

MEDYNA 2013: 1st Euro-Mediterranean Conference on Structural Dynamics and Vibroacoustics

Tuesday, April 23, 2013

8:00 - 8:30		Registration		8:00 - 8:30
8:30 - 8:40		Opening Ceremony - <i>Manuel Collet</i> (FEMTO-ST, FR)		8:30 - 8:40
8:40 - 9:20		Plenary I - Acoustic properties of sandwich and honeycomb panels by <i>Anders Nilsson</i> (Royal Institute of Technology, SE) Chair: Noureddine Atalla		8:40 - 9:20 Yves Rocard
9:20 - 10:00		Plenary II - Turbulent wall-pressure fluctuations: models and relation with fluid dynamics computations by <i>Daniel Juvé</i> (École Centrale de Lyon, FR) Chair: Lin Li		9:20 - 10:00 Yves Rocard
10:00 - 10:30		Coffee break		10:00 - 10:30
Sessions	Nonlinear System dynamics <i>Mohamed Belhaq</i> (FSAC, MA)	Reduced Order Models in Structural Dynamics and Vibroacoustics <i>Jean-François Deü</i> (CNAM, FR)	Smart Materials, Smart Structures & Metacomposites - <i>Manuel Collet</i> (FEMTO-ST, FR), <i>Hervé Lissek</i> (EPFL, CH)	Dynamics of Machines and Rotating Machinery <i>Jarir Mahfoud</i> (INSA, FR)
10:30 - 10:50	Vibration pumping of mdof structures using optimised multiple dynamic absorbers <i>Khelifi Kamel, Bouazizi Mohamed Lamjed, Nasri Rachid, Bouhaddi Noureddine</i>	Reduced-order model for nonlinear dynamical structures having a high modal density in the low-frequency range <i>Anas Batou, Christian Soize, Nicolas Brie</i>	Mounting Vibrational MEMS Energy Harvesters on Printed Circuit Boards for Improved Response <i>Mohammad Younis, David Kelemen, Abdallah Ramini</i>	Monitoring bearing defects by acoustic emission: application of empirical mode decomposition method for early detection <i>Mourad Kedadouche, Marc Thomas, Souheil-Antoine Tahan</i>
10:50 - 11:10	Effect of electromagnetic actuation on the dynamic of a forced hertzian contact oscillator <i>Amine Bichri, Mohammed Belhaq</i>	Wave propagation analysis in porous media via the Wave Finite Element Method <i>Quentin Serra, Mohamed Ichchou, Jean-François Deü</i>	Experimental investigation on adaptive shunted piezoelectric metacomposites <i>Flaviano Tateo, Manuel Collet, Morvan Ouisse, Mohamed Ichchou, Kenneth A. Cunefare, Philippe Abbe</i>	On the behavior of the flexible rotor bearing system in the vicinity of the stability threshold <i>Mnaouar Chouchane, Radhoine Sghir</i>
11:10 - 11:30	Dynamic friction compact model: a new multicontact tribometer <i>Jean-luc Dion, Gaël Chevallier, Olivia Penas, Franck Renaud</i>	Application of wave finite element method on reduced models for the analysis of flexural waves in periodic beams <i>Changwei Zhou, Mohamed Ichchou, Jean-Pierre Laine, Abdel-malek Zine</i>	Simple and effective friction compensation on wheeled inverted pendulum systems <i>Bruno Strah, Stephan Rinderknecht</i>	Application of Modified Modal Assurance Criteria in Mistuning Bladed Disk <i>Peiyi Wang, Lin Li</i>
11:30 - 11:50	Dynamic simulations of a Bouncing Ball on a randomly vibrating plat form <i>Chaima Zouabi, Joel Perret-liaudet, Julien Scheibert</i>	Vibrations of an elastic structure with shunted piezoelectric patches: efficient f.e. formulation and reduced-order models <i>Luciano Pereira Da Silva, Jean-françois Deü, Walid Larbi, Marcelo A. Trindade</i>	Analytical modeling of an unimorph multi-layer piezoelectric vibration energy harvester <i>Ahmed Jemai, Fehmi Najar, Moez Chafra</i>	Dynamic characteristics of the cyclic-periodic structure with piezoelectric networks <i>Pengcheng Deng, Lin Li, Yu Fan</i>
11:50 - 12:10	Free oscillations of a sliding sdof system: effect of a polynomial friction model <i>Fida Majdoub, Joel Perret-liaudet, Michel Belin, Jean-michel Martin</i>	Determining sensor locations based on model order reduction techniques <i>Fabio Casciati, Sara Casciati, Lucia Faravelli</i>	Vibration reduction of a structure by design and control of a bolted joint <i>Yassine Karim, Claude Blanke</i>	Dynamic analysis of a spur gear with active magnetic bearings in transient regime <i>Slim Bouaziz, Najib Belhadji Messaoud, Mohamed Mataar, Mohamed Haddar</i>
12:10 - 12:30	Bifurcation-based micro/nano-electromechanical mass detection <i>Van-nghi Nguyen, Sébastien Baguet, Claude-henri Lamarque, Régis Dufour</i>	ROM for nonlinear vibroacoustic problems with structural and acoustic nonlinearities <i>Youssef Gerges, Emeline Sadoulet-Reboul, Morvan Ouisse, Noureddine Bouhaddi</i>	Robust Active Vibration Control of Piezoelectric Flexible Structures with Probabilistic Parametric Uncertainty <i>Kai Zhang, Mohamed Ichchou, Scorletti Gérard</i>	Acoustic reconstruction of the unsteady rotating forces of fan's blade <i>Majdi Abid, Hassen Trabelsi, Mohamed Taktak, Mohamed Haddar</i>
12:30 - 14:30	Lunch			12:30 - 14:30

