (IAP) Programme initiated by the Belgian Science Policy Office. The year 2002 is the starting year this network which covers the period 2002 - 2006. It is coordinated by the division PMA, Department of Mechanical Engineering, K.U.Leuven, and groups mechatronics research labs from several Belgian universities. Its main research topics are: Modeling, Control and Optimization of Mechatronic Systems, Micromechatronic systems, Nanomanipulation, Dealing with complex environments and user/machine interaction. More information can be found on www.mech.kuleuven.be/ams.



This seminar, consisting of sessions AMS1, AMS2 and AMS3, and a keynote presentation: “**Multiphysics modeling of mechatronic multibody systems**” by **Prof. Paul Fisette, Olivier Brûls and Prof. Jan Swevers**, highlights some important results obtained during the Interuniversity Attraction Pole (IAP) project on Advanced Mechatronic Systems (AMS).

Partners involved in the AMS network:

Center for Research in Mechatronics (CEREM), Université Catholique de Louvain

Active Structures Laboratory (ASL), Université Libre de Bruxelles

Center for Processing Speech and Images (PSI), ESAT, K.U.Leuven

Division Microelectronics and Sensors (MICAS), ESAT, K.U.Leuven

Laboratory of AgroMachinery and Processing (LABEC), Department of Biosystems, K.U.Leuven

Artificial Intelligence Laboratory (ARTI), Vrije Universiteit Brussel

Division Production Engineering, Machine Design and Automation (PMA), Department of Mechanical Engineering, K.U.Leuven

Laboratoire de Techniques Aéropatiales (LTAS), Université de Liège

LAAS-CNRS, Toulouse

Institute of Sound and Vibration Research (ISVR), University of Southampton

Special Session on Technology Partnering: IRC Technology Seminar

Tuesday September 19, 14:00 - 16:05, room 2

In order to fill the famous innovation gap (turning research results into business), valuable research results may need a transnational partnership to allow further development of these results and finally bring them to the market.

The IRC (Innovation Relay Centres) network stimulates innovation in Europe through the international dissemination and exchange of technology and know-how. The IRC network currently consists of 71 Innovation Relay Centres in 33 countries

and involves 240 organisations, it is the world's largest platform for technology partnering.

The IRC network is co-funded by the European Commission and assists companies and research groups in finding a partner all along the business value chain: for technical co-operation and joint ventures, licence and manufacturing agreements, even commercial agreements with technical assistance to bring the product on cross-border markets.

In this dedicated IRC Technology Seminar, which will take place on Tuesday September 19, 2006, from 14.00 until 16.00, university and industry researchers will present new technologies looking for partners for further benchmarking and development towards industrial use of these research results.

During the conference, IRC-Flanders, as a member of the IRC-network, will be present with an exhibition booth. The booth offers info and support on IRC, as well as assistance to informal B2B meetings

List of tutorials

Monday September 18, 2006, 13:00 - 13:50

Current Status and Challenges for Flight Flutter Testing

Asim Abbassi, Jonathan Cooper, *University of Manchester, United Kingdom*

Monday September 18, 2006, 15:30 - 16:20

A Complete Review of the Complex Mode Indicator Function (CMIF) with Applications

Randall Allemang, David Brown, *University of Cincinnati, United States of America*

Monday September 18, 2006, 15:30 - 16:20

Wave based modelling methods for steady-state interior acoustics: an overview

Bert Pluymers, Wim Desmet, Dirk Vandepitte, Paul Sas, *Katholieke Universiteit Leuven, Belgium*

Tuesday September 19, 2006, 9:15 - 10:05

Multiphysics modeling of mechatronic multibody systems

Paul Fisette, *Université Catholique de Louvain, Belgium*

Olivier Brüls, *Université de Liège, Belgium*

Jan Swevers, *Katholieke Universiteit Leuven, Belgium*

Tuesday September 19, 2006, 16:30 - 17:20

Wind turbine noise from an industrial point of view

Gabriel Alvaro Matesanz, *Gamesa Eolica, Spain*

Overview of oral presentations - Monday afternoon

	ROOM 1	ROOM 2	ROOM 3	ROOM 4
	FCOP1 Friendcopter session (Rotorcraft noise & vibration) Chair: A. Vecchio	DMOD1 Dynamic modelling Chair: E. Balmès	ANC1 Active noise control Chair: R. Boonen	OMA1 Operational modal analysis Chair: N. Maia
13:00	<i>G. Diodati</i> Energy ratio approach for SEA model path identification	<i>E. BALMES</i> Model validation for heavily damped structures. Application to a windshield...	<i>J. Camino</i> Comparing a Filtered-X LMS and an H2 Controller for the Attenuation of the...	<i>S. Chauhan</i> A Low Order Frequency Domain Algorithm for Operational Modal Analysis
13:25	<i>A. Vecchio</i> Experimental Noise Transfer Path Analysis on Helicopters	<i>J. de caigny</i> A Linear Programming Approach to the Optimal Design of Spline-Based Motion...	<i>T. Zielinski</i> Further modeling and new results of active and passive noise reduction...	<i>S.-E. Rosenow</i> Parameter identification of ship structures using classical and operational...
13:50	<i>E. Vigoni</i> Active solutions for reduction of the transmission of structure - borne...	<i>A. Genzo</i> Dynamic Behaviour of Elastic Bodies Coupled by Extended Friction Contacts	<i>G. Pinte</i> Active Structural Acoustic Control of repetitive impact noise	<i>N.-J. Jacobsen</i> Using Enhanced Frequency Domain Decomposition as a Robust Technique to...
14:15	<i>A. Perazzolo</i> Simulation and Evaluation of Noise and Vibration Reduction Techniques in a...	<i>B. grout</i> Prediction of the influence of structural modifications including...	<i>B. Stallaert</i> Force transmission loss as a mechanism for the active control of noise...	<i>S. Chauhan</i> Considerations in the Application of Spatial Domain Algorithms to...
14:40	<i>A. Vecchio</i> Hybrid Modelling of a helicopter gearbox using Inverse Boundary Elements...	<i>S. Rowell</i> Modelling the Control Strategies for Riding a Motorcycle	<i>A. Minotti</i> Enhancement of a Passive Acoustic Liner by Active Control of Intensity	<i>G. Coppotelli</i> Modal Parameter Identification From Operative Responses
15:05	<i>P. Göransson</i> Modeling and Characterisation of the Vibration Dynamics Modeling of...	<i>J. Muggleton</i> Determining the dynamic properties of joints in piping systems	COFFEE BREAK	COFFEE BREAK
15:30	COFFEE BREAK	COFFEE BREAK	<i>B. Pluymers</i> Wave based modelling methods for steady-state interior acoustics: an overview	<i>R. Allemang</i> A Complete Review of the Complex Mode Indicator Function with applications
15:55	<i>I. Bucher</i> Experiments, measurement procedures and curve-fitting of a post-buckled...	<i>L. Zipser</i> Refracto-Vibrometry for Visualizing Sound Radiation from Vibrating Objects	TUTORIAL	TUTORIAL
16:20	<i>L. GARIBALDI</i> Experimental identification of non-linear parameters over a scaled...	<i>J. Goossens</i> Study of surface acoustic and guided acoustic wave interaction with defects...	<i>S. Callsen</i> Sound transmission loss calculations of different structural subsystems...	<i>F. Poncelet</i> Experimental modal analysis using blind source separation techniques
16:45	<i>L. Lauwers</i> Nonlinear Structure Analysis Using the Best Linear Approximation	<i>M. Schuessler</i> MIMO testing on a car body using a three-dimensional scanning vibrometer	<i>G. Ruiz</i> Coupled vibro-acoustic analysis in 3D using a wave expansion finite...	<i>S. Fassois</i> Identification of a Global Model Describing the Temperature Effects on the...
17:10	<i>J. Paduart</i> Comparison of two different nonlinear state-space identification algorithms	<i>A. Stanbridge</i> A review of 10 years of continuous-scan LDV developments	<i>T. Mertens</i> Acoustic convected radiation using a partition of unity formulation	<i>J. Ohr</i> Identification of Flexibility Parameters of 6-axis Industrial Manipulator...
17:35	<i>M. Magnevall</i> On Nonlinear Parameter Estimation	<i>H.J. van Elburg</i> Four channel high resolution heterodyne interferometer based on...	<i>J. Jegorovs</i> On the application of the Wave Based Method in the case of an exterior 3D...	<i>T. Uyama</i> Rigid Body Properties of An Actual Diesel Engine by Experimental Spatial...
18:00	<i>G. Vio</i> Nonlinearity Characterization for Nonlinear Dynamic System Identification...	<i>J. Vanherzeele</i> Acoustic source identification using a continuous scanning LDV	<i>J. Garcia</i> Test strategy for aero-engine structural dynamic model validation	<i>P. Kurka</i> Mechanical System Identification by Multivariate Time Series Models
	NL1 Non-linearities Chair: J. Schoukens	OPT1 Optimes session (Optical measurement) Chair: S. Vanlanduit	MHF1 Medium and high frequency techniques Chair: W. Desmet	PE1 Parameter estimation Chair: R. Allemang

Conference schedule

ROOM 5	ROOM 6	ROOM 7	ROOM 8	
FLI1 Flite Eureka 2 session Chair: J. Cooper	MT1 Modal testing and FRF estimation Chair: N. Okubo	AVM1 App. of vibro-ac. methods to complex systems Chair: A. Sestieri	MAD1 Maduse session Chair: D. Vandepitte	
<i>A. Abbasi</i> Current Status and Challenges for Flight Flutter Testing	<i>P. Daborn</i> Development of a New Automated Modal Test Planning Algorithm	<i>A. Sestieri</i> Introduction to AVM session	<i>S. Donders</i> A Wave-Based Substructuring Approach for Fast Modification Predictions and...	13:00
TUTORIAL	<i>M. Boeswald</i> A Review of Experimental Modal Analysis Methods with respect to their...	<i>S. De Rosa</i> A review of the scaling procedure for the analysis of the vibroacoustic...	<i>M. Schoen</i> An approach to sensitivities-based prediction methods within uncertainty...	13:25
<i>B. Peeters</i> In-flight modal analysis - a comparison between sweep and turbulence...	<i>A. Macaire</i> Measurement plan definition on Ariane V launcher	<i>A. Sestieri</i> Efficiency estimation of a benchmark SEA model	<i>S. Turrin</i> Fuzzy Uncertainty Analysis in Automotive Crash Simulation	13:50
<i>J. Li</i> An experimental investigation of the subsonic stall flutter	<i>J. Van Karsen</i> Estimation of Powertrain Inertia Properties via an In-situ Method	<i>A. Sestieri</i> Application of the complex envelope vectorization to a benchmark made of...	<i>U. TABAK</i> Modelling of a vehicle windshield with realistic uncertainty	14:15
<i>P. VACHER</i> Detection of turbulence during flutter tests	<i>J. Antoni</i> Practical Guidelines for Optimising the Measurement of Frequency Response...	<i>A. Culla</i> Evaluation of the SEA parameters of a benchmark by the power injection...	<i>L. Martini</i> Possibilities and limitations of a reanalysis-based procedure for...	14:40
<i>T. De Troyer</i> Fast Derivation of Uncertainty Bounds for On-line Flight Flutter Testing	<i>T. Smirnova</i> Investigation of Boring Bar Mode Shape Rotation by Experimental Modal...	<i>A. Scippa</i> Considerations on the Modelling of a Benchmark Structure and Applicability...	<i>L. Hinke</i> Analysis of structures with uncertain parameters using component mode...	15:05
COFFEE BREAK	COFFEE BREAK	<i>A. Pratellesi</i> A hybrid formulation for vibro-acoustic analysis of structures in the...	COFFEE BREAK	15:30
<i>K. DAWSON</i> Quantification of Asymmetric In-Flight LCO Response and Prediction using...	<i>A. Deraemaeker</i> Vibration based SHM : comparison of the performance of modal features vs...	COFFEE BREAK	<i>C. Desceliers</i> Inverse problem for the identification of Chaos representations of random...	15:55
<i>I. Markovsky</i> When is a pole spurious?	<i>P. Tarazaga</i> A Study on the Correlation between PZT and MFC Resonance Peaks and Damage...	<i>J. van Dijk</i> A fast converging adaptive control scheme for suppression of broadband...	<i>E. Capiez-Lernout</i> Robust design optimization for uncertain complex dynamical systems	16:20
<i>R. Zouari</i> CUSUM test for flutter monitoring of modal dynamics	<i>C. Pastrav</i> Determination of Total Hip Replacement stem insertion endpoint and...	<i>T. Verdot</i> Electrical Coupling between Sensors and Actuators integrated in a Micro...	<i>C. Lionnet</i> A hierarchical approach to study the intra and inter variability of...	16:45
<i>K. De Cock</i> Recursive subspace identification for in-flight modal analysis of airplanes	<i>J. Kullaa</i> Sensor fault identification and correction in structural health monitoring	<i>N.B. Roozen</i> Acoustic excitation of mechatronic systems by diffuse acoustic sound...	<i>M. De Munck</i> An automated response surface based optimisation technique for the...	17:10
<i>T. Uhl</i> The use of wavelet transform for in-flight modal analysis	<i>Z. Ismail</i> Detection of corrosion damage in RC beams using modal testing	<i>M. Vervoordeldonk</i> Active Structural Damping in high-precision equipment	<i>L. Farkas</i> The fuzzy FE approach to assess the uncertain static response of an...	17:35
<i>J. Iwaniec</i> Output-only Technique for Estimation of Nonlinear System Parameters for...	<i>S. Assunta</i> Damage identification for structural health monitoring using modal-based...	<i>S. kouhi</i> The use of dynamical recurrent neural network for identification and active...	<i>T. TISON</i> Fuzzy Finite Element Method: An Experimental Modal Analysis Comparison	18:00
FLI2 Flite Eureka 2 session Chair: T. Uhl	DMI1 Damage monitoring and identification Chair: D. Inman	AVC1 Active vibration control and smart structures Chair: N.B. Roozen	UNC1 Uncertainty Chair: G. Lombaert	

Overview of oral presentations - Tuesday morning

	ROOM 1	ROOM 2	ROOM 3	ROOM 4
	AMS1 AMS Special seminar Chair: H. Van Brussel	NSV1 Non-stationary sound and vibration analysis Chair: S.D. Fassois	ANC2 Active noise control Chair: J.R. Arruda	RMD1 Rotating machinery dynamics Chair: M. Friswell
08:50	H. Van Brussel Welcome to the AMS seminar (9:00)	S. Fassois Parametric Time-Domain Methods for Non-Stationary Random Vibration...	F. Laugwitz Experimental and numerical investigations of a smart acoustic box	T. Rosenlöcher Analysis of Dynamic Loads in Multi-Megawatt-Drive-Trains
09:15	O. Brüls Multiphysics modeling of mechatronic multibody systems	R. Zouari Cyclostationary modeling of reciprocating compressors and application to...	H. Van der Auweraer A Virtual Prototyping Approach to the Design of Smart Structures...	E. Mucchi Pressure phenomena in dynamic analysis of external gear pumps
09:40	AMS Seminar – KEYNOTE	L. GARIBALDI Non stationary analysis of a railway bridge scaled model under operational...	L. de Oliveira A CAE modeling approach for the analysis of vibro-acoustic systems with...	E. Hahn Difficulties in Predicting Vibrations in Turbomachinery with Hydrodynamic...
10:05	COFFEE BREAK	F. Bonnardot Don't ignore nonstationarity: use it to advantage	J.R. Blough Evaluation of the Performance Characteristics of the FxLMS and FxGAL...	D.C. Zachariadis Unbalance Response of Statically Indeterminate Rotors Supported on...
10:30	M. da Silva Concurrent simulation of mechatronic systems with variable mechanical...	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK
10:55	P. FISETTE Optimal synthesis of planar mechanisms via an extensible-link approach	T.-P. Le Time-frequency domain decomposition for modal identification using ambient...	D. Montalvão Damping measurements on a carbon fibre reinforced laminate	J. Peeters Structural analysis of a wind turbine and its drive train using the...
11:20	O. Brüls An extended flexible multibody dynamics software for mechatronic...	A. Kyprianou Choi-Wiliams time frequency analysis of a three degree of freedom...	P. Gonçalves Active Vibration Control of Space Truss Structures: Power Analysis and...	M. Friswell The response of rotating machines on viscoelastic supports
11:45		A. Roshan Ghias Modal Parameters Identification Using Bilinear Joint Time-Frequency...	D. Inman Vibration Testing Techniques for Active Membranes	G. Bonori Vibration of Gears: a Global Optimization Approach
12:10			I. Bucher Generating 1D and 2D directional vibration waves	S. Huang Dynamic Modelling and Testing of a Representative Aero-engine Test Rig with...
	AMS1 AMS Special seminar Multibody dynamics Chair: H. Van Brussel	NSV2 Non-stationary sound and vibration analysis Chair: S.D. Fassois	AVC2 Active vibration control and smart structures Chair: A. Preumont	RMD2 Rotating machinery dynamics Chair: M. Friswell

