PROGRAM DAY 1 (July, 8th)

08:00 — **Registration and Coffee** — Rot

09:00 — **Welcome and Opening (J. Antoni, D. Rémond)** — Rot

09:20 — **Plenary Session 1** (Chair: E. Sadoulet-Reboul)
Massimo Ruzzene Dynamics of Time-Dependent and Spatially Modulated Metamaterials — Rot

10:05 — **Coffee break** — (10:20) — 107

	SPOC 1 (chair: C. Capdessus) AE	MODS 1 (Chair : R. Arruda) AO	EM (Chair : A. Soualhi) RC
10:40	Selection of Condition Indicators for Improved Gear Fault Detection **Bechhoefer Eric**	A benchmark study on the configuration of metaporoelastic interfaces for acoustic isolation enhancement. **Weisser Thomas**, Groby Jean Philippe , Dazel Olivier , Schwan Logan , Deckers Elke , Geslain Alan , Lagarrigue Clément , Lecoq Damien	Long-term vibration monitoring of induction motors in the food industry with low-cost accelerometers **Ompusunggu Agusmian**, Janssen Karel, Dzyuba Vladimir
11:00	Autonomous Embedded Vibroacoustic Measurements: an efficient tool for railway monitoring **Clerc Christian, Augez Romain**	The Dynamics of Helicopters with Nonlinearities on the Fuselage **Sanches Leonardo**, Borges Da Silva Cesar Augusto , Michon Guilhem	Structural dynamics of electric machines subjected to PWM excitations **Topenot Margaux** , Ouisse Morvan , Chevallier Gaël, Vaillant Damien
11:20	Blind vibration filtering using envelope spectrum indicators for bearing and gear fault detection without knowledge of machine kinematics **Peeters Cédric,** Antonl Jérôme, Helsen Jan	Comparison of pseudo-static and modal spectral seismic analyses of motor-driven pump units: is 1.5 security coefficient of pseudo-static method relevant? **Audebert Sylvie**, Rousseu Damien	Experimental evidence of MCSA for the diagnosis of ball-bearings Immovilli Fabio, Lippi Marco, **Cocconcelli Marco**
11:40	Vibration representation in time and phase domains, applications to aircraft engines **Griffaton Julien**, Gomez Jose	Characterization of the damping added by a foam on a plate by an inverse vibration problem **Le Deunf Meryem**, Pézerat Charles , Ablitzer Frédéric , Puvilland Serge	Multi-physics modeling of asynchronous electrical machines in non-stationary conditions with eccentric rotor **Li Xiaowen**, Bourdon Adeline , Remond Didier , Koechlin Samuel