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14:30 - 15:10	Plenary III - Jing Tian (President of Acoustical Society of China, CN) Chair: Mohamed Ichchou				Yves Rocard	14:30 - 15:10
15:10 - 15:50	Plenary IV - Modern Model Reduction in Dynamics: much more than just a Mathematical Toy by Peter Eberhard (University of Stuttgart, DE) Chair: Mohamed Belhaq				Yves Rocard	15:10 - 15:50
15:50 - 16:30	Coffee break Posters session					15:50 - 16:30
Sessions	Nonlinear System dynamics <i>Joël Perret-Liaudet (ECL, FR)</i>	Flow Induced Vibrations and Noise <i>Lin Li (SJP, CN)</i>	Vibration Field Measurements and Force Identification <i>Charles Pézerat (LAUM, FR)</i>	Dynamics of Machines and Rotating Machinery <i>Fakher Chaari (ENIS, TN)</i>	Sessions	
16:30 - 16:50	Nonlinear wave propagation in post-buckled structures <i>Alessandro Spadoni, Florian Paul Maurin</i>	Turbulent wall pressure measurement in low wavenumber using the flow-induced vibrations <i>Damien Lecoq, Charles Pézerat, Jean-hugh Thomas, Wenping Bi</i>	Model selection for the equation of motion <i>Michal Ruzek, Jean-Louis Guyader, Charles Pézerat</i>	Dynamics of a horizontal axis wind turbine blade under aerodynamic, centrifugal, gyroscopic, and gravity effects <i>Hedi Hamdi, Charfeddine Mrad, Rachid Nasri</i>	Philip Ellis Doak	16:30 - 16:50
16:50 - 17:10	Non linear modal analysis of dynamic absorbers <i>Fathi Djemal, J. Dion, Fakher Chaari, Imad Tawfiq, Mohamed Haddar</i>					16:50 - 17:10
17:10 - 17:30	Delayed feedback controller in MEMS resonators <i>K. Masri, M. Younis, S. Shao</i>	Experimental Investigation of the Equilibrium and Stability of Long Towed Cable Systems <i>Martin Obligado, Mickael Bourgoin</i>	Is high-speed digital holography the ultimate tool for vibration analysis ? <i>Julien Poittevin, Pascal Picart, François Gautier, Charles Pézerat</i>		17:10 - 17:30	17:10 - 17:30
19:30 - 22:00	Welcome event					19:30 - 22:00