Conference schedule

ROOM 5	ROOM 6	ROOM 7	ROOM 8	
SEV1 Self-excited vibrations Chair: P. Vanherck	VAA1 Vibro-acoustic analysis Chair: F. Marulo	NVH1 Vehicle noise and vibration Chair: F. Augusztinovicz	MAD2 Maduse session Chair: P. Lardeur	
G. FRITZ Brake squeal: a multi parametric phenomenon assessed in terms of robustness	A. Hepberger Impedance Identification out of Pressure Data's with a hybrid...	L. Pesek Measurement of vibration and noise of railway wheels on track	P. Lardeur Verification and validation of finite element models for the vibro-acoustic...	08:50
S. Manzoni Effects of track parameters and environmental conditions on tramcar induced...	F. Marulo Acoustic measurements in a small transmission loss facility	S. LOREA Energy minimization criterion as a methodological guide to the dynamic...	M. SCIONTI Experimental and numerical study of the intra/inter variability of an...	09:15
J. Cooper A Higher Order Harmonic Balance Approach for an Aeroelastic Airfoil with a...	G. Pablo Nava In-situ estimation of acoustic impedance on the surfaces of a room for...	S. PERRIN New NVH optimization procedure applied to weight reduction of an automotive...	A. GALLINA An application of response surface methodology in the field of dynamic...	09:40
J. Muñoa Determination of the Cutting Performance and Dynamic Behaviour of Universal...	R. Boonen Calibration of the two microphone transfer function method to measure...	A. Cherman Noise sources balancing on vehicle development to improve customer...	O. giannini Analysis of the uncertain dynamic behavior of an automotive control unit...	10:05
COFFEE BREAK	COFFEE BREAK	COFFEE BREAK	G. Manson Extending the Prediction Horizon of Uncertain-weighted Regression Models	10:30
M. Klinkov Online estimation of external loads from dynamic measurements	K. Dovstam Mode based prediction of vibrations in highly damped structures	F. Sbarbati Investigation on airborne and structure borne balance for vehicle interior...	COFFEE BREAK	10:55
A. Schuhmacher Engine contribution analysis using a noise and vibration simulator	R. Zahoransky On combined viscous and dry-friction modelling in kinematically excited...	D. Berckmans A new method for aircraft noise synthesis	T. Tjahjowidodo Nonlinear Modelling and Identification of Torsional Behaviour in Harmonic...	11:20
J. Mørkholt Acoustic Equivalent Point Source Models of Tires using Combinatorial...	C.V. SUCIU Experimental investigation of the dynamic performances and durability of a...	K. Janssens Automatic extraction of noise annoyance features from vehicle run-up sounds	G. Dimitriadis Identification of Structural Free-play Non-linearities using the Non-Linear...	11:45
N. OKUBO Identification of Excitation Force Generated From Automobile Engine in High...	B. Diveyev Dynamic Properties and Damping Prediction for Laminated Plates	P. Van der Linden Investigation of binaural transfer functions; reciprocity in free field and...	G. Kerschen Nonlinear MDOF system characterization and identification using the...	12:10
TPA1 Transfer path analysis and source identification Chair: C.-P. Fritzen	D1 Damping Chair: A. Carcaterra	NVH2 Vehicle noise and vibration Chair: F. Augusztinovicz	NL2 Non-linearities Chair: L. Garibaldi	

Overview of oral presentations - Tuesday afternoon

	ROOM 1	ROOM 2	ROOM 3	ROOM 4
	AMS2 AMS Special seminar Control and optimization Chair: J. Swevers	IRC1 IRC Technology Seminar Chair: D. Otte	MHF2 Medium and high frequency techniques Chair: B. Pluymers	OMAX1 OMAX session Chair: P. Guillaume
14:00	B. Paijmans Gain-scheduling control for mechatronic systems with position-dependent...	D. Otte A tutorial to IRC J. Schoukens Measuring dynamic systems	B. Van Genechten On the coupling of Wave Based models with modally reduced Finite Element...	R. Pintelon Continuous-time operational modal analysis
14:25	B. de Marneffe A new semi-active method for the damping of a piezoelectric structure	F. De Coninck HF multi-axial vehicle testing J. Anthonis Control of LF vibrations	G. Lucas The Vibro-acoustic Responses of Structures with Uncertainties	P. Guillaume OMAX - A Combined Experimental-Operational Modal Analysis Approach
14:50	G. Pipeleers Optimal Attenuation of Known Periodic Disturbances: a Convex Control Design...	P. Jönsson Health effects from vibrations G. Pinte ANC / ASAC of transient noise	M. Viallet Acoustical method for radiation calculation of complex structures	K. Engelen Load spectrum estimation from output-only measurements applied to a spray...
15:15	Z. Jamaludin Tracking Performances of Cascade and Sliding Mode Controllers with...	W. Desmet Wave based modeling for MF G. Degrande Model for traffic induced vib.	M. Thivart Boundary Element Energy Method for the acoustic design of vehicles shields	A. Petreli Identification of damage in brittle materials using mode shapes obtained...
15:40	COFFEE BREAK	R. Boonen Active exhaust... B. Bollen Instrument for elastic/damping properties G. De Roeck Struct. health ass.	S. Paquay Application of the Fast Multiple Method to the Variational Boundary...	S. Vanlanduit Operational modal analysis of time varying systems using an exogenous...
16:05	W. Van de Vijver Design and control of a novel piezoelectric drive module for application in...	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK
16:30	C. Collette A dynamic vibration absorber for torsional oscillations of metro wheel sets	J. House Auxetic Materials and Structural Damping	U. Orrenius Modeling of structural sound transmission in train structures using hybrid...	E. Reynders Reference-based combined deterministic-stochastic subspace identification...
16:55	A. Stenti Development of a numerical modelling methodology for the NVH behaviour of...	L. Manin Rheological and restoring force models regarding belt tensioner dynamic...	V. cotroni Prediction of the ensemble mean and variance of the response of uncertain...	K. Grimmelsman Challenges in operational modal analysis of suspension bridges
17:20	K. Engelen Damping of spray boomstructures with non-linear dampers	C. Schedlinski Modeling of Assembled Combustion Engine Parts under Consideration of Micro...	C. Vanmaele Application of the Wave Based Prediction Technique for structural problems...	T. Lauwagie A Comparison of Experimental, Operational, and Combined...
17:45	T. Waumans Rotordynamic behaviour of a micro-turbine rotor on air bearings: modelling...	D. Vetturi Numerical Simulation of Rubber Devices Dynamics by Discrete Modelling	J. Jegorovs On the convergence of the WBM solution in certain non-convex domains	R. Cantieni Office floor vibrations: modal parameter identification and vibration...
18:10		S. Adhikari Damping Model Uncertainty in Structural Dynamics	A. Ghasemi Numerical Solution of High-Frequency Oscillations of a Gas Column Using a...	
	AMS3 AMS Special seminar Applications Chair: D. Reynaerts	D2 Damping Chair: J. Mottershead	MHF3 Medium and high frequency techniques Chair: H.-H. Priebsch	OMAX2 OMAX session Chair: G. De Roeck

Conference schedule

ROOM 5	ROOM 6	ROOM 7	ROOM 8	
GRV1 Ground vibrations Chair: G. Degrande	MB1 Multi-body dynamics and control Chair: H.-H. Priebsch	NVH3 Vehicle noise and vibration Chair: P. Sas	UNC2 Uncertainty Chair: D. Moens	
<i>S. Gupta</i> A numerical model for ground-borne vibrations and reradiated noise in...	<i>A. Rivola</i> A Geartrain Model for the Dynamic Analysis of a Motorbike Timing System	<i>D. Tcherniak</i> An efficient approach to include interactivity in the vehicle NVH...	<i>D. Degrauwe</i> An efficient fuzzy calculation algorithm with application to finite element...	14:00
<i>M. Arnst</i> Identification of random field models for elastic moduli from spectral...	<i>H. Riemer</i> Simulation of Engine Dynamics by using MBS/FEM Composite Structures	<i>P. Kindt</i> Test setup for tire/road noise caused by impact road excitations: first...	<i>M. Zehn</i> Modal Analysis of Composite Lightweight Structures with Manufacturing...	14:25
<i>S. François</i> An iterative coupled boundary-finite element method for the dynamic...	<i>J.L. van Niekerk</i> Suspension system optimisation of an articulated dump truck to reduce whole...	<i>M. Ouisse</i> Towards a robust optimization of spot weld design in automotive structures	<i>D. Moens</i> Sensitivity analysis of frequency response function envelopes of mechanical...	14:50
COFFEE BREAK	<i>H.H. Priebsch</i> Flexible Multi-body Dynamics Simulation - A Powerful Method for Prediction...	<i>N.A. Zaidi</i> The influence of suspension and tyre dynamics on Driveline NVH	<i>S. Gabriele</i> FE Model Updating with uncertain parameters	15:15
<i>G. Pavic</i> Pipe thickness identification by modal order analysis	COFFEE BREAK	<i>A. OMRANI</i> Transmission Loss Modeling of Trimmed vehicle Components	<i>K. Sepahvand</i> Variation of structure modal parameters due to the structured uncertainties	15:40
<i>A. Swiercz</i> Identification of damage using low frequency harmonics in trusses and beams	<i>S. Hill</i> Orthogonal radiation patterns for three-dimensional noise sources based on...	COFFEE BREAK	COFFEE BREAK	16:05
<i>M. Juntunen</i> Test method development for determination of dynamic properties of shock...	<i>A. Kropp</i> Robust Acoustic Vehicle Body Design Using Evolutionary Algorithms	<i>A. MATESANZ</i> Wind turbine noise from an industrial point of view	<i>H. De Gerssem</i> Dynamic Interval Analysis of FE models with uncertain substructures	16:30
<i>A. Moreau</i> An evaluation of a mixed experimental/numerical method using FRF for the...	<i>F. Grooteman</i> Transmission Loss analyses on fuselage panels: approach, numerical results...	TUTORIAL	<i>A. Vroman</i> Fuzzy finite elements: combination of Guyan reduction and a new method to...	16:55
<i>M. Alfano</i> Experimental assessment of a non-destructive method for measuring the...	<i>D. Dooms</i> Fluid-structure interaction applied to ovaling oscillations of silos	<i>M. Kaltenbacher</i> CAA as a Postprocessing-Step within CFD-Computations	<i>W. D'Ambrogio</i> Coupling of substructures with in-tolerance uncertain dimensions	17:20
<i>B. GUO</i> Material properties' identification using full field measurements on...	<i>X. Li</i> A fast interpolation method for multi-frequency acoustic analysis by...	<i>C. Hahn</i> Influence of geometry on the generation of aeroacoustic noise	<i>A. Fregolent</i> Using Design of Experiments to model the effect of uncertainties in...	17:45
<i>S. Reed</i> Evaluation of Strain Dependent Material Properties of Hard Coatings	<i>M. Liu</i> Vibro-acoustic modelling of a rail vehicle bodyshell and resilient Floor	<i>W. De Roeck</i> On the Use of Filtering Techniques for Hybrid Methods in Computational...	<i>Y. Govers</i> Analysis of Sources and Quantification of Uncertainty in Experimental Modal...	18:10
MAT1 Material characterization Chair: G. Pavic	VAM1 Vibro-acoustic modelling and prediction Chair: A. de Boer	AA1 Aeroacoustics and flow noise Chair: C. Schram	UNC3 Uncertainty Chair: W. d'Ambrogio	

Overview of oral presentations - Wednesday morning

	ROOM 1	ROOM 2	ROOM 3	ROOM 4
	HUM1 Human vibrations Chair: J. Blough	D3 Damping Chair: H. Rice	EDSVS1 EDSVS session Chair: N	RMD3 Rotating machinery dynamics Chair: J. Antoni
08:50	<i>A. Doria</i> Measurement and identification of the vibration characteristics of...	<i>N. GIL-NEGRETE</i> Influence of the number of parameters of a rubber isolator viscoelastic...	<i>S. Colwell</i> Experimental investigation on the MRTLCD for vibration control of slender...	<i>M. Pawlak</i> Modeling the structural dynamics of horizontal axis wind turbine
09:15	<i>N. Conza</i> Identification methodology of the human pelvis for Low Back Pain diagnosis	<i>A. ARIDON</i> Hysteretic behaviour of tape-spring actuators: Influence on the deployment...	<i>N Alujevic</i> Decentralised feedback control systems in double panels	<i>A. Vania</i> Steam whirl stability margin in a power unit
09:40	<i>M. Ajovalasit</i> Effect of automobile operating condition on the subjective equivalence of...	<i>J. Slavic</i> Dynamics of rigid bodies with rough contact surfaces and run-in wear	<i>A. Hepberger</i> Direct hybrid coupled finite element - wave based technique for 3D...	<i>M. Verschuure</i> Counterweight balancing for machine frame vibration reduction: design and...
10:05	<i>J. Keske</i> Subjective and Objective Vibration Characterization of User Interface...	<i>L. Bochkareva</i> Metal-polymer-ceramic constrained layer damping system	<i>A. Elliott</i> A Method to Characterise Structure Borne Noise of a Source from In-Situ...	<i>G. D'Elia</i> Vibro-acoustic measurements for the identification of incoming stall in...
10:30	<i>T. Nagatani</i> Optimization of Child Restraint System for Crash-Safety with Child FE Human...	COFFEE BREAK	<i>F. Pilla</i> Presenting Noise Maps in a 3D Environment	<i>E.S. Gutierrez-Wing</i> Modal Balancing of turbo-generator rotors using simplified spatial models
10:55	COFFEE BREAK	<i>G. Rosenhäger</i> Investigation of the sloshing effects of an aeroplane fuel tank without and...	<i>E. Mucchi</i> Reduced modal models and negative concept modifications in dynamic analysis	COFFEE BREAK
11:20	<i>T. Debelle</i> High Channel Count Systems Architecture for Noise and Vibration...	<i>N. Maia</i> On the Modelling of Damping in Structural Vibrations	COFFEE BREAK	<i>Y. DETANDT</i> Jet Flow induced noise computed using Large Eddy Simulations
11:45	<i>L. Bregant</i> Non contact sensors comparison for dynamic testing of lightweight...	<i>A. Carcaterra</i> Fractional damping Induced by a slave system attached to a master...		<i>O. Andrianarison</i> Vibro-acoustic interactions with mean flows. Coupling of Galbrun's and...
12:10	<i>H.-E. de Bree</i> Two complementary Microflow based methods to determine the reflection...			<i>J. Cordova</i> Airflow and acoustic optimization of cooling devices using 3D particle...
	I1 Instrumentation Chair: L. Bregant	D4 Damping Chair: H. Rice		AA3 Aeroacoustics and flow noise Chair: M. Baelmans

ROOM 5	ROOM 6	ROOM 7	
AA2 Aeroacoustics and flow noise Chair: A. Matesanz	TPA2 Transfer path analysis and source identification Chair: P. Van der Linden	NVH4 Vehicle noise and vibration Chair: H. Vd Auweraer	
<i>C. Schram</i> Application of a Boundary Element reformulation of an aeroacoustical...	<i>R. Randall</i> Blind source separation and system identification for convolutive mixtures...	<i>F. De Coninck</i> Expanding the bandwidth of MDOF Road Reproductions	08:50
<i>C. PEZERAT</i> Experimental identification of a boundary pressure field induced by a...	<i>S. Smyth</i> An Analysis of Friction Noise	<i>P. Bouvet</i> Measurement of dynamic loads at wheel center for road excitations (NVH...	09:15
<i>C. O'Reilly</i> Jet noise modelling for shielding calculations using RANS solution source...	<i>K. Mendrok</i> Reconstruction of loading forces from responses data measured in-flight	<i>Y.H. Wijnant</i> A new approach to model tyre/road contact.	09:40
<i>Y. Reymen</i> Influence of irregular grids on the accuracy of a Quadrature-Free...	COFFEE BREAK	<i>S. Puri</i> Two-way Coupled Structural Acoustic Optimization via Model Order Reduction...	10:05
COFFEE BREAK	<i>C. Mares</i> Model Updating using Bayesian Estimation	COFFEE BREAK	10:30
<i>I. Garitaonandia</i> Active Vibration Control in a Centerless Grinding Machine	<i>Y. Halevi</i> The QCM approach for model updating from noisy data	<i>R. Pirk</i> Acoustic Theoretical x Experimental Comparison of the Brazilian Satellite...	10:55
<i>Z. Ogonowski</i> Adaptive vibrations control of a turbine with magnetic bearings	<i>M. Link</i> Using Complex Modes for Model Updating of Structures with Non-Proportional...	<i>A. Randazzo</i> A boundary integral method for noise shielding analysis in non-conventional...	11:20
<i>P. Sloetjes</i> Piezoceramics-based Devices for Active Balancing of Flexible Shafts	<i>N. ROY</i> Updating of the Myriade Platform FE Model using Microvibration Test Data	<i>R. Kampinga</i> Viscothermal wave propagation in a circular layer with a partially open and...	11:45
<i>C.-H. Nguyen</i> FE analysis of a PZT-actuated adaptive beam with vibration damping using an...	<i>A. Hanke</i> Model Updating of Ship Decks loaded with Welding Stresses	<i>X. Li</i> Vibro-acoustic analysis of fluid-loaded structures using component mode...	12:10
AVC3 Active vibration control and smart structures Chair: J. Swevers	MU1 Model updating and correlation Chair: M. Link	VAM2 Vibro-acoustic modelling and prediction Chair: Ph. Bouillard	