Tutorial
Etienne BALMES
(2 hours)
Room 107

12:00 — **Lunch break**

	AA 1 (Chair : P. Clément) RC	D&D 1 (Chair : R. Klein) AE	MODS 2 (Chair : T. Weisser) Rot	URSS (Chair : S. Berger) AO
13:30	Cyclo-non-stationary analysis for bearing fault identification based on instantaneous angular speed estimation **Sierra-Alonso Edgar F**., Antoni Jérôme, Castellanos Dominguez Geman	Characterization of a Bouc-Wen model-based damper model for automobile comfort simulation **Gao Hanwei**, Jézéquel Louis , Cabrol Eric , Vitry Bernard	Numerical simulation for finding the free surface of liquid in an open container with horizontal acceleration **Babajanivalashedi Reza**, Dion Jean-Luc , Lo Feudo Stefania	Robust design of damping devices constitued of viscoelastic materials **Jaboviste Kévin**, Sadoulet-Reboul Emeline , Peyret Nicolas , Arnould Charles , Collard Eric , Chevallier Gaël
13:50	Investigation of the Influence of the Operating Parameters on theMagnetic Encoder Geometric Error Compensation Cakar Halil Ibrahim, **André Hugo**	Modal identification of machining robots **Maamar Asia**, Gagnol Vincent , Sabourin Laurent , Le Thien Phu	Coupled bending torsional vibrations of non-ideal energy source rotors going through critical speeds **Sghaier Emna**, Dion Jean-Luc , Peyret Nicolas , Remond Didier , Bourdon Adeline	A model reduction method to analyze the dynamic behavior of vibrating structures with uncertain parameters **Kieu Duc-Thinh,** Gobert Marie-Laure, Berger Sébastien, Mencik Jean-Mathieu
14:10	Interpolation of periodic hidden signal measured at steady-operating conditions on hydroelectric turbine runners **Pham Quang Hung**, Gagnon Martin, Antoni Jérôme, Tahan Souheil-Antoine , Monette Christine	Demodulating of three-dimensional tip clearance of turbine blades using BP neural network with optimized genetic algorithm **Liu Hongcheng**, Zhang Xiaodong , Xie Siying	NAFID - A Grid Tool for output only modal analysis **Vu Viet-Hung**	On the monitoring of noisy data as a multidimensional shell **Gagnon Martin**, Léonard François , Merleau James , Tapsoba Dominique
14:30		Research on Variation Mechanism of Three-dimensional Tip Clearance of Cracked Blade in Aero-engine Acceleration Process **Xiong Yiwei** ,Zhang Xiaodong , Xie Siying , Liu Hongcheng	Study of the static and dynamic behaviour of PU foam: from the material sample to the automotive seat. **Blanchard Corentin**, Weisser Thomas , Barbeau Romain , Aubry Evelyne , Mallet-Da Costa Anne-Isabelle	Confounding factors analysis and compensation for high-speed bearing diagnostics **Daga Alessandro Paolo**, Garibaldi Luigi , Fasana Alessandro , Marchesiello Stefano

14:50 — **Coffee break**

	JOINT (Chair : E. Sadoulet-Reboul) AE	FDP1 (Chair : M. Cocconcelli) Rot	CM 1 (Chair: Y. Guo) RC	SMART 1 (Chair : S. Chesné) AO
15:40	Identification through Frequency-Domain Methods of Hysteretic Models for Bolted Joints of Assembled Structures **Teloli Rafael**	Fourier-Bessel series expansion based blind deconvolution method for bearing fault detection **Soave Elia** , Gianluca D'elia , Giorgio Dalpiaz	Edge computing for advanced vibration signal processing **Helsen Jan**, Cédric Peeters , Guillaume Patrick	Embedded sensing micro-components for fibre reinforced composite material sysnthesis and monitoring Bareille Olivier , Salvia Michelle , Zhang Mingfa , **Cui Xiaopeng**
16:00	Fixed point Algorithm resolution and model reduction for jointed structures dynamic simulation. **Meurdefroid Anthony**, Peyret Nicolas , Chevallier Gaël	Combination of vibration analysis and Acoustic Emission measurements to better characterize damage and mechanical behaviour of aerospace high speed rolling bearing **Yoann Hebrard**	Remote diagnosis by analyzing heterogeneous data **Guerry Joris** , Chanel François, Tardieu Nicolas	Temperature control of a composite core for adaptive stiffness and damping Renault David , Butaud Pauline , **Ouisse Morvan** , Verdin Benoît , Chevallier Gaël , Joseph Eric
16:20	Modelling the damping at the junction between two-structures by non-linear models : improving the model and the resolution **Kehr-Candille Veronique**	Neuroevolution for bearing diagnosis Rita Sleiman, Amani Raad, **Souhayb Kass**, Jérôme Antoni	Tool condition monitoring method in milling process using wavelet transform and long short-term memory **Aghazadeh Fatemeh**, Tahan Souheil-Antoine , Thomas Marc	Vibration Control of Cable-Driven Parallel Robot for 3D Printing **Lacaze Florian**, Chesne Simon , Remond Didier

16:40

17:00 — **Cocktail (please be at Musée Confluences at 18:30)**

PROGRAM DAY 2 (July 9th)

08:30 — **Plenary Session 2** (Chair: C. Capdessus) — Rot
Nadine Martin Automatic expert condition monitoring : focus on a non-stationary index and the demodulation process