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Wednesday, April 24, 2013

8:40 - 9:20	Plenary V - Nonlinearities and multifield interactions for adaptive metamaterials by Massimo Ruzzene (Georgia Institute of Technology, Atlanta, US) Chair: <i>Manuel Collet</i>				8:40 - 9:20
9:20 - 10:00	Plenary VI - Hachmi Ben Dhia (École Centrale Paris, FR) Chair: <i>Joël Perret-Liaudet</i>				9:20 - 10:00
10:00 - 10:30	Coffee break				10:00 - 10:30
Sessions					
	Nonlinear System dynamics <i>Joël Perret-Liaudet (ECL,FR)</i>	Material & Structural Dynamics <i>Morvan Ouisse (FEMTO-ST, FR)</i>	Smart Materials, Smart Structures and Metacomposites <i>Stephan Rinderknecht (TUD, DE)</i>	Computational Methods in Vibroacoustics and Mid-Frequency <i>Wim Desmet (KUL, BE), Bernard Trolet (LMT, FR)</i>	Sessions
10:30 - 10:50	Bifurcation Behavior in Switching Converters Driving Other Downstream Converters in DC Distributed Power Systems Applications <i>Abdelali El Aroudi, Damian Giaouris, Luis Martinez-salamero, Soumitro Banerjee</i>	Increasing the Modal Overlap Factor of a Beam Using the Acoustic Black Hole Effect <i>Vivien Denis, François Gautier, Adrien Pelat</i>	Elastic metamaterials with local resonances for broad band vibration isolation <i>Gao Yan, Fusheng Sui, S. Daley</i>	Finite element modelling of Poroelastic-acoustic coupled problem <i>Walid Larbi, Jean-françois Deü, Roger Ohayon</i>	10:30 - 10:50
10:50 - 11:10	Chaos Control by Time-Delayed Feedback: Observing Global Properties in Electronic Circuits - <i>Hartmut Benner, Chol-ung Choe, Klaus Höhne, Clemens V. Loewenich, Hiroyuki Shirahama, Wolfram Just</i>	Scattering of flexural waves from an acoustic black hole in an infinite thin plate <i>Omar Aklouche, François Gautier, Adrien Pelat, Sylvain Maugeais</i>	Dielectric elastomer as active material in membranes for vibration-based energy harvesting <i>Emine Zaouali, Fehmi Najar, Kais Mrabet</i>	Prediction of random vibration and acoustic Responses by compression of the statistical Dynamical information of fem models <i>Gerard Borello</i>	10:50 - 11:10
11:10 - 11:30	Nonlinear Dynamics of A Piecewise Linear Energy Harvesting System <i>Abdelali El Aroudi, Hassen Ouakad, Mohammad Younis</i>	Fea nalysis of in-plane shear stresses of a preloaded sandwich plate with a viscoelastic core – application to the disk brake systems <i>Mohamed Soula, T. Lazghab, M. Bouazizi</i>	On the radiation efficiency of local resonance stop bands <i>Claus Claeys, Paul Sas, Wim Desmet</i>	Statistical energy analysis: correlation between diffuse field and energy equipartition <i>Thibault Lafont, Nicolas Totaro, Alain Le Bot</i>	11:10 - 11:30
	Nonlinear Vibrations <i>Bilal Harras (FST Fes, MA)</i>				Sessions
11:30 - 11:50	Effects of constraints and stability coefficient on convergence of PSO based algorithm for impact localization <i>Abdelali El-bakari, Abdellatif Khamlich, Rachid Dkiouak, Eric Jacquelain</i>	Wideband frequency characterization of a shape memory polymer <i>Pauline Butaud, Morvan Ouisse, Emmanuel Foltête, Vincent Placet, Jan Klesa, Xavier Gabrion</i>	Electroacoustic metamaterials with negative acoustic properties <i>Hervé Lissek</i>	A new model of improving the transmission loss of aluminium profile with corrugated cores <i>Shan Ouyang, Fusheng Sui</i>	11:30 - 11:50
11:50 - 12:10	Non-linear Free Vibration Analysis of Circular Functionally Graded Plates using a Homogenization Procedure. <i>Rachid El Kaak, Khalid El Bikri, Rhali Benamar</i>	Estimation of structural damping using an expansion in the chebyshev orthogonal basis <i>Catherine Chochol, Simon Chesne, Didier Remond</i>	Sensitivity analysis and control of a cantilever beam by mean of a shunted piezoelectric patch <i>Gaël Matten, Manuel Collet, Emeline Sadoulet-Reboul, Scott Cogan</i>	On the thermoacoustic properties of aerospace layered structures <i>Dimitrios Chronopoulos, Mohamed Ichchou, Bernard Trolet, Olivier Bareille</i>	11:50 - 12:10
12:10 - 12:30	Dynamic of a squeeze film between smooth lip seal and rough shaft <i>M'hammed El Gadari, Mohamed Belhaq, Mohamed Hajjam</i>	Guided wave propagation in uncertain elastic media through stochastic diffusion matrix <i>Faker Bouchoucha, Mohamed Ichchou, Mohamed Haddar</i>		Quantification of the power injected by acoustic sources inside a complex cavity <i>Fabien Ayme, Charles Cariou, Mohamed Ichchou, Daniel Juvé, Olivier Bareille</i>	12:10 - 12:30
12:30 - 14:30	Lunch				12:30 - 14:30