Overview of oral presentations - Wednesday afternoon

	ROOM 1	ROOM 2	ROOM 3	ROOM 4
	DCS1 Dynamic behavior of civil structures Chair: W. Heylen	PNVC1 Passive noise and vibration control Chair: W. Lauriks	SC1 Substructuring and coupling Chair: B. Mace	RMM1 Rotating machinery monitoring and diagnostics Chair: B. Randall
14:00	<i>F. Magalhaes</i> Output-only modal identification of Luiz I Bridge before and after...	<i>I.M. Miasa</i> Study on sound absorption of a multi-leaf microperforated panel	<i>N. Roy</i> Damping Allocation in Automotive Structures using Reduced Models	<i>F. IONESCU</i> Using of Matching Pursuit and Genetic Algorithms for Bearings' Fault...
14:25	<i>V. Racic</i> FE Modelling and Updating of Unique Fink Truss Footbridge	<i>M. Qibo</i> Control of sound transmission through double wall partitions using...	<i>J. Zhu</i> Assignment of receptances by added mass-spring absorbers	<i>L. Reicke</i> Identification of the Running-State of Railway Wheelsets
14:50	<i>A. FERIANI</i> Time domain iterative procedures for vehicle-bridge dynamic interaction	<i>A. Forrester</i> Novel Passive Vibration Isolators	<i>D. Rixen</i> Dual Assembly of substructures and the FBS Method: Application to the...	<i>S. Ker</i> Combustion diagnosis for internal combustion engines with real-time...
15:15	<i>Z. Miskovic</i> Global vertical modes of floor vibration in multi-storey buildings	<i>A. Ribeiro</i> Transmissibility of Forces in Multiple-Degree-of-Freedom Systems	<i>A. STERNCHUSS</i> On the reduction of quasi-cyclic disk models with variable rotation speeds	<i>J. Guimaraes</i> Modelling dynamic interactions of rolling elements in bearings for...
15:40	<i>M.C. Rigueiro</i> Vibration of the railway track-viaduct system under moving vehicles taking...	<i>S. Manzoni</i> Rubber isolating elements to prevent vibro-acoustic propagation		<i>P. Houlston</i> Modal Control of Vibration in Rotating Machines and Other Generally Damped...
16:05	<i>S. Zegers</i> Design of lightweight floor system with minimized vibration	<i>T. Waters</i> Static Analysis of a Quasi-Zero-Stiffness Vibration Isolator		<i>J. Penny</i> Condition Monitoring of Rotating Machinery using Active Magnetic Bearings

FRIENDCOPTER Rotorcraft noise and vibration – FCOP1

Room 1 – Chairman: A. Vecchio

- 13:00 Energy ratio approach for SEA model path identification (ID 130)
Gianluca Diodati, Pasquale Vitiello, *Italian Aerospace Research Center, Italy*
- 13:25 Experimental Noise Transfer Path Analysis on Helicopters (ID 572)
Antonio Vecchio, *LMS International, Belgium*
Carlo Urbanet, *University of Rome “La Sapienza”, Italy*
Fausto Cenedese, *AgustaWestland, Italy*
- 13:50 Active solutions for reduction of the transmission of structure - borne noise to the cabin structure on a A109 mockup (ID 601)
L. Dozio, W. Corbetta, E. Vigoni, A. Forghieri, G.L. Ghiringhelli, *Politecnico di Milano, Italy*
Fausto Cenedese, *AgustaWestland, Italy*
- 14:15 Simulation and Evaluation of Noise and Vibration Reduction Techniques in a Helicopter Cabin Using SEA (ID 605)
A. Perazzolo, Fausto Cenedese, *AgustaWestland, Italy*
- 14:40 Hybrid Modelling of a helicopter gearbox using Inverse Boundary Elements Method (ID 608)
Antonio Vecchio, *LMS International, Belgium*
Fausto Cenedese, *AgustaWestland, Italy*
Carlo Urbanet, *University of Rome “La Sapienza”, Italy*
- 15:05 Modeling and Characterisation of the Vibration Dynamics Modeling of Anisotropic Porous Foam Materials (ID 632)
Rémi Guastavino, Peter Göransson, *KTH Kunliga Tekniska Högskolan, Sweden*

Non-linearities: identification and modelling – NL1

Room 1 – Chairman: J. Schoukens

- 15:55 Experiments, measurement procedures and curve-fitting of a post-buckled vibrating beam (ID 65)
Or Yogev, Izhak Bucher, Miles Rubin, *Technion - Israel Institute of Technology, Israel*
- 16:20 Experimental identification of non-linear parameters over a scaled multi-storey building (ID 512)
Luigi Garibaldi, Ermanno Giorcelli, Stefano Marchesiello, *Politecnico di Torino, Italy*
- 16:45 Nonlinear Structure Analysis Using the Best Linear Approximation (ID 533)
Lieve Lauwers, Johan Schoukens, Rik Pintelon, Martin Enqvist, *Vrije Universiteit Brussel, Belgium*

17:10 Comparison of two different nonlinear state-space identification algorithms (ID 426)

Johan Paduart, Johan Schoukens, *Vrije Universiteit Brussel, Belgium*

Kris Smolders, Jan Swevers, *Katholieke Universiteit Leuven, Belgium*

17:35 On Nonlinear Parameter Estimation (ID 505)

Martin Magnevall, Andreas Josefsson, Kjell Ahlin, *Blekinge Institute of Technology, Sweden*

18:00 Nonlinearity Characterization for Nonlinear Dynamic System Identification Using an Expert Approach (ID 188)

Grigorios Dimitriadis, Gareth Vio, *University of Manchester, United Kingdom*

Dynamic modelling – DMOD1

Room 2 – Chairman: E. Balmès

13:00 Model validation for heavily damped structures. Application to a windshield joint. (ID 335)

Etienne Balmes, *Ecole Centrale de Paris / SDTools, France*

Mathieu Corus, *ONERA / Ecole Centrale Paris, France*

Sylvain Germès, *PSA Peugeot Citroën, France*

13:25 A Linear Programming Approach to the Optimal Design of Spline-Based Motion System Inputs (ID 487)

Jan De Caigny, Bram Demeulenaere, Jan Swevers, Joris De Schutter, *Katholieke Universiteit Leuven, Belgium*

13:50 Dynamic Behaviour of Elastic Bodies Coupled by Extended Friction Contacts (ID 8)

Alexander Genzo, *Volkswagen AG, Germany*

Walter Sextro, *Technical University of Graz, Austria*

Lars Panning, *University of Hannover, Germany*

14:15 Prediction of the influence of structural modifications including viscoelastic materials (ID 336)

Benjamin Groult, *EDF R&D, France*

14:40 Modelling the Control Strategies for Riding a Motorcycle (ID 469)

Stuart Rowell, Atanas Popov, Jacob Meijaard, *University of Nottingham, United Kingdom*

15:05 Determining the dynamic properties of joints in piping systems (ID 111)

Jen Muggleton, Tim Waters, Brian R. Mace, *University of Southampton, United Kingdom*

OPTIMESS Optical measurement techniques – OPT1

Room 2 – Chairman: S. Vanlanduit

- 15:55 Refracto-Vibrometry for Visualizing Sound Radiation from Vibrating Objects (ID 544)
L. Zipser, F. Wächter, H. Franke, *HTW University of Applied Sciences Dresden, Germany*
- 16:20 Study of surface acoustic and guided acoustic wave interaction with defects by use of scanning and full field stroboscopic interferometry (ID 545)
Jozefien Goossens, Xiaodong Xu, Osamu Matsuda, Philippe Leclaire, *Katholieke Universiteit Leuven, Belgium*
Loïc Martinez, *IUP GE, Université de Cergy, France*
Christ Glorieux, *Katholieke Universiteit Leuven, Belgium*
- 16:45 MIMO testing on a car body using a three-dimensional scanning vibrometer (ID 546)
François Bouteille, Matthias Schüssler, *Polytec GmbH, Germany*
- 17:10 A review of 10 years of continuous-scan LDV developments (ID 550)
Anthony Stanbridge, David J. Ewins, *Imperial College London, United Kingdom*
- 17:35 Four channel high resolution heterodyne interferometer based on birefringent optics (ID 551)
Henk van Elburg, Joris Direkx, W.F. Decraemer, *Universiteit Antwerpen, Belgium*
- 18:00 Acoustic source identification using a continuous scanning LDV (ID 552)
Joris Vanherzeele, Steve Vanlanduit, Patrick Guillaume, *Vrije Universiteit Brussel, Belgium*

Active noise control – ANC1

Room 3 – Chairman: R. Boonen

- 13:00 Comparing a Filtered-X LMS and an H2 Controller for the Attenuation of the Sound Radiated by a Panel (ID 320)
Lazaro Donadon, D.A. Siviero, Juan Camino, Jose Roberto Arruda, *Universidade Estadual de Campinas, Brazil*
- 13:25 Further modeling and new results of active and passive noise reduction using elasto-poroelastic panels (ID 278)
Tomasz Zielinski, *Polish Academy of Sciences / Ecole Centrale de Lyon, France*
Marie-Annick Galland, Mohamed Ichchou, *Ecole Centrale de Lyon, France*
- 13:50 Active Structural Acoustic Control of repetitive impact noise (ID 352)
Gregory Pinte, Rene Boonen, Wim Desmet, Paul Sas, *Katholieke Universiteit Leuven, Belgium*

14:15 Force transmission loss as a mechanism for the active control of noise using an active bearing: Preliminary results (ID 1)

Simon Hill, *Katholieke Universiteit Leuven / Flanders Mechatronics Technology Center, Belgium*

Bert Stallaert, *Katholieke Universiteit Leuven, Belgium*

Wim Symens, *Flanders Mechatronics Technology Center, Belgium*

Paul Sas, *Katholieke Universiteit Leuven, Belgium*

14:40 Enhancement of a Passive Acoustic Liner by Active Control of Intensity (ID 15)

Angelot Minotti, Valerie Pommier-Budinger, Joel Bordeneuve-Guibe, *ENSICA-DAS, France*

Frank Simon, *ONERA, France*

Medium and high frequency techniques – MHF1

Room 3 – Chairman: W. Desmet

15:30 Wave based modelling methods for steady-state interior acoustics: an overview (ID 323)

Bert Pluymers, Wim Desmet, Dirk Vandepitte, Paul Sas, *Katholieke Universiteit Leuven, Belgium*

16:20 Sound transmission loss calculations of different structural subsystems using “OpenSourceSEA” (ID 138)

Sören Callsen, Otto von Estorff, *Hamburg University of Technology, Germany*

Alexander Peiffer, *EADS Corporate Research Centre, Germany*

16:45 Coupled vibro-acoustic analysis in 3D using a wave expansion finite difference technique (ID 207)

Gabriel Ruiz, *Harman/Becker Automotive Systems, United Kingdom*

17:10 Acoustic convected radiation using a partition of unity formulation (ID 281)

Tanguy Mertens, Philippe Bouillard, *Université Libre de Bruxelles, Belgium*

Jeremy Astley, Pablo Gamallo, *University of Southampton, United Kingdom*

L. Hazard, *Université Libre de Bruxelles, Belgium*

17:35 On the application of the Wave Based Method in the case of an exterior 3D domain (ID 184)

Jevgenijs Jegorovs, Jan Mohring, *ITWM, Fraunhofer-Institut für Techno- und Wirtschaftsmathematik, Germany*

18:00 Test strategy for aero-engine structural dynamic model validation (ID 464)

Jose Garcia, *Rolls-Royce plc., United Kingdom*

David J. Ewins, *Imperial College London, United Kingdom*

Operational modal analysis – OMA1

Room 4 – Chairman: N. Maia

- 13:00 A Low Order Frequency Domain Algorithm for Operational Modal Analysis (ID 209)
Shashank Chauhan, Raymond Martell, David Brown, Randall Allemang, *University of Cincinnati, United States of America*
- 13:25 Parameter identification of ship structures using classical and operational modal analysis (ID 135)
Sven-Erik Rosenow, Günther Schlottmann, *University of Rostock, Germany*
- 13:50 Using Enhanced Frequency Domain Decomposition as a Robust Technique to Harmonic Excitation in Operational Modal Analysis (ID 170)
Niels-Jørgen Jacobsen, *Brüel & Kjaer Sound & Vibration Measurements A/S, Denmark*
Palle Andersen, *Structural Vibration Solutions A/S, Denmark*
Rune Brincker, *University of Aalborg, Denmark*
- 14:15 Considerations in the Application of Spatial Domain Algorithms to Operational Modal Analysis (ID 210)
Shashank Chauhan, Raymond Martell, David Brown, Randall Allemang, *University of Cincinnati, United States of America*
- 14:40 Modal Parameter Identification From Operative Responses (ID 586)
Alessandro Agneni, Giuliano Coppotelli, *University of Rome “La Sapienza”, Italy*

Parameter estimation – PE1

Room 4 – Chairman: R. Allemang

- 15:30 A Complete Review of the Complex Mode Indicator Function (CMIF) with Applications (ID 459)
Randall Allemang, David Brown, *University of Cincinnati, United States of America*
- 16:20 Experimental modal analysis using blind source separation techniques (ID 81)
Fabien Poncelet, Gaetan Kerschen, Jean-Claude Golinval, *Université de Liège, Belgium*
- 16:45 Identification of a Global Model Describing the Temperature Effects on the Dynamics of a Smart Composite Beam (ID 230)
John Hios, Spilios Fassois, *University of Patras, Greece*

17:10 Identification of Flexibility Parameters of 6-axis Industrial Manipulator Models (ID 176)

Jonas Ohr, *ABB AB, Corporate Research, Sweden*

Stig Moberg, *ABB Robotics / Linköpings universitet, Sweden*

Erik Wernholt, *Linköpings universitet, Sweden*

S. Hanssen, *ABB Robotics, Sweden*

J. Pettersson, *ABB AB, Corporate Research, Sweden*

S. Persson, *ABB Robotics, Sweden*

S. Sander-Tavallaey, *ABB AB, Corporate Research, Sweden*

17:35 Rigid Body Properties of An Actual Diesel Engine by Experimental Spatial Matrix Identification Method (ID 80)

Toshiyuki Uyama, *YANMAR CO.,LTD., Japan*

Masaaki Okuma, Atsushi Oyama, *Tokyo Institute of Technology, Japan*

18:00 Mechanical System Identification by Multivariate Time Series Models (ID 561)

Roberto Pedro Baldeón Amaro, *Universidade Estadual de Mato Grosso, Brazil*

Paulo Roberto Gardel Kurka, *Universidade Estadual de Campinas, Brazil*

Flite Eureka 2 – FLI1

Room 5 – Chairman: J. Cooper

13:00 Current Status and Challenges for Flight Flutter Testing (ID 417)

Asim Abbassi, Jonathan Cooper, *University of Manchester, United Kingdom*

13:50 In-flight modal analysis - a comparison between sweep and turbulence excitation (ID 565)

Bart Peeters, *LMS International, Belgium*

Tim De Troyer, *Erasmushogeschool Brussel, Belgium*

Patrick Guillaume, *Vrije Universiteit Brussel, Belgium*

Herman Van der Auweraer, *LMS International, Belgium*

14:15 An experimental investigation of the subsonic stall flutter (ID 113)

Jing Li, Nikolaos Andrinopoulos, Grigorios Dimitriadis, *University of Manchester, United Kingdom*

14:40 Detection of turbulence during flutter tests (ID 116)

Pierre Vacher, Alain Bucharles, *ONERA, France*

15:05 Fast Derivation of Uncertainty Bounds for On-line Flight Flutter Testing (ID 437)

Tim De Troyer, *Erasmushogeschool Brussel, Belgium*

Patrick Guillaume, Rik Pintelon, *Vrije Universiteit Brussel, Belgium*

Bart Peeters, *LMS International, Belgium*

Flite Eureka 2 – FLI2

Room 5 – Chairman: T. Uhl

- 15:55 Quantification of Asymmetric In-Flight LCO Response and Prediction using Neural Networks (ID 123)
Kenneth Dawson, Daniel Maxwell, *TYBRIN Corporation, United States of America*
- 16:20 When is a pole spurious? (ID 137)
Ivan Markovsky, Jeroen Boets, Bart Vanluyten, Katrien De Cock, Bart De Moor, *Katholieke Universiteit Leuven, Belgium*
- 16:45 CUSUM test for flutter monitoring of modal dynamics (ID 193)
Rafik Zouari, Laurent Mevel, Michèle Basseville, *Institut de Recherche en Informatique et Systèmes Aléatoires, France*
- 17:10 Recursive subspace identification for in-flight modal analysis of airplanes (ID 136)
Katrien De Cock, *Katholieke Universiteit Leuven, Belgium*
Guillaume Mercère, *Laboratoire d'Automatique et d'Informatique Industrielle, France*
Bart De Moor, *Katholieke Universiteit Leuven, Belgium*
- 17:35 The use of wavelet transform for in-flight modal analysis (ID 432)
Tadeusz Uhl, Andrzej Klepka, *AGH - University of Science and Technology, Poland*
- 18:00 Output-only Technique for Estimation of Nonlinear System Parameters for In-flight Test Application (ID 433)
Joanna Iwaniec, Tadeusz Uhl, *AGH - University of Science and Technology, Poland*