09:15 — **Plenary Session 3** (Chair: M. Collet) — Rot
Jérôme Grando Smart dynamic systems for exterior body panels in automotive industry

10:00 — **Time for industry** — Rot

10:30 — **Coffee break** — Agora

	AA 2 (Chair: H. André) — AO	FDP 2 (Chair: F. Bonnardot) — AE	AI 1 (Chair: L. Garibaldi) — RC	PCV (Chair: X. Chiementin) — Rot
10:50	Numerical and experimental loads analysis on a horizontal-axis wind turbine in yaw Castellani Francesco, **Astolfi Davide,** Natili Francesco, Becchetti Matteo	A non-parametric generalization of the synchronous average in the cyclo-non-stationary framework Abboud Dany, **Assoumane Amadou** , Marnissi Yosra , El Badaoui Mohammed	A Deep Learning-based Approach for fault diagnosis: Application to Bearing Fault Detection **Dahi Khalid**	Experimental identification of the corrective effect of a non-circular pulley : application to timing belt drive dynamics **Passos Sébastien** , Manin Lionel , Remond Didier , Sauvage Olivier , Rota Laurent , Besnier Etienne
11:10	Monitoring of dynamic lifting cables for diagnosis **Khadraoui Souha** , Bolaers Fabrice , Dron Jean Paul , Cousinard Olivier	High Frequency Demodulation Technique for Instantaneous Angular Speed Estimation **Bonnardot Frédéric** , Lizoul Khalid , Errafik Saad , André Hugo , Guillet François		Robust optimization of Nonlinear Energy Sinks for the mitigation of dynamic instabilities in uncertain friction systems **Snoun Cherif**, Bergeot Baptiste, Berger Sébastien
11:30	Gears and bearings faults detection: from instrumentation to classification **Bertoni Renaud,** Sylvain Barcet, Alexandre Carbonelli, Marion Cortes	Development of a vibration monitoring strategy based on cyclostationary analysis for the predictive maintenance of helicopter gearbox bearings **Camerini Valerio** , Macchi Lucas , Champavier Frederic, Naccarato Gianni	Wind turbine gearboxes fautl detection through on-site measurements and vibration signal processing **Castellani Francesco** , Astolfi Davide , Garibaldi Luigi , Daga Alessandro Paolo	Energy exchange between a nonlinear absorber and a pendulum under parametric excitation **Hurel Gabriel** , Ture Savadkoohi Alireza , Lamarque Claude-Henri
11:50	Ball bearing diagnostics based on statistical metrics of cyclostationarity Pancaldi Fabrizio, Riccardo Rubini , **Cocconcelli Marco**	A new indicator designed from the spectral coherence, proposition and application to bearing diagnosis **Kass Souhayb** , Raad Amani , Antoni Jérôme	Gears and bearings defaults: from classification to diagnosis using machine learning **Barcet Sylvain**, Carbonelli Alexandre , Baron Valentin	Methodology for the robust design of a network of dynamic vibration absorbers **Jaboviste Kévin**, Sadoulet-Reboul Emeline , Peyret Nicolas , Arnould Charles , Collard Eric , Chevallier Gaël
12:10	Measurement and use of transmission error for diagnostics of gears Randall Robert , Chin Jacky , Smith Wade , **Borghesani Pietro**	Multi band integration on the cyclostationary bivariable methods for bearing diagnostics. **Mauricio Alexandre** , Gryllias Konstantinos	Vibration feature for detecting eccentric workpiece faults during grinding process **Ompusunggu Agusmian** , Devos Steven, Vonderscher Yann, Motl Daniel	