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14:30 - 15:10	Plenary VII - Virtual Noise Synthesis by Goran Pavic (INSA Lyon, FR) Chair: Charles Pézerat				14:30 - 15:10
15:10 - 15:50	Plenary VIII - Sound and Vibration From Friction Between Soft Materials Under Light Loads by Adnan Akay (Bilkent University, Turkey & Carnegie Mellon University, US) Chair: Alain Le Bot				15:10 - 15:50
15:50 - 16:30	Coffee break Posters session				15:50 - 16:30
Sessions	Nonlinear Vibrations <i>Rhali Benamar (EMI, MA)</i>	Material & Structural Dynamics <i>Makrem Arfaoui (ENIT, TN)</i>		Friction Noise <i>Alain Le Bot (ECL, FR)</i>	Sessions
16:30 - 16:50	Vibrations of a self-excited tower under turbulent wind flow in the presence of a high frequency excitation <i>Ilham Kirrou, Lahcen Mokni, Mohammed Belhaq</i>	Propagation of deformation and strain waves in a tamping rammers springs <i>Anis Hamza, Sami Ayadi, Ezzedine Hadj-taieb</i>	Daa-Youn Maa	Friction noise of rough surfaces and dissipation of vibration <i>Alain Le Bot, Hung Dang</i>	16:30 - 16:50
16:50 - 17:10	Numerical simulation and experimental validation of gap supported tube subjected to fluid-elastic coupling forces for hybrid characterization tests <i>W. Benmalek, M. Collet, E. Foltete, M. Ouisse,</i>	Methodology for robust roadside safety barrier design and certification application to steel-wood structures <i>M. Massenzio, C. Goubel, S. Ronel, E. Di Pasquale</i>	Daa-Youn Maa	Characterization of hysteretic friction of viscoelastic joints <i>Hanen Jrad, Jean-luc Dion, Franck Renaud, Imad Tawfiq, Mohamed Haddar</i>	16:50 - 17:10
17:10 - 17:30	Taking into account of surface defects in connections in the dynamics of structures assembled <i>Nicolas Peyret, Gael Chevallier, Jean-Luc Dion, Pierre Argoul</i>			Comprehension of friction law instability: application to wiper blade squeal noise <i>Fabien Dalzin, Alain Le Bot, Denis Mazuyer, Julian Le Rouzic, Joel Perret-liaudet, Frédéric Bretagnol</i>	17:10 - 17:30
17:30 - 17:50				Direct numerical simulation of friction noise <i>Hung Dang, Alain Le Bot, Joel Perret-liaudet, Julien Scheibert</i>	17:30 - 17:50
18:50 - 19:30	Plenary IX - Numerical Design and Analysis of Flexible Structures by Eberhard Haug (ESI, DE) Chair: Fusheng Sui				18:50 - 19:30
19:30 - 23:00	Gala				19:30 - 23:00