Modal testing and FRF estimation – MT1

Room 6 – Chairman: N. Okubo

- 13:00 Development of a New Automated Modal Test Planning Algorithm (ID 83)
Phil Daborn, P.R. Ind, Alun Tribe, Kevin Garraway, *AWE, United Kingdom*
- 13:25 A Review of Experimental Modal Analysis Methods with respect to their Applicability to Test Data of Large Aircraft Structures (ID 174)
Marc Böswald, Dennis Göge, Ulrich Füllekrug, Yves Govers, *Deutsches Zentrum für Luft- und Raumfahrt e.V., Germany*
- 13:50 Measurement plan definition on Ariane V launcher (ID 378)
Alexis Macaire, *EADS SPACE Transportation, France*
François Dubois, *CNAM, France*

- 14:15 Estimation of Powertrain Inertia Properties via an In-situ Method (ID 579)
David Johnson, Jeffrey Van Karsen, Jason Blough, Mohan Rao, *Michigan Technological University, United States of America*
Tony Ge, *Ford Motor Company, United States of America*
- 14:40 Practical Guidelines for Optimising the Measurement of Frequency Response and Coherence Functions with Digital Spectral Analysers (ID 639)
Jérôme Antoni, *Université de Technologie de Compiègne, France*
Johan Schoukens, *Vrije Universiteit Brussel, Belgium*
- 15:05 Investigation of Boring Bar Mode Shape Rotation by Experimental Modal Analysis in Correlation with Finite Element Modeling (ID 658)
Tatiana Smirnova, Henrik Åkesson, Lars Håkansson, Ingvar Claesson, *Blekinge Institute of Technology, Sweden*
Thomas Lagö, *Acticut International AB, Sweden*

Damage monitoring and identification – DMI1

Room 6 – Chairman: D. Inman

- 15:55 Vibration based SHM : comparison of the performance of modal features vs features extracted from spatial filters under changing environmental conditions (ID 94)
Arnaud Deraemaeker, *Université Libre de Bruxelles, Belgium*
Edwin Reynders, Guido De Roeck, *Katholieke Universiteit Leuven, Belgium*
Jyrki Kullaa, *Helsinki Polytechnic Stadia, Finland*
- 16:20 A Study on the Correlation between PZT and MFC Resonance Peaks and Damage Detection Frequency Intervals Using the Impedance Method (ID 92)
Daniel Peairs, Pablo Tarazaga, Daniel Inman, *Virginia Polytechnic Institute and State University, United States of America*
- 16:45 Determination of Total Hip Replacement stem insertion endpoint and stability assessment by vibration analysis: first experiences with per-operative measurements (ID 357)
Leonard Pastrav, Siegfried Jaecques, *Katholieke Universiteit Leuven, Belgium*
Michiel Mulier, *University Hospital Gasthuisberg, Belgium*
Georges Van der Perre, *Katholieke Universiteit Leuven, Belgium*
- 17:10 Sensor fault identification and correction in structural health monitoring (ID 283)
Jyrki Kullaa, *Helsinki Polytechnic Stadia, Finland*
- 17:35 Detection of corrosion damage in RC beams using modal testing (ID 10)
Zubaidah Ismail, P.L. Tan, Hashim Razak, *University of Malaya, Malaysia*

18:00 Damage identification for structural health monitoring using modal-based method and neural network classifier (ID 576)

Assunta Sorrentino, Ignazio Dimino, Vincenzo Quaranta, E. Quaranta, *CIRA SCpA, Italy*

Application of (new) vibroacoustic methods to complex systems – AVM1

Room 7 – Chairman: A. Sestieri

13:00 Introduction to AVM session (ID 677)

13:25 A review of the scaling procedure for the analysis of the vibroacoustic responses (ID 616)

S. De Rosa, F. Franco, *University of Naples “Federico II”, Italy*

13:50 Efficiency estimation of a benchmark SEA model (ID 613)

Antonio Culla, Aldo Sestieri, *University of Rome “La Sapienza”, Italy*

14:15 Application of the complex envelope vectorization to a benchmark made of three coupled plates (ID 614)

Aldo Sestieri, Oliviero Giannini, Antonio Carcaterra, *University of Rome “La Sapienza”, Italy*

14:40 Evaluation of the SEA parameters of a benchmark by the power injection method (ID 612)

Antonio Culla, Aldo Sestieri, *University of Rome “La Sapienza”, Italy*

15:05 Considerations on the Modelling of a Benchmark Structure and Applicability of Statistical Energy Analysis (ID 615)

Niccolò Baldanzini, P. Citti, Marco Pierini, A Scippa, *Università degli Studi di Firenze, Italy*

15:30 A hybrid formulation for vibro-acoustic analysis of structures in the mid-frequency domain (ID 471)

Alessandro Pratellesi, *Università degli Studi di Firenze, Italy*

Michel Viktorovitch, *Rieter Automotive AG, Switzerland*

Niccolò Baldanzini, Marco Pierini, *Università degli Studi di Firenze, Italy*

Active vibration control and smart structures – AVC1

Room 7 – Chairman: N.B. Roozen

16:20 A fast converging adaptive control scheme for suppression of broadband disturbances on a multi-variable vibration isolation setup (ID 390)

Gerard Nijssse, Johannes van Dijk, Ben Jonker, *University of Twente, The Netherlands*

16:45 Electrical Coupling between Sensors and Actuators integrated in a Micro Active Suspension (ID 105)

Thierry Verdot, Yann Meyer, Manuel Collet, *FEMTO-ST, France*

Jacek Baborowski, Paul Muralt, *Ecole Polytechnique Fédérale de Lausanne, Switzerland*

- 17:10 Acoustic excitation of mechatronic systems by diffuse acoustic sound fields; Numerical predictions and measurements. (ID 181)
Bert Roozen, Boudewijn Verhaar, *Philips Applied Technologies, The Netherlands*
Michiel Vervoordeldonk, *Delft University of Technology / Philips Applied Technologies, The Netherlands*
- 17:35 Active Structural Damping in high-precision equipment (ID 264)
Michiel Vervoordeldonk, Jan van Eijk, *Delft University of Technology / Philips Applied Technologies, The Netherlands*
Bert Roozen, *Philips Applied Technologies, The Netherlands*
- 18:00 The use of dynamical recurrent neural network for identification and active vibration control of a laminated thin plate (ID 521)
Solmaz Kouhi, Javad Poshtan, *Iran University of Science and Technology, Iran (Islamic Republic of)*

Maduse – MAD1

Room 8 – Chairman: D. Vandepitte

- 13:00 A Wave-Based Substructuring Approach for Fast Modification Predictions and Industrial Vehicle Optimization (ID 660)
Stijn Donders, Rabah Hadjit, Luc Hermans, Marc Brughmans, *LMS International, Belgium*
Wim Desmet, *Katholieke Universiteit Leuven, Belgium*
- 13:25 An approach to sensitivities-based prediction methods within uncertainty modeling of the dynamic behavior of structures. (ID 627)
M. A. Schoen, *Centro Ricerche FIAT, Italy*
- 13:50 Fuzzy Uncertainty Analysis in Automotive Crash Simulation (ID 587)
Simone Turrin, Michael Hanss, Lothar Gaul, *Universität Stuttgart, Germany*
- 14:15 Modelling of a vehicle windshield with realistic uncertainty (ID 574)
Roberto d'Ippolito, *LMS International, Belgium*
Umut Tabak, Maarten De Munck, *Katholieke Universiteit Leuven, Belgium*
Stijn Donders, *LMS International, Belgium*
David Moens, Dirk Vandepitte, *Katholieke Universiteit Leuven, Belgium*
- 14:40 Possibilities and limitations of a reanalysis-based procedure for structural dynamic analysis of uncertain systems (ID 501)
Luigi Martini, Etienne Arnoult, *Université de Technologie de Compiègne, France*
Pascal Lardeur, *Renault / Université de Technologie de Compiègne, France*
- 15:05 Analysis of structures with uncertain parameters using component mode synthesis (ID 324)
Lars Hinke, Brian R. Mace, Tim Waters, *University of Southampton, United Kingdom*

Uncertainties in structural dynamics and acoustics – UNC1

Room 8 – Chairman: G.Lombaert

- 15:55 Inverse problem for the identification of Chaos representations of random fields using experimental vibrational tests (ID 340)
Christophe Desceliers, Christian Soize, *University of Marne-La-Vallée, France*
Roger Ghanem, *University of Southern California, United States of America*
- 16:20 Robust design optimization for uncertain complex dynamical systems (ID 59)
Evangéline Capiez-Lernout, Christian Soize, *University of Marne-La-Vallée, France*
- 16:45 A hierarchical approach to study the intra and inter variability of structure borne noise in vehicles (ID 118)
Cécile Lionnet, *Renault, Technocentre, France*
Pascal Lardeur, *Renault / Université de Technologie de Compiègne, France*
Fabien Vieuille, *Université de Technologie de Compiègne, France*
- 17:10 An automated response surface based optimisation technique for the calculation of fuzzy envelope FRFs of models with uncertain properties (ID 299)
Maarten De Munck, David Moens, Wim Desmet, Dirk Vandepitte, *Katholieke Universiteit Leuven, Belgium*
- 17:35 The fuzzy FE approach to assess the uncertain static response of an industrial vehicle (ID 537)
Laszlo Farkas, David Moens, *Katholieke Universiteit Leuven, Belgium*
Stijn Donders, *LMS International, Belgium*
Dirk Vandepitte, Wim Desmet, *Katholieke Universiteit Leuven, Belgium*
- 18:00 Fuzzy Finite Element Method: An Experimental Modal Analysis Comparison (ID 179)
Thierry Tison, Karine Ruffin, Franck Massa, Bertrand Lallemand, *Université de Valenciennes et du Hainaut Cambrésis, France*

Poster session – POS1A

Room 9

- 13:00 Application of strain integral damping to engine mounts (ID 3)
Ugo Tornar, *PSA Peugeot Citroen, France*
- 13:00 Vertical vibration control of multi-track High-Speed railway bridges under resonant conditions retrofitted with Fluid Viscous Dampers (ID 147)
Maria D. Martinez-Rodrigo, *University Jaume I, Spain*
Emma Moliner Cabedo, Pedro Museros, *University of Granada, Spain*

- 13:00 Experimental Study on Vibration Reduction System with Granular Materials (ID 242)
Taichi Sato, Makoto Tanishima, Atsushi Ban, *Tokyo Denki University, Japan*
Kihachiro Tanaka, *Saitama University, Japan*
- 13:00 Acceptance test for damped railway wheels (ID 401)
Andrea Bracciali, *Università degli Studi di Firenze, Italy*
Steven Cervello, *Lucchini Sidermeccanica S.p.A., Italy*
- 13:00 Thermoelastic Damping in MEMS Resonators - The role of Thermal and Structural Modes (ID 516)
N. Jaroesawat, Stewart McWilliam, C.H.J. Fox, *University of Nottingham, United Kingdom*
- 13:00 On the vibro-acoustic behaviour of high-speed train wheels (ID 90)
Alfredo Cigada, Stefano Manzoni, Marcello Vanali, *Politecnico di Milano, Italy*
- 13:00 Determination of Operational Modal Parameters and its applications in Engine NVH Development (ID 381)
Qiu Luo, Laurent Polac, *Renault SAS, France*
- 13:00 A new physical approach to generate a seismic excitation (ID 178)
Sylvain Lignon, Louis Jézéquel, *Ecole Centrale de Lyon, France*
- 13:00 Soil induced vibrations due to high-speed trains considering dynamic interaction and ballast effects (ID 282)
Pedro Galvín, José Domínguez, *Universidad de Sevilla, Spain*
- 13:00 Seismic damage detection in existing buildings by finite element model updating (ID 350)
Pelin Gundes Bakir, Edwin Reynders, Guido De Roeck, Geert Degrande, *Katholieke Universiteit Leuven, Belgium*
- 13:00 Measurement of human-structure interaction in vertical and lateral directions: a standing body (ID 319)
Ernesto Duarte, Tianjian Ji, *University of Manchester, United Kingdom*
- 13:00 The Finite Element Modeling of Engine Block and Response Analysis by Piston Slap (ID 262)
Nobutaka Tsujiuchi, Takayuki Koizumi, Shinya Uemura, *Doshisha University, Japan*

Poster session – POS1B

Room 10

- 13:00 Optimization of a complex structure using a modal approach (ID 175)
Sebastien Besset, Louis Jézéquel, *Ecole Centrale de Lyon, France*
- 13:00 Research on Several Envelope Analysis Methods (ID 61)
Qin Shuren, Liu Xiaofeng, Bo Lin, *Chongqing University, China*

- 13:00 Study on the sensitivity of gear stiffness to tooth crack length and location for diagnostic applications (ID 62)
Costantino Carmignani, Paola Forte, Gabriele Melani, *University of Pisa, Italy*
- 13:00 Vibration of a coated plate with absorbing material produced by an acoustic source. Theoretical-experimental correlation (ID 159)
Xabier Sagartzazu, Juan Manuel Pagalday, Agustín Ugarte, Saioa Villodas, *Ikerlan S. Coop., Spain*
Maria Jesus Elejabarrieta, *Escuela Politécnica Superior de Mondragon Unibertsitatea, Spain*
Luis Hervella, *Universidade da Coruña, Spain*
- 13:00 Some considerations on fluid-structure interactions problems. (ID 215)
Orlando Andrianarison, Roger Ohayon, *I.S.A.T. Nevers, France*
- 13:00 Autoregressive based diagnostics scheme for detection of bearing faults (ID 491)
Suguna Thanagasundram, Fernando Soares Schindwein, *University of Leicester, United Kingdom*
- 13:00 Practical Formulas for Oscillating Flow and Sound Traveling in Pipe (ID 495)
Yoshichika Sato, Hiroshi Kanki, *Kobe University, Japan*
- 13:00 Coupling Factor in Vibro-Acoustic Problems and Sound Pressure Minimization by Structural Modification (ID 507)
Kohei Furuya, Takuya Yoshimura, *Tokyo Metropolitan University, Japan*
A. Suto, S. Narikuni, *HONDA R&D Co., Japan*
- 13:00 Predicting structure-borne sound in enclosures with different techniques (ID 524)
Attila Balázs Nagy, *Budapest University of Technology and Economics, Hungary*
Wim Desmet, *Katholieke Universiteit Leuven, Belgium*
Fülöp Augusztinovicz, *Budapest University of Technology, Hungary*
Bert Pluymers, *Katholieke Universiteit Leuven, Belgium*
- 13:00 Seismicity induced by excavation activities: monitoring system problems (ID 235)
Paolo Berry, Stefano Capponi, Anna Fabbri, *University of Bologna, Italy*
- 13:00 The application of spatial vision-based measurement for modal analysis (ID 556)
Piotr Kohut, Piotr Kurowski, M. Szewedo, *AGH - University of Science and Technology, Poland*

AMS1 - Multibody dynamics for multi-physics applications – AMS1

Room 1 – Chairman: H. Van Brussel

9:00 Welcome to the AMS workshop (ID 678)

9:15 Multiphysics modeling of mechatronic multibody systems (ID 654)

Paul Fiset, *Université Catholique de Louvain, Belgium*

Olivier Brüls, *Université de Liège, Belgium*

Jan Swevers, *Katholieke Universiteit Leuven, Belgium*

10:30 Concurrent simulation of mechatronic systems with variable mechanical configuration (ID 149)

Maíra da Silva, *Katholieke Universiteit Leuven, Belgium*

Olivier Brüls, *Université de Liège, Belgium*

Bart Paijmans, *Katholieke Universiteit Leuven / Flanders Mechatronics Technology Center, Belgium*

Wim Desmet, Hendrik Van Brussel, *Katholieke Universiteit Leuven, Belgium*

10:55 Optimal synthesis of planar mechanisms via an extensible-link approach (ID 655)

Jean-François Collard, *Université Catholique de Louvain, Belgium*

P. Duysinx, *Université de Liège, Belgium*

Paul Fiset, *Université Catholique de Louvain, Belgium*

11:20 An extended flexible multibody dynamics software for mechatronic applications (ID 656)

Olivier Brüls, P. Duysinx, Jean-Claude Golinval, *Université de Liège, Belgium*

AMS2 - Control and optimisation – AMS2

Room 1 – Chairman: J. Swevers

14:00 Gain-scheduling control for mechatronic systems with position-dependent dynamics (ID 29)

Bart Paijmans, *Katholieke Universiteit Leuven / Flanders Mechatronics Technology Center, Belgium*

Wim Symens, *Flanders Mechatronics Technology Center, Belgium*

Hendrik Van Brussel, Jan Swevers, *Katholieke Universiteit Leuven, Belgium*

14:25 A new semi-active method for the damping of a piezoelectric structure (ID 297)

Bruno de Marneffe, Mihaita Horodincu, Andre Preumont, *Université Libre de Bruxelles, Belgium*

14:50 Optimal Attenuation of Known Periodic Disturbances: a Convex Control Design Approach (ID 511)

Goele Pipeleers, Bram Demeulenaere, Joris De Schutter, Jan Swevers, *Katholieke Universiteit Leuven, Belgium*

15:15 Tracking Performances of Cascade and Sliding Mode Controllers with Application to a XY Milling Table (ID 634)

Zamberi Jamaludin, Hendrik Van Brussel, Jan Swevers, *Katholieke Universiteit Leuven, Belgium*

AMS3 - Applications – AMS3

Room 1 – Chairman: D. Reynaerts

16:05 Design and control of a novel piezoelectric drive module for application in a multi-DOF positioning stage (ID 356)

Wim Van de Vijver, Dominiek Reynaerts, Hendrik Van Brussel, *Katholieke Universiteit Leuven, Belgium*

16:30 A dynamic vibration absorber for torsional oscillations of metro wheel sets (ID 478)

Christophe Collette, Renaud Bastaits, Mihaita Horodincea, *Université Libre de Bruxelles, Belgium*

16:55 Development of a numerical modelling methodology for the NVH behaviour of elastomeric line connections (ID 510)

Andrea Stenti, David Moens, Paul Sas, Wim Desmet, *Katholieke Universiteit Leuven, Belgium*

17:20 Damping of spray boomstructures with non-linear dampers (ID 602)

K. Engelen, Herman Ramon, Jan Anthonis, *Katholieke Universiteit Leuven, Belgium*

17:45 Rotordynamic behaviour of a micro-turbine rotor on air bearings: modelling techniques and experimental verification (ID 571)

Tobias Waumans, Peter Vleugels, Jan Peirs, Farid Al-Bender, Dominiek Reynaerts, *Katholieke Universiteit Leuven, Belgium*

Non-stationary sound and vibration analysis and applications – NSV1

Room 2 – Chairman: S.D. Fassois

8:50 Parametric Time-Domain Methods for Non-Stationary Random Vibration Identification and Analysis: An Overview and Comparison (ID 97)

Aggelos Poulimenos A.G., M. Spiridonakos, Spilios Fassois, *University of Patras, Greece*

9:15 Cyclostationary modeling of reciprocating compressors and application to valve fault detection (ID 387)

Rafik Zouari, *Institut de Recherche en Informatique et Systèmes Aléatoires, France*

Jérôme Antoni, Jean-Luc Ille, *Université de Technologie de Compiègne, France*

Michel Willaert, *Burton Corblin, France*

Marcel Watremetz, *Centre Technique des Industries Mécaniques, France*

Menad Sidahmed, *Université de Technologie de Compiègne, France*

9:40 Non stationary analysis of a railway bridge scaled model under operational conditions (ID 626)

Luigi Garibaldi, Stefano Marchesiello, *Politecnico di Torino, Italy*

10:05 Don't ignore nonstationarity: use it to advantage (ID 635)

Frédéric Bonnardot, *LASPI, France*

R. Roustany, *Université de Technologie de Compiègne, France*

Ali Ibrahim, *LASPI, France*

K. Sabri, *LASPI / University of New South Wales, France*

Jérôme Antoni, *Université de Technologie de Compiègne, France*

M. El Badaoui, *LASPI, France*

Non-stationary sound and vibration analysis and applications – NSV2

Room 2 – Chairman: S.D. Fassois

10:55 Time-frequency domain decomposition for modal identification using ambient excitation tests (ID 313)

Thien-Phu Le, Patrick Paultre, *University of Sherbrooke, Canada*

11:20 Choi-Wiliams time frequency analysis of a three degree of freedom non-linear system (ID 322)

Andreas Kyprianou, *University of Cyprus, Cyprus*

Wieslaw Staszewski, Keith Worden, *University of Sheffield, United Kingdom*

11:45 Modal Parameters Identification Using Bilinear Joint Time-Frequency Analysis (ID 257)

Alireza Roshan-Ghias, Mohammad Mobed, Mohammad Bagher Shamsollahi, Mehdi Behzad, *Sharif University of Technology, Iran (Islamic Republic of)*

IRC Technology Seminar – IRC2

Room 2 – Chairman: D. Otte

14:00 A tutorial to IRC technology partnering

Dirk Otte, *IRC Flanders (IWT), Belgium*

- New technology for measuring dynamic systems
Johan Schoukens, *Vrije Universiteit Brussel, Belgium*
- 14:25 High frequency multi-axial testing of vehicles and components with increased accuracy for the purpose of non-linear system identification
Filip De Coninck, *Katholieke Univesiteit Leuven, Belgium*
- Analysis and control of low frequency vibrations on mobile machinery
Jan Anthonis, *Katholieke Universiteit Leuven, Belgium*
- 14:50 Effects on health from Whole Body Vibrations
Peter Jönsson, *CVK- Center for Vibration Comfort, Sweden*
- Active Noise Control and Active Structural Acoustic Control of transient noise
Gregory Pinte, *Katholieke Universiteit Leuven, Belgium*
- 15:15 A deterministic wave based modeling method for mid-frequency steady-state vibro-acoustics
Wim Desmet, *Katholieke Universiteit Leuven, Belgium*
- A modular numerical model for traffic induced vibrations in the built environment
Geert Degrande, *Katholieke Universiteit Leuven, Belgium*
- 15:40 Development of an active exhaust silencer for internal combustion engines.
René Boonen, *Katholieke Universiteit Leuven, Belgium*
- Non-destructive measurement instrument for the determination of elastic and damping properties of solid materials at room and elevated temperature.
Bart Bollen, *IMCE nv, Belgium*
- Structural Health Assessment by Vibration Monitoring
Guido De Roeck, *Katholieke Universiteit Leuven, Belgium*

Damping – D2

Room 2 – Chairman: J. Mottershead

- 16:30 Auxetic Materials and Structural Damping (ID 472)
John House, M. Greaves, M. Swan, *QinetiQ, United Kingdom*
- 16:55 Rheological and restoring force models regarding belt tensioner dynamic behavior: prediction & experiment. (ID 400)
Jerome Bastien, *Université de Technologie de Belfort-Montbéliard, France*
Guilhem Michon, *Valeo Electrical Systems, France*
Lionel Manin, *Regis Dufour, INSA de Lyon, France*

17:20 Modeling of Assembled Combustion Engine Parts under Consideration of Micro Slip Effects in the Connection Flanges (ID 504)

Carsten Schedlinski, *ICS Engineering GmbH, Germany*

Alexander Genzo, Bernard Läer, *Volkswagen AG, Germany*

Lars Panning, *University of Hannover, Germany*

17:45 Numerical Simulation of Rubber Devices Dynamics by Discrete Modelling (ID 84)

Matteo Lancini, Andrea Magalini, David Vetturi, *Università degli Studi di Brescia, Italy*

18:10 Damping Model Uncertainty in Structural Dynamics (ID 486)

Sondipon Adhikari, *University of Bristol, United Kingdom*

Active noise control – ANC2

Room 3 – Chairman: J.R. Arruda

8:50 Experimental and numerical investigations of a smart acoustic box (ID 372)

Friedemann Laugwitz, Jean Lefèvre, Gerald Schmidt, Tamara Nestoroviæ, Ulrich Gabbert, *Otto-von-Guericke University of Magdeburg, Germany*

9:15 A Virtual Prototyping Approach to the Design of Smart Structures Applications (ID 680)

Herman Van der Auweraer, *LMS International, Belgium*

Leopoldo P.R. de Oliveira, Maíra da Silva, *Katholieke Universiteit Leuven, Belgium*

Sven Herold, *LBF, Fraunhofer Institute for Structural Durability, Germany*

Jan Mohring, *ITWM, Fraunhofer-Institut für Techno- und Wirtschaftsmathematik, Germany*

Arnaud Deraemaeker, *Université Libre de Bruxelles, Belgium*

9:40 A CAE modeling approach for the analysis of vibro-acoustic systems with distributed ASAC control (ID 167)

Leopoldo P.R. de Oliveira, *Katholieke Universiteit Leuven, Belgium*

Arnaud Deraemaeker, *Université Libre de Bruxelles, Belgium*

Jan Mohring, *ITWM, Fraunhofer-Institut für Techno- und Wirtschaftsmathematik, Germany*

Herman Van der Auweraer, *LMS International, Belgium*

Paul Sas, Wim Desmet, *Katholieke Universiteit Leuven, Belgium*

10:05 Evaluation of the Performance Characteristics of the FxLMS and FxGAL Algorithms for ASAC applications (ID 578)

Prasanth Vengala, Amanjot Dhaliwal, Jason Blough, Gordon Parker, *Michigan Technological University, United States of America*

Active vibration control and smart structures – AVC2

Room 3 – Chairman: A. Preumont

- 10:55 Damping measurements on a carbon fibre reinforced laminate (ID 500)
Diogo Montalvão, *Escola Superior de Tecnologia de Setúbal, Portugal*
António Ribeiro, Nuno Maia, *Instituto Superior Técnico, Portugal*
J. Duarte Silva, R.A. Cláudio, *Escola Superior de Tecnologia de Setúbal, Portugal*
- 11:20 Active Vibration Control of Space Truss Structures: Power Analysis and Energy Distribution (ID 582)
Paulo Gonçalves, Stephen Elliott, Michael J. Brennan, *University of Southampton, United Kingdom*
- 11:45 Vibration Testing Techniques for Active Membranes (ID 125)
Eric J. Ruggiero, *GE Global Research, United States of America*
Daniel Inman, *Virginia Polytechnic Institute and State University, United States of America*
- 12:10 Generating 1D and 2D directional vibration waves (ID 64)
Ran Gabay, Izhak Bucher, *Technion - Israel Institute of Technology, Israel*

Medium and high frequency techniques – MHF2

Room 3 – Chairman: B. Pluymers

- 14:00 On the coupling of Wave Based models with modally reduced Finite Element models for structural-acoustic analysis (ID 385)
Bert Van Genechten, Bert Pluymers, Caroline Vanmaele, Dirk Vandepitte, Wim Desmet, *Katholieke Universiteit Leuven, Belgium*
- 14:25 The Vibro-acoustic Responses of Structures with Uncertainties (ID 288)
Geoffrey Lucas, N.J. Kessissoglou, *The University of New South Wales, Australia*
- 14:50 Acoustical method for radiation calculation of complex structures (ID 425)
Marianne Viallet, *Ecole Centrale de Lyon / PSA Peugeot Citroën, France*
Gérald Poumérol, Olivier Sauvage, *PSA Peugeot Citroën, France*
Olivier Dessombz, Louis Jézéquel, *Ecole Centrale de Lyon, France*
- 15:15 Boundary Element Energy Method for the acoustic design of vehicles shields (ID 374)
Michael Thivant, Pascal Bouvet, *VIBRATEC, France*
N. Blairon, *VOLVO 3P, France*
- 15:40 Application of the Fast Multipole Method to the Variational Boundary Element Method for Large Acoustic Radiation Problems (ID 441)
Stéphane Paquay, *Open Engineering S.A., Belgium*
Michel Géradin, *Joint Research Centre, European Commission, Italy*

Medium and high frequency techniques – MHF3

Room 3 – Chairman: H.-H. Pribsch

- 16:30 Modeling of structural sound transmission in train structures using hybrid FE-SEA and EFM analysis (ID 410)
Ulf Orrenius, L. Baurès, *Bombardier Transportation, Sweden*
Vincent Cotoni, *ESI-US R&D, United States of America*
- 16:55 Prediction of the ensemble mean and variance of the response of uncertain structures using the Hybrid FE-SEA method (ID 503)
Robin Langley, *University of Cambridge, United States of America*
Vincent Cotoni, *ESI-US R&D, United States of America*
- 17:20 Application of the Wave Based Prediction Technique for structural problems with stress singularities (ID 353)
Caroline Vanmaele, Wim Desmet, Dirk Vandepitte, *Katholieke Universiteit Leuven, Belgium*
- 17:45 On the convergence of the WBM solution in certain nonconvex domains (ID 183)
Jevgenijs Jegorovs, *ITWM, Fraunhofer-Institut für Techno- und Wirtschaftsmathematik, Germany*
- 18:10 Numerical Solution of High-Frequency Oscillations of a Gas Column Using a Modified Lax-Wendroff Scheme (ID 60)
Arash Ghasemi, *Sharif University of Technology, Iran (Islamic Republic of)*

Rotating machinery:dynamics – RMD1

Room 4 – Chairman: M. Friswell

- 8:50 Analysis of Dynamic Loads in Multi-Megawatt-Drive-Trains (ID 95)
Berthold Schlecht, Tobias Schulze, Thomas Hähnel, Thomas Rosenlöcher, *Technical University of Dresden, Germany*
- 9:15 Pressure phenomena in dynamic analysis of external gear pumps (ID 192)
Giorgio Dalpiaz, Emiliano Mucchi, Gianluca D’Elia, *University of Ferrara, Italy*
Alfonso Fernández del Rincón, *University of Cantabria, Spain*
- 9:40 Difficulties in Predicting Vibrations in Turbomachinery with Hydrodynamic Bearings (ID 240)
Ningsheng Feng, Eric Hahn, *The University of New South Wales, Australia*
Wenlong Hu, *The University of Technology, Sydney, Australia*
- 10:05 Unbalance Response of Statically Indeterminate Rotors Supported on Hydrodynamic Journal Bearings: Use of the 32 Coefficients Bearing Model (ID 50)
Demetrio C. Zachariadis, *Polytechnic School - University of São Paulo, Brazil*

Rotating machinery:dynamics – RMD2

Room 4 – Chairman: M. Friswell

10:55 Structural analysis of a wind turbine and its drive train using the flexible multibody simulation technique (ID 597)

Joris Peeters, *Hansen Transmissions International, Belgium*

Dirk Vandepitte, Paul Sas, *Katholieke Universiteit Leuven, Belgium*

11:20 The response of rotating machines on viscoelastic supports (ID 330)

Michael Friswell, *University of Bristol, United Kingdom*

Jerzy Sawicki, *Cleveland State University, United States of America*

Daniel Inman, *Virginia Polytechnic Institute and State University, United States of America*

Arthur Lees, *University of Wales Swansea, United Kingdom*

11:45 Vibration of Gears: a Global Optimization Approach (ID 422)

Giorgio Bonori, Giorgio Scagliarini, Marco Barbieri, Francesco Pellicano, *University of Modena and Reggio Emilia, Italy*

12:10 Dynamic Modelling and Testing of a Representative Aero-engine Test Rig with Adjustable Nonlinear Bearing Supports (ID 583)

Sen Huang, David A. Robb, David J. Ewins, E. Petrov, *Imperial College London, United Kingdom*

OMAX Operational Modal Analysis in presence of exogeneous inputs – OMAX1

Room 4 – Chairman: P. Guillaume

14:00 Continuous-time operational modal analysis (ID 45)

Rik Pintelon, Patrick Guillaume, Johan Schoukens, *Vrije Universiteit Brussel, Belgium*

14:25 OMAX - A Combined Experimental-Operational Modal Analysis Approach (ID 649)

Patrick Guillaume, *Vrije Universiteit Brussel, Belgium*

Tim De Troyer, *Erasmushogeschool Brussel, Belgium*

Christof Devriendt, Gert De Sitter, *Vrije Universiteit Brussel, Belgium*

14:50 Load spectrum estimation from output-only measurements applied to a spray boom model (ID 650)

K. Engelen, Herman Ramon, Jan Anthonis, *Katholieke Universiteit Leuven, Belgium*

15:15 Identification of damage in brittle materials using mode shapes obtained with a laser scanner (ID 647)

Athanasia Petreli, Hugo Sol, Patrick Guillaume, *Vrije Universiteit Brussel, Belgium*

15:40 Operational modal analysis of time varying systems using an exogenous multi-sine excitation (ID 652)

Steve Vanlanduit, Rik Pintelon, *Vrije Universiteit Brussel, Belgium*

Tim De Troyer, *Erasmushogeschool Brussel, Belgium*

Patrick Guillaume, *Vrije Universiteit Brussel, Belgium*

OMAX Operational Modal Analysis in presence of exogeneous inputs – OMAX2

Room 4 – Chairman: G. De Roeck

16:30 Reference-based combined deterministic-stochastic subspace identification for operational modal analysis with deterministic inputs (ID 164)

Edwin Reynders, Guido De Roeck, *Katholieke Universiteit Leuven, Belgium*

16:55 Challenges in operational modal analysis of suspension bridges (ID 600)

Kirk Grimmelsman, Emin Aktan, *Drexel University, United States of America*

17:20 A Comparison of Experimental, Operational, and Combined Experimental-Operational Parameter Estimation Techniques (ID 354)