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Thursday, April 25, 2013

8:20 - 9:00	Plenary X - Nonlinear modes of vibration of structural elements by <i>Pedro Ribeiro</i> (University of Porto, PT) Chair: Rhali Benamar				8:20 - 9:00
9:00 - 9:40	Plenary XI - New considerations on the validation and on the optimization of designs in the space domain by <i>Jérôme Buffe</i> (Thales Alenia Space, FR) Chair: Scott Cogan				9:00 - 9:40
9:40 - 10:10	Coffee break				9:40 - 10:10
Sessions					
	Nonlinear Vibrations Rhali Benamar (EMI, MA)	Materials for Vibroacoustics Noureddine Attala (GAUS, CA)	Robust Design under lack of knowledge Scott Cogan (FEMTO-ST, FR)	Computational Methods in Vibroacoustics and Mid-Frequency Mohamed Ichchou (ECL, FR)	Sessions
10:10 - 10:30	Theory and applications of the macroscopic quantization effect in nonlinearly-coupled vibrating systems <i>Jonathan Tennenbaum, Danil B. Doubochinski</i>	Methodology using a Heat Regulated Impedance Tube for the Temperature Dependent Sound Absorption Property of Materials - <i>Nicolas Merlette, Christophe Gautrelet, Emmanuel Pagnacco</i>	On the modeling of adhesive contact and stiction failure in micro-switches <i>Ling Wu, Ludovic Noels, Jean-claude GolINVAL</i>	The Wave Based Method: current state of the art - <i>Elke Deckers, Atak Onur, Laurens Coox, Roberto D'amico, Hendrik Devriendt, Stijn Jonckheere, Kunmo Koo, Bert Pluymers, Dirk Vandepitte, Wim Desmet</i>	10:10 - 10:30
10:30 - 10:50	Non-linear dynamic behavior of a wind turbine system with torque limiter <i>Kamel Abboudi, Lassaad Walha, Yassine Driss, Mohamed Maatar, Mohamed Haddar</i>	Acoustics of rigid porous media with damped Helmholtz resonators <i>Claude Boutin</i>	Sensitivity analysis and optimization of sheet steel thickness for vibroacoustic behavior of enclosures - <i>Titouan Fourmaux, Morvan Ouisse, Scott Cogan, Emeline Sadoulet-Reboul</i>	Non resonant contributions in modal energy methods <i>Nicolas Totaro, Laurent Maxit</i>	10:30 - 10:50
10:50 - 11:10	Effect of high-frequency ac electromagnetic actuation on the dynamic of an excited cantilever beam - <i>Amine Bichri, Jarir Mahfoud, Mohammed Belhaq</i>	Acoustic impedance of microperforated honeycomb panels <i>Margaux Regniez, François Gautier, Charles Pezerat, Adrien Pelat</i>	Optimum shape design of incompressible hyperelastic structures with analytical sensitivity analysis <i>Abdessalem Jarraya, Fakhreddine Dammak</i>	Dynamics of stochastic and periodic structures in mid-frequency range - <i>Mohamed Amine Ben Souf, Olivier Bareille, Mohamed Ichchou, Bouhaddi Noureddine, Mohamed Haddar</i>	10:50 - 11:10
11:10 - 11:30	Internal resonances in nonlinear nanocantilever arrays under electrostatic actuation <i>Saoussen Souayeh, Najib Kacem</i>	An analytic study of the noise reduction of an infinite multi-layered cylinder <i>Julien Magniez, Mohamed-ali Hamdi, Jean-daniel Chazot</i>	Robust model calibration of a wind turbine with load uncertainties <i>Daniel Pereiro, Scott Cogan, Emeline Sadoulet-reboul, Felix Martinez</i>	SAMSARA for thin stiffened shells: first models <i>Sergio De Rosa, Franco Francesco</i>	Philip Ellis Doak
11:30 - 11:50	Transverses linear vibration of cantilever beam carrying two lumped masses. Analogy between discrete models. <i>Ahmed Eddanguir, Rhali Benamar</i>	The transmission loss of sandwich-composite panels with attached noise control materials <i>Haisam Osman, Noureddine Attala</i>	Robust design of spacecraft structures under lacks of knowledge <i>Fabien Maugan, Scott Cogan, Emmanuel Foltête, Fabrice Buffe</i>	A new approach in reliability based design optimization of TMD in seismic vibration control of structures with bounded uncertain parameters - <i>Elyes Mrabet, Mohammed Guedri, Samir Ghanmi, Mohamed Ichchou</i>	11:30 - 11:50
11:50 - 12:10		Design of an Acoustic Anechoic Chamber for Application in Teaching Aid <i>Remram Youcef</i>	Real-time and in-service estimation of the degree of damage of automotive transmission parts with the aid of a torque measure <i>Stéphane Foulard, Stephan Rinderknecht, Mohamed Ichchou, Joel Perret-liaudet</i>	Detection of localized damage in rails by using elastic wave propagation <i>Sara Teijdj, Abdellatif Khamlichi, Abdellah Driouech, Eric Jacquelain</i>	11:50 - 12:10
12:10 - 12:50	Plenary XII - Synthesis of Ariane 4 & Ariane 5 vibroacoustic studies and perspectives by <i>Bernard Troclet</i> (EADS ASTRUM ST, ENS Cachan, FR) Chair: Emmanuel Foltête				12:10 - 12:50
12:50 - 13:00	Closing Ceremony - <i>Manuel Collet</i> (FEMTO-ST, FR)				12:50 - 13:00
13:00 - 14:30	Lunch				13:00 - 14:30