Tom Lauwagie, Robby Van Assche, Johan Van der Straeten, Ward Heylen, *Katholieke Universiteit Leuven, Belgium*

17:45 Office floor vibrations: modal parameter identification and vibration monitoring (ID 651)

R Cantieni, *rci dynamics, Switzerland*

Self-excited vibrations – SEV1

Room 5 – Chairman: P. Vanherck

8:50 Brake squeal: a multi parametric phenomenon assessed in terms of robustness (ID 133)

Guillaume Fritz, Jean-Marc Duffal, David Perez-Recio, Stéphane Bonnet, *Renault, Spain*

Jean-Jacques Sinou, Louis Jézéquel, *Ecole Centrale de Lyon, France*

9:15 Effects of track parameters and environmental conditions on tramcar induced squeal noise (ID 204)

Roberto Corradi, Alan Facchinetti, Stefano Manzoni, Marcello Vanali, *Politecnico di Milano, Italy*

9:40 A Higher Order Harmonic Balance Approach for an Aeroelastic Airfoil with a Freeplay Control Surface (ID 566)

Nicholas Amuyedo, Jonathan Cooper, *University of Manchester, United Kingdom*

10:05 Determination of the Cutting Performance and Dynamic Behaviour of Universal Milling Machines by means of a Stability Model (ID 438)

Jokin Muñoa, *IDEKO Centro Tecnológico S.Coop., Spain*

Mikel Zatarain, *TEKNIKER Fundazioa-IK4, Spain*

Iñigo Bediaga, *IDEKO Centro Tecnológico S.Coop., Spain*

Transfer path analysis and source identification – TPA1

Room 5 – Chairman: C.-P. Fritzen

10:55 Online estimation of external loads from dynamic measurements (ID 196)

Maksim Klinkov, Claus-Peter Fritzen, *Universitet Siegen, Germany*

11:20 Engine contribution analysis using a noise and vibration simulator (ID 156)

Andreas Schuhmacher, Dmitri Tcherniak, *Brüel & Kjaer Sound & Vibration Measurement A/S, Denmark*

11:45 Acoustic Equivalent Point Source Models of Tires using Combinatorial Optimization (ID 152)

Jakob Mørkholt, Andreas Schuhmacher, *Brüel & Kjaer Sound & Vibration Measurement A/S, Denmark*

Ernst-Ulrich Saemann, *Continental AG, Germany*

12:10 Identification of Excitation Force Generated From Automobile Engine in High Frequency Range (ID 31)

Nobuyuki Okubo, Satoru Shimamura, Takeshi Toi, *Chuo University, Japan*

Ground vibrations – GRV1

Room 5 – Chairman: G. Degrande

14:00 A numerical model for ground-borne vibrations and reradiated noise in buildings from underground railways (ID 334)

Shashank Gupta, *Katholieke Universiteit Leuven, Belgium*

Peter Fiala, *Budapest University of Technology, Hungary*

Mohammed Hussein, *University of Cambridge, United Kingdom*

H. Chebli, *Ecole Centrale de Paris, France*

Geert Degrande, *Katholieke Universiteit Leuven, Belgium*

Fülöp Augusztinovicz, *Budapest University of Technology, Hungary*

Hugh Hunt, *University of Cambridge, United Kingdom*

Didier Clouteau, *Ecole Centrale de Paris, France*

14:25 Identification of random field models for elastic moduli from spectral analysis of compression wave experiments (ID 408)

Maarten Arnst, Quang Anh Ta, Didier Clouteau, *Ecole Centrale de Paris, France*

Marc Bonnet, *Ecole Polytechnique, France*

14:50 An iterative coupled boundary-finite element method for the dynamic response of structures (ID 474)

Stijn François, Hamid Masoumi, Geert Degrande, *Katholieke Universiteit Leuven, Belgium*

Material characterisation based on dynamic measurements – MAT1

Room 5 – Chairman: G. Pavic

15:40 Pipe thickness identification by modal order analysis (ID 342)

Goran Pavic, *INSA de Lyon / University of Salford, France*

Husar Călin-Ioan, *University of Transylvania, Romania*

16:05 Identification of damage using low frequency harmonics in trusses and beams (ID 143)

Andrzej Swiercz, Przemyslaw Kolakowski, Jan Holnicki-Szulc, *Institute of Fundamental Technological Research, Polish Academy of Sciences, Poland*

16:30 Test method development for determination of dynamic properties of shock and vibration absorbing materials (ID 554)

Markku Juntunen, *VTT Smart Machines, Finland*

Kari Ojala, *Nokia Research Center, Finland*

Jarkko Keinänen, Kalle Vehviläinen, *VTT Smart Machines, Finland*

16:55 An evaluation of a mixed experimental/numerical method using FRF for the identification of viscoelastic materials (ID 200)

Aurélien Moreau, Emmanuel Pagnacco, Didier Lemosse, Dan Borza, *INSA de Rouen, France*

17:20 Experimental assessment of a non-destructive method for measuring the elastic properties of thin isotropic plates (ID 224)

Marco Alfano, Leonardo Pagnotta, Gianni Stigliano, *University of Calabria, Italy*

17:45 Material properties' identification using full field measurements on vibrating plates (ID 141)

Baoqiao Guo, Alain Giraudeau, Fabrice Pierron, Stéphane Avril, *Ecole Nationale Supérieure d'Arts et Métiers (ENSAM), France*

18:10 Evaluation of Strain Dependent Material Properties of Hard Coatings (ID 458)

Shad Reed, Anthony N. Palazotto, *Air Force Institute of Technology, United States of America*

Vibro-acoustic analysis – VAA1

Room 6 – Chairman: F. Marulo

- 8:50 Impedance Identification out of Pressure Data's with a hybrid Measurement-Simulation Methodology up to 1kHz (ID 618)
Achim Hepberger, Stefan Volkwein, F. Diwoky, *ACC Acoustic Competence Center G.m.B.H., Austria*
Hans-Herwig Priebsch, *ACC Acoustic Competence Center G.m.B.H. / Graz Technical University, Austria*
- 9:15 Acoustic measurements in a small transmission loss facility (ID 539)
Francesco Marulo, Tiziano Polito, *Università degli Studi di Napoli "Federico II", Italy*
Antonio Paonessa, *Alenia Aeronautica, Italy*
- 9:40 In-situ estimation of acoustic impedance on the surfaces of a room for inverse sound rendering (ID 460)
Gabriel Pablo Nava, Yosuke Yasuda, Yoichi Sato, Shinichi Sakamoto, *University of Tokyo, Japan*
- 10:05 Calibration of the two microphone transfer function method to measure acoustic impedance in a wide frequency range (ID 540)
Rene Boonen, Paul Sas, Wim Desmet, Walter Lauriks, Gerrit Vermeir, *Katholieke Universiteit Leuven, Belgium*

Damping – D1

Room 6 – Chairman: A. Carcaterra

- 10:55 Mode based prediction of vibrations in highly damped structures (ID 399)
Krister Dovstam, *Dovstam Innovation, Sweden*
Peter Göransson, *KTH Kungliga Tekniska Högskolan, Sweden*
- 11:20 On combined viscous and dry-friction modelling in kinematically excited vibration isolation systems (ID 78)
George Juraj Stein, R. Zahoransky, *Institute of Materials and Machine Mechanics of Slovak Academy of Sciences, Slovakia (Slovak Republic)*
- 11:45 Experimental investigation of the dynamic performances and durability of a colloidal damper (ID 51)
Claudiu Valentin Suci, *Fukuoka Institute of Technology, Faculty of Engineering, Japan*
- 12:10 Dynamic Properties and Damping Prediction for Laminated Plates (ID 258)
Bohdan Diveyev, *Lviv National Polytechnic University, Ukraine*
Malcolm Crocker, *Auburn University, United States of America*

Multi-body dynamics and control – MB1

Room 6 – Chairman: H.-H. Pribsch

14:00 A Geartrain Model for the Dynamic Analysis of a Motorbike Timing System (ID 73)

Alessandro Rivola, *University of Bologna, Italy*

Marco Milandri, Emiliano Mucchi, *University of Ferrara, Italy*

14:25 Simulation of Engine Dynamics by using MBS/FEM Composite Structures (ID 361)

Harald Riener, W. Witteveen, M. Fisher, *MAGNA Powertrain, Engineering Center Steyr GmbH & Co KG, Austria*

14:50 Suspension system optimisation of an articulated dump truck to reduce whole body vibration (ID 564)

Johannes C. Kirstein, Johannes L. van Niekerk, *Stellenbosch University, South Africa*

15:15 Flexible Multi-body Dynamics Simulation - A Powerful Method for Prediction of Structure Borne Noise of Internal Combustion Engines (ID 577)

Günter Offner, *AVL List GmbH, Austria*

Hans-Herwig Pribsch, *ACC Acoustic Competence Center G.m.B.H. / Graz Technical University, Austria*

Vibro-acoustic modelling and prediction – VAM1

Room 6 – Chairman: A. de Boer

16:05 Orthogonal radiation patterns for three-dimensional noise sources based on the spherical harmonics of sphere(s) (ID 365)

Simon Hill, *Katholieke Universiteit Leuven / Flanders Mechatronics Technology Center, Belgium*

16:30 Robust Acoustic Vehicle Body Design Using Evolutionary Algorithms (ID 339)

Andreas Kropp, *BMW AG, Germany*

16:55 Transmission Loss analyses on fuselage panels: approach, numerical results and validation (ID 52)

Frank Grooteman, *National Aerospace Laboratory (NLR), The Netherlands*

17:20 Fluid-structure interaction applied to ovaling oscillations of silos (ID 555)

David Dooms, Guido De Roeck, Geert Degrande, *Katholieke Universiteit Leuven, Belgium*

17:45 A fast interpolation method for multi-frequency acoustic analysis by boundary element method (ID 93)

Xianhui Li, *Dalian University of Technology, China*

18:10 Vibro-acoustic modelling of a rail vehicle bodysell and resilient Floor (ID 48)

Man Liu, X. Lu, A. Barlow, *Areva T&D Technology Centre, United Kingdom*

Vehicle noise and vibration (NVH) – NVH1

Room 7 – Chairman: F. Augusztinovicz

8:50 Measurement of vibration and noise of railway wheels on track (ID 87)

Ludek Pesek, Frantisek Vanik, J. Veselý, Jan Cibulka, *AS CR Institute of Thermomechanics, Czech Republic*

Tomas Bohác, *Bonatrans a.s., Czech Republic*

9:15 Energy minimization criterion as a methodological guide to the dynamic analysis and optimization of fully trimmed and equipped vehicles. (ID 162)

Sara Lorea, Francesca Avenati Bassi, F. Tinti, *Rieter Automotive Fimit, Italy*

9:40 New NVH optimization procedure applied to weight reduction of an automotive engine (ID 177)

Stephanie Malcuy, *Renault SAS, France*

Stephane Perrin, *ANSYS France SAS, France*

10:05 Noise sources balancing on vehicle development to improve customer satisfaction (ID 456)

Tatiana Cristina Giorjão, Elson Lima Albuquerque, André Luis Cherman, *Ford Motor Company, Brazil*

Vehicle noise and vibration (NVH) – NVH2

Room 7 – Chairman: F. Augusztinovicz

10:55 Investigation on airborne and structure borne balance for vehicle interior noise (ID 359)

Francesco Sbarbati, Massimo Martorelli, L. Petrella, P. Liccardo, *ELASIS S.C.p.A., Italy*

11:20 A new method for aircraft noise synthesis (ID 373)

Dries Berckmans, *Katholieke Universiteit Leuven, Belgium*

Karl Janssens, *LMS International, Belgium*

Paul Sas, Wim Desmet, *Katholieke Universiteit Leuven, Belgium*

Herman Van der Auweraer, *LMS International, Belgium*

11:45 Automatic extraction of noise annoyance features from vehicle run-up sounds (ID 423)

Karl Janssens, Antonio Vecchio, Herman Van der Auweraer, *LMS International, Belgium*

12:10 Investigation of binaural transfer functions; reciprocity in free field and in-vehicle (ID 584)

Peter van der Linden, Patrick Van de Ponselee, Gunther Coppens, *LMS International, Belgium*

Vehicle noise and vibration (NVH) – NVH3

Room 7 – Chairman: P. Sas

14:00 An efficient approach to include interactivity in the vehicle NVH evaluation process (ID 266)

Roger Williams, Mark Allman-Ward, *Sound and Vibration Technology, United Kingdom*

Kevin Bernard Ginn, Dmitri Tcherniak, *Briuel & Kjaer Sound & Vibration Measurement A/S, Denmark*

14:25 Test setup for tire/road noise caused by impact road excitations: first outlines (ID 368)

Peter Kindt, Filip De Coninck, Paul Sas, Wim Desmet, *Katholieke Universiteit Leuven, Belgium*

14:50 Towards a robust optimization of spot weld design in automotive structures (ID 416)

Morvan Ouisse, Scott Cogan, *University of Franche Comté, France*

Benoît Guillaume, *PSA Peugeot Citroën, France*

15:15 The influence of suspension and tyre dynamics on Driveline NVH (ID 369)

Nawazish Zaidi, *Romax Technology, United Kingdom*

Atanas Popov, Seamus Garvey, *University of Nottingham, United Kingdom*

15:40 Transmission Loss Modeling of Trimmed vehicle Components (ID 514)

Abderrazak Omrani, Lassen Mebarek, Mohamed A. Hamdi, *ESI Group, France*

Aeroacoustics and flow noise – AA1

Room 7 – Chairman: C. Schram

16:30 Wind turbine noise from an industrial point of view (ID 351)

Gabriel Alvaro Matesanz, *Gamesa Eolica, Spain*

17:20 CAA as a Postprocessing-Step within CFD-Computations (ID 435)

Manfred Kaltenbacher, Max Escobar, Christian Hahn, Irfan Ali, Stefan Becker, *Friedrich-Alexander-University of Erlangen-Nuremberg, Germany*

17:45 Influence of geometry on the generation of aeroacoustic noise (ID 436)

Christian Hahn, Manfred Kaltenbacher, Reinhard Lerch, Stefan Becker, Franz Durst, *Friedrich-Alexander-University of Erlangen-Nuremberg, Germany*

18:10 On the Use of Filtering Techniques for Hybrid Methods in Computational Aero-Acoustics (ID 640)

Wim De Roeck, Gustavo Rubio, Wim Desmet, *Katholieke Universiteit Leuven, Belgium*

Maduse – MAD2

Room 8 – Chairman: P. Lardeur

- 8:50 Verification and validation of finite element models for the vibro-acoustic behavior of a windscreen in presence of variability (ID 119)
Pascal Lardeur, *Renault / Université de Technologie de Compiègne, France*
Marco Scionti, R. Scigliano, *Renault, France*
- 9:15 Experimental and numerical study of the intra/inter variability of an acoustic windscreen (ID 120)
Marco Scionti, *Renault, France*
Pascal Lardeur, *Renault / Université de Technologie de Compiègne, France*
- 9:40 An application of response surface methodology in the field of dynamic analysis of mechanical structures considering uncertain parameters (ID 445)
Alberto Gallina, Adam Martowicz, Tadeusz Uhl, *AGH - University of Science and Technology, Poland*
- 10:05 Analysis of the uncertain dynamic behavior of an automotive control unit using the component mode transformation method (ID 430)
Oliviero Giannini, *University of Rome “La Sapienza”, Italy*
Ute Gauger, Michael Hanss, *Universität Stuttgart, Germany*
- 10:30 Extending the Prediction Horizon of Uncertain-weighted Regression Models (ID 557)
Graeme Manson, Daley Chetwynd, Keith Worden, *University of Sheffield, United Kingdom*

Non-linearities: identification and modelling – NL2

Room 8 – Chairman: L. Garibaldi

- 11:20 Nonlinear Modelling and Identification of Torsional Behaviour in Harmonic Drives (ID 70)
Tegoeh Tjahjowidodo, Farid Al-Bender, Hendrik Van Brussel, *Katholieke Universiteit Leuven, Belgium*
- 11:45 Identification of Structural Free-play Non-linearities using the Non-Linear Resonant Decay Method (ID 338)
Zhi Yang, *University of Manchester / Tianjin University, United Kingdom*
Grigorios Dimitriadis, Gareth Vio, Jonathan Cooper, Jan Wright, *University of Manchester, United Kingdom*

12:10 Nonlinear MDOF system characterization and identification using the Hilbert-Huang transform (ID 348)

Gaetan Kerschen, *Université de Liège, Belgium*

Alexander Vakakis, *National Technical University of Athens, Greece*

Young Lee, D. Michael McFarland, Lawrence Bergman, *University of Illinois at Urbana-Champaign, United States of America*

Uncertainties in structural dynamics and acoustics – UNC2

Room 8 – Chairman: D. Moens

14:00 An efficient fuzzy calculation algorithm with application to finite element model updating (ID 325)

Daan Degrauwe, Edip Ozer Arman, Edwin Reynders, Guido De Roeck, Geert Lombaert, *Katholieke Universiteit Leuven, Belgium*