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Posters sessions

Tuesday, April 23, 2013 / 15:50 - 16:30	Wednesday, April 24, 2013 / 15:50 - 16:30
<p>Damage monitoring of trust ball bearing by a reliability approach <i>Mouloud Guemana, M. Boumahdi</i></p>	<p>Effect of charge polydispersity in the dynamics of a micellar system <i>Lamiae Talha, Mohammed Filali, Abdelhafid Azougarh, Luca Cipelletti</i></p>
<p>Modelling of mechanical behaviour of bogie train <i>Redouane Zellagui, Ahmed Bellaouar, Salima Beleulmi</i></p>	<p>A method to model beams in dynamic bending under various boundary conditions <i>Taoufik Ayari, Charfeddine Mrad, Rachid Nasri</i></p>
<p>Nonlinear sloshing of two superposed immiscible liquids in a two-dimensional rectangular tank <i>Meziani Bachir, O Ourrad</i></p>	<p>Effect of porosity on the propagation velocities of ultrasonic waves in the trabecular bone <i>Abderrazek Bennamane, Boutkедjirt Tarek</i></p>
<p>Reconstruction of impact force via bayesian approach <i>Abdellatif Khamlich, Souleymane Sammagassi, Abdellah Driouech, Eric Jacquelin</i></p>	<p>Study of mechanical behavior and reliability analysis of the overhead power cables for low voltage dedicated to distribution network <i>Asmâa Chouairi, Abdelkader Benali, Mohamed El Ghorba, Nicolas Barbe, Anas Benouna</i></p>
<p>Optimization of geometrical parameters of covers & hoops of metal packaging boxes <i>R. Lombarkia, B. Barkat</i></p>	<p>Experimental ajustement in real time of a semi-active numerical model suspension with a magnetorheological damper <i>Boukerroum Said, Hamzaoui Nacer</i></p>
	<p>Elastic wave scattering by periodic cavities in backing material for ultrasound transducers <i>Guofeng Bai, Fusheng Sui, Jun Yang, Chengguang Zhou</i></p>
	<p>Detecting dmage in mindlin plates by using the modal strain energy method <i>F. El Khannoussi, Abdellatif Khamlich, A. Hajraoui, A. Liman</i></p>
	<p>Non-linear free vibrations of c-c-ss-ss symmetrically laminated carbon fiber reinforced peek (as4/apc2) rectangular composite plates <i>Z. Zergoune, B Harras, Rhali Benamar</i></p>
	<p>Geometrically non-linear free vibration of c-ss-ss symmetrically laminated as4/apc2 rectangular composite plates <i>O Baho, B Harras, Rhali Benamar</i></p>
	<p>Multi-objective optimization of rail vehicle design moving in curved tracks with relatively high speed <i>Mohamed Nejlaoui, Ajmi Houdi, Abdelfattah Mlika, Zouhaier Affi, Lotfi Romdhane</i></p>
	<p>T - p(x) Solutions for Nonlinear Elliptic Equations with an L1-Dual Datum <i>Elhoussine Azroul, Abdelkrim Barbara, Meryem El Lekhlifi</i></p>