14:25 Modal Analysis of Composite Lightweight Structures with Manufacturing Uncertainties (ID 44)

Manfred Zehn, Gangadhar Machina, *Otto-von-Guericke University of Magdeburg, Germany*

14:50 Sensitivity analysis of frequency response function envelopes of mechanical structures with interval uncertainties (ID 383)

David Moens, Dirk Vandepitte, *Katholieke Universiteit Leuven, Belgium*

15:15 FE Model Updating with uncertain parameters (ID 285)

Stefano Gabriele, *University of "Roma Tre", Italy*

Claudio Valente, *University of Chieti-Pescara "G. d'Annunzio", Italy*

Daniele Spina, *Department of Civil Protection, Italy*

15:40 Variation of structure modal parameters due to the structured uncertainties (ID 398)

Kheirollah Sepahvand, S. Marburg, H.J. Hardtke, *Technische Universität Dresden, Germany*

Uncertainties in structural dynamics and acoustics – UNC3

Room 8 – Chairman: W. d'Ambrogio

16:30 Dynamic Interval Analysis of FE models with uncertain substructures (ID 499)

Hilde De Gerssem, David Moens, Wim Desmet, Dirk Vandepitte, *Katholieke Universiteit Leuven, Belgium*

- 16:55 Fuzzy finite elements: combination of Guyan reduction and a new method to solve linear fuzzy system (ID 599)
Annelies Vroman, Glad Deschrijver, *Universiteit Gent, Belgium*
Maarten De Munck, David Moens, *Katholieke Universiteit Leuven, Belgium*
Etienne E. Kerre, *Universiteit Gent, Belgium*
Dirk Vandepitte, *Katholieke Universiteit Leuven, Belgium*
- 17:20 Coupling of substructures with in-tolerance uncertain dimensions (ID 160)
Walter D'Ambrogio, *Università de L'Aquila, Italy*
Annalisa Fregolent, *University of Rome "La Sapienza", Italy*
- 17:45 Using Design of Experiments to model the effect of uncertainties in sub-structure coupling (ID 403)
Walter D'Ambrogio, *Università de L'Aquila, Italy*
Annalisa Fregolent, *University of Rome "La Sapienza", Italy*
- 18:10 Analysis of Sources and Quantification of Uncertainty in Experimental Modal Data (ID 280)
Yves Govers, Marc Böswald, Ulrich Füllekrug, Dennis Göge, *Deutsches Zentrum für Luft- und Raumfahrt e.V., Germany*
Michael Link, *University of Kassel, Germany*

Poster session – POS2A

Room 9

- 8:50 Fuzzy Finite Element Method: Computer Aided Design Application (ID 186)
Franck Massa, Karine Ruffin, Bertrand Lallemand, Thierry Tison, *Université de Valenciennes et du Hainaut Cambrésis, France*
- 8:50 Continuous wavelet transform and entropy criterion in modal analysis (ID 110)
Merzak Dahmani, Amar Bouazzouni, *Université Mouloud Mammeri de Tizi-Ouzou, Algeria*
- 8:50 Modal Cluster Decomposition on Two-Dimensional Frequency Domain and Its Real-Time Filtering (ID 249)
Yuichi Matsumura, *University of Shiga Prefecture, Japan*
Naoki Hosoya, *Saitama University, Japan*
- 8:50 Direct and simple estimation of physical residual effect for measured and unmeasured DOFs in experimental modal analysis (ID 296)
Primoz Cermelj, Miha Boltezar, *University of Ljubljana, Slovenia*

8:50 Accounting for glue and temperature effects in Nomex based honeycomb models (ID 344)

corine Florens, *ONERA / Ecole Centrale Paris, France*

Etienne Balmes, *Ecole Centrale de Paris / SDTools, France*

Franck Clero, Mathieu Corus, *ONERA / Ecole Centrale Paris, France*

8:50 Wave Propagation Modelling in Composite Plates (ID 563)

Pawel Kudela, *Polish Academy of Sciences, Poland*

Wieslaw Ostachowicz, *Gdynia Maritime University, Poland*

8:50 Waveguide finite element modelling: numerical issues (ID 172)

Yoshiyuki Waki, Brian R. Mace, Michael J. Brennan, *University of Southampton, United Kingdom*

8:50 Noise reduction of a laser printer using SEA and FEM (ID 263)

Atsuo Mori, *Nihon ESI K.K., Japan*

Toru Yamazaki, Katsuhiko Kuroda, *Kanagawa University, Japan*

Fumiyasu Kuratani, *Wakayama University, Japan*

8:50 Advanced modeling of periodic structures in SEA (ID 502)

Vincent Cotoni, *ESI-US R&D, United States of America*

Robin Langley, *University of Cambridge, United States of America*

8:50 Identification of a Nonlinear State Space Model for Control using a Feature Space Transformation (ID 427)

Kris Smolders, Maarten Witters, Jan Swevers, Paul Sas, *Katholieke Universiteit Leuven, Belgium*

8:50 Morlet Wavelet-based Parameter Identification in Different Stimulation (ID 34)

Lin Yue, X.Q. Liu, *College of Mechanical and Electric Engineering Nanjing University of Aeronautics & Astronautics, China*

8:50 Resonant-Based Identification of the Elastic Properties of Ceramic Coatings (ID 355)

Tom Lauwagie, Ward Heylen, *Katholieke Universiteit Leuven, Belgium*

Poster session – POS3A

Room 9

14:00 Adaptive Landing Gear: optimum control strategy and improvement potential (ID 112)

Lukasz Jankowski, Grzegorz Mikulowski, *Institute of Fundamental Technological Research, Poland*

- 14:00 **Semi-active damping of vibrations. Prestress Accumulation-Release strategy development. (ID 148)**
Anita Orłowska, Arkadiusz Mróz, *Institute of Fundamental Technological Research, Poland*
Jan Holnicky-Szulc, *Institute of Fundamental Technological Research, Polish Academy of Sciences, Poland*
- 14:00 **Modelling and tuning the SMA absorber (ID 259)**
Wojciech Klein, Arkadiusz Mezyk, Eugeniusz Switonski, *Silesian University of Technology, Poland*
- 14:00 **Application of dither control for automotive wiper squeal (ID 679)**
Bert Stallaert, Frederik Doucet, Johan Rys, *Katholieke Universiteit Leuven, Belgium*
Alpha Diallo, Sébastien Chaigne, *Renault, France*
Jan Swevers, Paul Sas, *Katholieke Universiteit Leuven, Belgium*
- 14:00 **Noise reduction of handheld vacuum cleaners by geometric optimization of components (ID 24)**
Hani Ashrafi, Mohammad Mahjoob, *University of Tehran, Iran (Islamic Republic of)*
- 14:00 **The influence of the sharp transients introduced by the force window when applied to signals with DC components (ID 106)**
Adrian Florin Nicula, Carsten Mohr, Andreas Anstätt, *LuK GmbH & Co.oHG, Germany*
- 14:00 **Vibration Testing of Large Spacecraft Structure (ID 386)**
Yaoqi Feng, Song Yang, *China Academy of Space Technology (CAST), China*
- 14:00 **The poly-reference LSCF estimator optimised for vibro-acoustic systems (ID 525)**
Gert De Sitter, Patrick Guillaume, *Vrije Universiteit Brussel, Belgium*
- 14:00 **Magnetorheological landing gear design: A feasibility study for small and large-scale aircraft (ID 88)**
David Batterbee, Neil Sims, *University of Sheffield, United Kingdom*
Zbigniew Wolejsza, *The Institute of Aviation, Poland*
Arnaud Lafitte, *Messier Dowty, France*
- 14:00 **A Study on Modal Characteristics of a Commercial Vehicle Rear Door (ID 492)**
Emre Dikmen, Ipek Basdogan, *Koc University, Turkey*
- 14:00 **Vibration decay using on-off stiffness control (ID 226)**
Diego Francisco Ledezma-Ramirez, Neil Ferguson, Michael J. Brennan, *University of Southampton, United Kingdom*

Poster session – POS2B

Room 10

- 8:50 Frequency response function as machinability indicator (ID 169)
Alain Giraudeau, Mohamed El Mansori, *Ecole Nationale Supérieure d'Arts et Métiers (ENSAM), France*
- 8:50 Identification of a Bolted Lap Joint Parameters Using Response Surface Method (ID 30)
Hamid Ahmadian, Hamed Hadad, *Iran University of Science and Technology, Iran (Islamic Republic of)*
- 8:50 Analytical methods applied to pyrotechnic shock modelling (comparison of model results with shock test results) (ID 55)
Massimo Palladino, *Techspace Aero (Safran group), Belgium*
- 8:50 Damping of floating yacht harbours determined by experimental modal analysis (ID 274)
Santiago Uhlenbrock, Günther Schlottmann, *University of Rostock, Germany*
- 8:50 Sensibility analysis of the dynamic behaviour the violin plates in function of their geometry (ID 316)
Mario Razeto, Claudia Staforelli, G. Barrientos, *Universidad de Concepción, Chile*
- 8:50 Simulation of forced response in linear and nonlinear mechanical systems using digital filters (ID 444)
Kjell Ahlin, Martin Magnevall, Andreas Josefsson, *Blekinge Institute of Technology, Sweden*
- 8:50 Influence of the Structural Modification on the Stiffened Plate Energy Balance (ID 538)
Marek Iwaniec, Joanna Iwaniec, *AGH - University of Science and Technology, Poland*
- 8:50 Structural Dynamics of a Mobile Substation during Transport (ID 446)
Christof Devriendt, Patrick Guillaume, *Vrije Universiteit Brussel, Belgium*
J. Lopez-Roldan, *Pauwels Contracting, Belgium*
- 8:50 Modal Parameter Identification and Correlation of a Launch-Vehicle Interstage Using “Output-Only” Experimental Data (ID 559)
Giuliano Coppotelli, Franco Mastroddi, Gian Mario Polli, *University of Rome “La Sapienza”, Italy*
Laura Cospite, *Avio S.p.A. - Propulsione Aerospaziale, Italy*
- 8:50 A model reduction method for determining modal parameters of a fluid-loaded structure (ID 86)
Xianhui Li, Sheng Li, *Dalian University of Technology, China*
- 8:50 Transfer function modeling and control of a flexible gear train (ID 54)
Irit Peled, Yoram Halevi, *Technion - Israel Institute of Technology, Israel*

Poster session – POS3B

Room 10

- 14:00 Energy Flow Method Applied to the Detection of Structural Damages (ID 115)
Ahcene Amziani, Amar Bouazzouni, Université Mouloud Mammeri de Tizi-Ouzou, Algeria
- 14:00 Damage Identification based on Vibration Measurements Applied to Masonry Structures (ID 238)
Luís F. Ramos, University of Minho, Portugal
Guido De Roeck, Katholieke Universiteit Leuven, Belgium
Paulo B. Lourenço, University of Minho, Portugal
Alfredo Campos-Costa, LNEC, Portugal
- 14:00 Experimental Damage Detection Using Observability Grammian Matrix (ID 306)
Douglas Domingues Bueno, Clayton Rodrigo Marqui, Vicente Lopes Jr., Universidade Estadual Paulista, Brazil
Michael J. Brennan, University of Southampton, United Kingdom
- 14:00 Aeroelastic Analyses of Low Aspect Ratio Wings Based on Non-Classic Plate Theory Including Transverse Shear Deformation and Rotary Inertia (ID 314)
Saeed Shokrollahi, Malek.E.Ashtar University of Technology, Iran (Islamic Republic of)
- 14:00 Squeal prediction on a simplified brake system by complex eigenvalues analysis (ID 508)
Francesco Massi, University of Rome “La Sapienza” / INSA de Lyon, Italy
Laurent Baillet, University of Joseph Fourier, France
Oliviero Giannini, University of Rome “La Sapienza”, Italy
- 14:00 Vibration Signature Analysis for Engine Condition Monitoring and Diagnosis (ID 604)
Mohammad Mahjoob, Alireza Zamanian, University of Tehran, Iran (Islamic Republic of)
- 14:00 The Fuzzy Parameterization Method for Model Updating: Application to Welded Joints (ID 166)
Omar Ait-Salem Duque, Polytechnic University of Madrid, INSIA, Spain
Maarten De Munck, Andrea Stenti, David Moens, Katholieke Universiteit Leuven, Belgium
A.R. Senín, Nebrija University, Spain
- 14:00 Identification and Characterization of the Non-linear Dynamic Behavior of a Laboratory Aircraft Structure (ID 592)
Demian Gomes da Silva, Paulo Varoto, University of Sao Paulo, Brazil

Human vibrations – HUM1

Room 1 – Chairman: J. Blough

- 8:50 Measurement and identification of the vibration characteristics of motor-cycle riders (ID 72)
Vittore Cossalter, Alberto Doria, Davide Fabris, Massimo Maso, *University of Padova, Italy*
- 9:15 Identification methodology of the human pelvis for Low Back Pain diagnosis (ID 89)
Nadine Conza, Daniel Rixen, *Delft University of Technology, The Netherlands*
Chris Snijders, *Erasmus MC University Medical Center, The Netherlands*
- 9:40 Effect of automobile operating condition on the subjective equivalence of steering wheel vibration and sound (ID 236)
Marco Ajovalasit, Joseph Giacomini, *Brunel University, United Kingdom*
- 10:05 Subjective and Objective Vibration Characterization of User Interface Locations aboard Snowmobiles and ATVs (ID 581)
Justin Keske, Jason Blough, *Michigan Technological University, United States of America*
- 10:30 Optimization of Child Restraint System for Crash-Safety with Child FE Human Model (ID 250)
Takayuki Koizumi, Nobutaka Tsujiuchi, Takashi Nagatani, *Doshisha University, Japan*
Hirosuke Horii, *CD-adapco JAPAN Co., LTD., Japan*

Instrumentation – I1

Room 1 – Chairman: L. Bregant

- 11:20 High Channel Count Systems Architecture for Noise and Vibration Measurements (ID 2)
Thierry Debelle, K. Veggeberg, *National Instruments, United States of America*
- 11:45 Non contact sensors comparison for dynamic testing of lightweight structures (ID 171)
Luigi Bregant, *Università di Trieste, Italy*
M. Bressanutti, *APE Research, Italy*
Lorenzo Valent, Antonio Vecchio, *LMS International, Belgium*
- 12:10 Two complementary Microflown based methods to determine the reflection coefficient in situ (ID 661)
Hans-Elias de Bree, *Microflown Technologies / HAN University, The Netherlands*
Emiel Tijs, *Microflown Technologies, The Netherlands*
Tom Basten, *TNO Science and Industry, The Netherlands*

Dynamic behavior of civil structures – DCS1

Room 1 – Chairman: W. Heylen

- 14:00 Output-only modal identification of Luiz I Bridge before and after rehabilitation (ID 42)
Álvaro Cunha, Filipe Magalhaes, Elsa Caetano, Faculty of Engineering of the University of Porto (FEUP), Portugal
- 14:25 FE Modelling and Updating of Unique Fink Truss Footbridge (ID 56)
Vitomir Racic, Stana Zivanovic, Aleksandar Pavic, University of Sheffield, United Kingdom
- 14:50 Time domain iterative procedures for vehicle-bridge dynamic interaction (ID 77)
Anna Feriani, Università degli Studi di Brescia, Italy
Maria Gabriella Mulas, Politecnico di Milano, Italy
Claudio Aliprandi, Università degli Studi di Brescia, Italy
- 15:15 Global vertical modes of floor vibration in multi-storey buildings (ID 630)
Zoran Miskovic, Aleksandar Pavic, Paul Reynolds, University of Sheffield, United Kingdom
- 15:40 Vibration of the railway track-viaduct system under moving vehicles taking into account the interaction effect (ID 542)
Constança Rigueiro, Institute Polytechnic of Castelo Branco, Portugal
Carlos Rebelo, L.S. Silva, University of Coimbra, Portugal
- 16:05 Design of lightweight floor system with minimized vibration (ID 161)
Sander Zegers, Frans van Herwijnen, Technical University of Eindhoven, The Netherlands

Damping – D3

Room 2 – Chairman: H. Rice

- 8:50 Influence of the number of parameters of a rubber isolator viscoelastic model on the predicted dynamic behaviour of a suspended mass (ID 473)
Nere Gil-Negrete, María José García Tárrago, Jordi Vinolas, University of Navarra, Spain
- 9:15 Hysteretic behaviour of tape-spring actuators: Influence on the deployment of an hexapod (ID 453)
Gwenaelle Aridon, Didier Rémond, Ahmad Al Majid, INSA de Lyon, France
Laurent Blanchard, Alcatel Alénia Space, France
Regis Dufour, INSA de Lyon, France
- 9:40 Dynamics of rigid bodies with rough contact surfaces and run-in wear (ID 315)
Janko Slavic, Miha Boltezar, University of Ljubljana, Slovenia

10:05 Metal-polymer-ceramic constrained layer damping system (ID 63)

Liya Bochkareva, *United Institute of Informatics Problems NAS of Belarus, Belarus*

Maksim Kireitseu, *University of Sheffield, United Kingdom*

S. Panin, *Institute of strength physics and mesomechanics of materials SB RAS, Russian Federation*

Damping – D4

Room 2 – Chairman: H. Rice

10:55 Investigation of the sloshing effects of an aeroplane fuel tank without and including the new eXess-aluminium mesh (ID 23)

Norbert Niedbal, Guido Rosenhäger, *Fachhochschule Bielefeld, Germany*

11:20 On the Modelling of Damping in Structural Vibrations (ID 523)

António Ribeiro, Nuno Maia, Júlio Silva, *Instituto Superior Técnico, Portugal*

11:45 Fractional damping Induced by a slave system attached to a master oscillator (ID 532)

Antonio Carcaterra, Oliviero Giannini, *University of Rome “La Sapienza”, Italy*

Adnan Akay, *Carnegie Mellon University, United States of America*

Passive control of noise and vibration – PNVC1

Room 2 – Chairman: W. Lauriks

14:00 Study on sound absorption of a multi-leaf microperforated panel (ID 465)

I Made Miasa, Gota Kishimoto, Masaaki Okuma, *Tokyo Institute of Technology, Japan*

14:25 Control of sound transmission through double wall partitions using optimally tuned Helmholtz resonators (ID 593)

Stanislaw Pietrzko, Qibo Mao, *Empa - Materials Science & Technology, Switzerland*

14:50 Novel Passive Vibration Isolators (ID 201)

Alexander Forrester, Andy Keane, *University of Southampton, United Kingdom*

15:15 Transmissibility of Forces in Multiple-Degree-of-Freedom Systems (ID 370)

Nuno Maia, Mihail Fontul, António Ribeiro, *Instituto Superior Técnico, Portugal*

15:40 Rubber isolating elements to prevent vibro-acoustic propagation (ID 412)

Stefano Manzoni, Marcello Vanali, *Politecnico di Milano, Italy*

Carlo Carbone, *Studio di architettura Carlo Carbone, Italy*

16:05 Static Analysis of a Quasi-Zero-Stiffness Vibration Isolator (ID 455)

Alessandro Carrella, Michael J. Brennan, Tim Waters, *University of Southampton, United Kingdom*

EDSVS – EDSVS1

Room 3 – Chairman: N.

- 8:50 Experimental investigation on the MRTLCD for vibration control of slender structures (ID 607)
Shane Colwell, André Jakob, *Technische Universität Berlin, Germany*
- 9:15 Decentralised feedback control systems in double panels (ID 642)
Neven Alujevic, P. Gardonio, *University of Southampton, United Kingdom*
- 9:40 Direct hybrid coupled finite element - wave based technique for 3D steady-state acoustic analysis (ID 619)
Petra Silar, Achim Hepberger, *ACC Acoustic Competence Center G.m.B.H., Austria*
Hans-Herwig Priebisch, *ACC Acoustic Competence Center G.m.B.H. / Graz Technical University, Austria*
H. Pramberger, *AVL List GmbH, Austria*
T. Bartosch, *MAGNA STEYR Fahrzeugtechnik AG & Co KG, Austria*
- 10:05 A Method to Characterise Structure Borne Noise of a Source from In-Situ Measurement (ID 631)
Andrew Elliott, *University of Salford, United Kingdom*
Goran Pavic, *INSA de Lyon / University of Salford, France*
Andy Moorhouse, *University of Salford, United Kingdom*
- 10:30 Presenting Noise Maps in a 3D Environment (ID 483)
Francesco Pilla, Henry Rice, *Trinity College of Dublin, Ireland*
- 10:55 Reduced modal models and negative concept modifications in dynamic analysis (ID 13)
Emiliano Mucchi, *University of Ferrara, Italy*
Stijn Donders, Rabah Hadjit, *LMS International, Belgium*
Wim Desmet, Paul Sas, *Katholieke Universiteit Leuven, Belgium*

Substructuring and coupling – SC1

Room 3 – Chairman: B. Mace

- 14:00 Damping Allocation in Automotive Structures using Reduced Models (ID 102)
Nicolas Roy, *Top Modal, France*
Sylvain Germès, Benjamin Lefebvre, *PSA Peugeot Citroën, France*
Etienne Balmes, *Ecole Centrale de Paris / SDTools, France*
- 14:25 Assignment of receptances by added mass-spring absorbers (ID 173)
Jianfeng Zhu, John Mottershead, *University of Liverpool, United Kingdom*

14:50 Dual Assembly of substructures and the FBS Method: Application to the Dynamic Testing of a Guitar (ID 195)

Daniel Rixen, *Delft University of Technology, The Netherlands*

Thibaut Godeby, Emmanuel Pagnacco, *INSA de Rouen, France*

15:15 On the reduction of quasi-cyclic disk models with variable rotation speeds (ID 397)

Arnaud Sternchuss, *Ecole Centrale de Paris, France*

Etienne Balmes, *Ecole Centrale de Paris / SDTools, France*

Rotating machinery:dynamics – RMD3

Room 4 – Chairman: J. Antoni

8:50 Modeling the structural dynamics of horizontal axis wind turbine (ID 231)

Mariusz Pawlak, Arkadiusz Mezyk, *Silesian University of Technology, Poland*

9:15 Steam whirl stability margin in a power unit (ID 476)

Nicolò Bachschmid, Paolo Pennacchi, Ezio Tanzi, Andrea Vania, *Politecnico di Milano, Italy*

9:40 Counterweight balancing for machine frame vibration reduction: design and robustness analysis (ID 470)

Myriam Verschuure, Bram Demeulenaere, Jan Swevers, Joris De Schutter, *Katholieke Universiteit Leuven, Belgium*

10:05 Vibro-acoustic measurements for the identification of incoming stall in axial compressors (ID 375)

Giorgio Dalpiaz, Gianluca D'Elia, Emiliano Mucchi, *University of Ferrara, Italy*

Alessandro Rivola, *University of Bologna, Italy*

10:30 Modal Balancing of turbo-generator rotors using simplified spatial models (ID 289)

Jorge Enrique Aguirre-Romano, *Instituto de Investigaciones Electricas, Mexico*

Jeily Cervantes Contreras, Enrique Simon Gutierrez Wing, *Centro Nacional de Investigación y Desarrollo Tecnológico, Mexico*

Aeroacoustics and flow noise – AA3

Room 4 – Chairman: M. Baelmans

11:20 Jet Flow induced noise computed using Large Eddy Simulations (ID 220)

Yves Detandt, Gérard Degrez, *Université Libre de Bruxelles, Belgium*

Stéphane Caro, *Free Field Technologies, Belgium*

11:45 Vibro-acoustic interactions with mean flows. Coupling of Galbrun's and Biot's equations. (ID 214)

Emmanuel Redon, Orlando Andrianarison, Roger Ohayon, *I.S.A.T. Nevers, France*

12:10 Airflow and acoustic optimization of cooling devices using 3D particle image velocimetry (ID 208)

Jose Cordova, *Intel Tecnologia de Mexico, Mexico*

Mark Trautman, Marco Beltman, *Intel Corporation, United States of America*

Rotating machinery: monitoring and diagnostics – RMM1

Room 4 – Chairman: B. Randall

14:00 Using of Matching Pursuit and Genetic Algorithms for Bearings' Fault Detection, Diagnosis and Prediction (ID 667)

Florin Ionescu, *HTWG-University of Applied Sciences-Konstanz, Germany*

Dan Stefanoiu, *University Politehnica of Bucharest, Romania*

14:25 Identification of the Running-State of Railway Wheelsets (ID 241)

Lars Reicke, *University of Hannover, Germany*

I. Kaiser, *German Aerospace Center (DLR), Germany*

M. Kröger, *University of Hannover, Germany*

14:50 Combustion diagnosis for internal combustion engines with real-time acquisition and processing (ID 513)

Stephan Ker, Fabrice Guillemin, Laurent Duval, *IFP, France*

15:15 Modelling dynamic interactions of rolling elements in bearings for condition monitoring (ID 22)

Joao Guimaraes, *RWTH Aachen, Germany*

15:40 Modal Control of Vibration in Rotating Machines and Other Generally Damped Systems (ID 99)

Paul Houlston, Seamus Garvey, Atanas Popov, *University of Nottingham, United Kingdom*

16:05 Condition Monitoring of Rotating Machinery using Active Magnetic Bearings (ID 414)

John Penny, *Aston University, United Kingdom*

Michael Friswell, *University of Bristol, United Kingdom*

Chunliang Zhou, *Harbin Engineering University, China*

Aeroacoustics and flow noise – AA2

Room 5 – Chairman: G.A. Matesanz

8:50 Application of a Boundary Element reformulation of an aeroacoustical analogy based on incompressible flow data (ID 641)

Christophe Schram, Michel Tournour, *LMS International, Belgium*

- 9:15 Experimental identification of a boundary pressure field induced by a turbulent flow from plate vibration measurements (ID 187)
Charles Pezerat, Nicolas Totaro, *INSA de Lyon, France*
Marc Pachebat, *PSA Peugeot Citroën, France*
Jean-Louis Guyader, *INSA de Lyon, France*
- 9:40 Jet noise modelling for shielding calculations using RANS solution source localisation and WEM propagation (ID 420)
Ciarán O'Reilly, Henry Rice, *Trinity College of Dublin, Ireland*
- 10:05 Influence of irregular grids on the accuracy of a Quadrature-Free Discontinuous Galerkin Method for solving the LEE equations (ID 294)
Yves Reymen, Martine Baelmans, Wim Desmet, *Katholieke Universiteit Leuven, Belgium*

Active vibration control and smart structures – AVC3

Room 5 – Chairman: J. Swevers

- 10:55 Active Vibration Control in a Centerless Grinding Machine (ID 190)
Iker Garitaonandia, Joseba Albizuri, Maria Helena Fernandes, Jesus María Hernández, *University of the Basque Country, Spain*
Xabier Sabalza, *IDEKO R&D Centre, Spain*
- 11:20 Adaptive vibrations control of a turbine with magnetic bearings (ID 243)
Zbigniew Ogonowski, K. Plaza, *Silesian University of Technology, Poland*
- 11:45 Piezoceramics-based Devices for Active Balancing of Flexible Shafts (ID 451)
Peter Sloetjes, André de Boer, *University of Twente, The Netherlands*
- 12:10 FE analysis of a PZT-actuated adaptive beam with vibration damping using an electric multiple-mode shunt system (ID 104)
Cu-Hai Nguyen, Stanislaw Pietrzko, *Empa - Materials Science & Technology, Switzerland*

Transfer path analysis and source identification – TPA2

Room 6 – Chairman: P. Van der Linden

- 8:50 Blind source separation and system identification for convolutive mixtures with well separated modes (ID 341)
Robert Randall, Liam Holley, *The University of New South Wales, Australia*
- 9:15 An Analysis of Friction Noise (ID 431)
Stephen Smyth, Henry Rice, *Trinity College of Dublin, Ireland*
- 9:40 Reconstruction of loading forces from responses data measured in-flight (ID 531)
Tadeusz Uhl, Krzysztof Mendrok, *AGH - University of Science and Technology, Poland*

Model updating and correlation – MU1

Room 6 – Chairman: M. Link

10:30 Model Updating using Bayesian Estimation (ID 25)

Cristinel Mares, *Brunel University, United Kingdom*

Bruno Dratz, *Ecole Centrale de Lille, France*

John Mottershead, *University of Liverpool, United Kingdom*

Michael Friswell, *University of Bristol, United Kingdom*

10:55 The QCM approach for model updating from noisy data (ID 53)

Pablo Tarazaga, *Virginia Polytechnic Institute and State University, United States of America*

Yoram Halevi, *Technion - Israel Institute of Technology, Israel*

Daniel Inman, *Virginia Polytechnic Institute and State University, United States of America*

11:20 Using Complex Modes for Model Updating of Structures with Non-Proportional Damping (ID 562)

Michael Link, *University of Kassel, Germany*

11:45 Updating of the Myriade Platform FE Model using Microvibration Test Data (ID 103)

Nicolas Roy, *Top Modal, France*

Stéphane Mary, *CNES - Centre Spatial de Toulouse, France*

12:10 Model Updating of Ship Decks loaded with Welding Stresses (ID 212)

Andreas Hanke, Günther Schlottmann, *University of Rostock, Germany*

Vehicle noise and vibration (NVH) – NVH4

Room 7 – Chairman: H. Van der Auweraer

8:50 Expanding the bandwidth of MDOF Road Reproductions (ID 327)

Filip De Coninck, Wim Desmet, Paul Sas, *Katholieke Universiteit Leuven, Belgium*

9:15 Measurement of dynamic loads at wheel center for road excitations (NVH application) (ID 367)

Pascal Bouvet, C. Braguy, *VIBRATEC, France*

Laurent Gagliardini, *PSA Peugeot Citroën, France*

9:40 A new approach to model tyre/road contact. (ID 526)

Ysbrand Wijnant, André de Boer, *University of Twente, The Netherlands*

10:05 Two-way Coupled Structural Acoustic Optimization via Model Order Reduction (MOR). (ID 611)

Srinivasan Puri, Denise Morrey, Andrew Bell, John Durodola, *Oxford Brookes University, United Kingdom*

Evgenii Rudnyi, Jan Korvink, *University of Freiburg, Germany*

Vibro-acoustic modelling and prediction – VAM2

Room 7 – Chairman: Ph. Bouillard

10:55 Acoustic Theoretical x Experimental Comparison of the Brazilian Satellite Launcher Vehicle (VLS) Fairing (ID 91)

Rogério Pirk, Luiz Carlos Sandoval Góes, *Aerospace Technological General Command, Brazil*

11:20 A boundary integral method for noise shielding analysis in non-conventional aircraft configurations (ID 407)

Alessandro Randazzo, *Trinity College of Dublin, Ireland*

U. Iemma, *University of "Roma Tre", Italy*

Henry Rice, *Trinity College of Dublin, Ireland*

11:45 Viscothermal wave propagation in a circular layer with a partially open and partially closed boundary (ID 424)

Ronald Kampinga, Ysbrand Wijnant, André de Boer, *University of Twente, The Netherlands*

12:10 Vibro-acoustic analysis of fluid-loaded structures using component mode synthesis (ID 163)

Xianhui Li, *Dalian University of Technology, China*

room 1	room 2	room 3	room 4	room 5	room 6	room 7	room 8	room 9	room 10
FCOP1	DMOD1	ANC1	OMA1	FLI1	MT1	AVM1	MAD1	POS1A	POS1B
NL1	OPT1	MHF1	PE1	FLI2	DMI1	AVC1	UNC1		

room 1	room 2	room 3	room 4	room 5	room 6	room 7	room 8	room 9	room 10
AMS1	NSV1	ANC2	RMD1	SEV1	VAA1	NVH1	MAD2	POS2A	POS2B
AMS1	NSV2	AVC2	RMD2	TPA1	D1	NVH2	NL2		

AMS2	IRC1	MHF2	OMAX1	GRV1	MB1	NVH3	UNC2	POS3A	POS3B
AMS3	D2	MHF3	OMAX2	MAT1	VAM1	AA1	UNC3		

room 1	room 2	room 3	room 4	room 5	room 6	room 7	room 8	room 9	room 10
HUM1	D3	EDSVS1	RMD3	AA2	TPA2	NVH4			
I1	D4		AA3	AVC3	MU1	VAM2			

DCS1	PNVC1	SC1	RMM1
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AA	Aeroacoustics and flow noise
AMS1	AMS Special seminar - Multibody dynamics for multi-physics applications
AMS2	AMS Special seminar - Control and optimisation
AMS3	AMS Special seminar - Applications
ANC	Active noise control
AVC	Active vibration control and smart structures
AVM	Application of (new) vibroacoustic methods to complex systems
D	Damping
DCS	Dynamic behavior of civil structures
DMI	Damage monitoring and identification
DMOD	Dynamic modelling
EDSVS	EDSVS
FCOP	FRIENDCOPTER Rotorcraft noise and vibration
FLI	Flite Eureka 2
GRV	Ground vibrations
HUM	Human vibrations
I	Instrumentation
IRC	Special Session on Technology Partnering: IRC Technology Seminar
MAD	Maduse
MAT	Material characterisation based on dynamic measurements
MB	Multi-body dynamics and control
MHF	Medium and high frequency techniques
MT	Modal testing and FRF estimation
MU	Model updating and correlation
NL	Non-linearities: identification and modelling
NSV	Non-stationary sound and vibration analysis and applications
NVH	Vehicle noise and vibration (NVH)
OMA	Operational modal analysis
OMAX	Operational Modal Analysis in presence of exogeneous inputs
OPT	Optical measurement techniques OPTIMESS
PE	Parameter estimation
PNVC	Passive control of noise and vibration
RMD	Rotating machinery:dynamics
RMM	Rotating machinery: monitoring and diagnostics
SC	Substructuring and coupling
SEV	Self-excited vibrations
TPA	Transfer path analysis and source identification
UNC	Uncertainties in structural dynamics and acoustics
VAA	Vibro-acoustic analysis
VAM	Vibro-acoustic modelling and prediction