Lunch break

	107	MODS 3 (Chair : R. Serra) — AE	AA 3 (Chair : Q. Leclere) — RC	SMART 2 (Chair : O. Bareille) — AO
13:40	**Tutorial** **Bob Randall** **(2 hours)** **room 107**	Numerical and experimental analyses to enhance the vibration response of rotary transfer machines **Troncossi Marco** , Martini Alberto, Vincenzi Nicolà, Rivola Alessandro	Rolling bearing diagnosis based on H_infinity filter order tracking **Assoumane Amadou** , Abboud Dany , Edgard Sekko , El Badaoui Mohamed	Hybrid crankshaft control for the reduction of torsional vibrations and rotational irregularities **Paillot Guillaume** , Chesne Simon, Remond Didier
14:00		Bifurcation Tracking and sub-harmonic isola detection in nonlinear mechanical systems **Alcorta Roberto** , Prabel Benoit , Piteau Philippe, Baguet Sébastien, Georges Jacquet-Richardet	Dynamic Characterization Of Hydroelectric Turbine In Transient Using OBMA And Phase-Shift Analysis **Dollon Quentin** , Tahan Souheil-Antoine , Antoni Jérôme, Gagnon Martin , Monette Christine	Semi-active torsional vibrations control of a rotor using a small electro-rheological dynamic absorber **Sun Yulan** , Thomas Marc
14:20		Localization and quantification of damage by frequency based methods : Numerical and Experimental applications on bending vibration beams **Dubey Anurag,** Denis Vivien , Serra Roger	A new method for identifying diagnostic rich frequency bands under varying operating conditions **Schmidt Stephan**, Mauricio Alexandre , Heyns Stephan, Gryllias Konstantinos	Shunted piezoelectrical flextensionnal suspension for vibration insulation **Billon Kevin** , Montcoudiol Nathan , Aubry Alice , Pascual Rémi , Mosca Frederic , Jean Frederic, Pézerat Charles , Bricault Charlie, Chesne Simon
14:40		ARX model for experimental vibration analysis of grinding process by flexible manipulator **Nguyen Quoc-Cuong** , Vu Viet-Hung , Thomas Marc	**AI 2 (14:50)** (Chair : N. Vyas) — RC	**SMART 3 (14:50)** (Chair : M Ouisse) — AO
15:00		Use of virtual sensors for the analysis of forces exerted by the load inside a rotating mill **Molina Vicuna Cristian** , Venegas P. José, Valenzuela M. AnÃ-bal	Toward the quality prognostic of an aircraft engine workpiece in Inconel Alloy 625: case study and proposed system architecture **Proteau Antoine**, Tahan Souheil-Antoine, Thomas Marc	Programmable band-gaps in periodic structures **Matten Gaël** , Ouisse Morvan, Chevallier Gaël , Collet Manuel , Yi Kaijun
			A Deep Learning Protocol for Condition Monitoring and Fault Identification in a Rotor-Bearing System from raw Time-Domain data Sonkul Nikhil , Singh Jasdeep , **Vyas Nalinaksh S**	Exploring periodicity and dispersion diagrams in muffler design **Ferreira Vitor** , Lima Vinicius D. , Huallpa Belisario N., Arruda José Roberto
15:40	**Coffe Break**		Fault prognosis of planetary gearbox using acoustic emission and genetic algorithm: a case study **Leaman Felix** , Molina Vicuna Cristian , Baltes Ralph, Clausen Elisabeth	A new two-dimensionnal metastructure with acoustic frequency band gaps **Demore Félix** , Madeo Angela , Collet Manuel

POSTER SESSION

	D&D 2 (Chair : S. Heyns) — AE	SPOC 2 (Chair : JL Dion) — Rot	AI 3 (Chair : J. Antoni) — AO
16:30	Challenging the multiplicative model used for gear vibration Hubert Elisa, **Borghesani Pietro**, Barrau Axel, El Badaoui Mohammed, Randall Robert	Comparison and improvement of Techniques for Transmission-Path Restoring **Matania Omri**, Klein Renata, Bortman Jacob.	Rotating machine diagnosis using acoustic imaging and artificial intelligence **Darraz Abdelhakim,** Thomas Jean-Hugh , Mollon Pierre , Kirie Gabriel , Antoni Jérôme , Larcher Anthony
16:50	Detection sensitivity study of local faults in spur gears based on realistic simulations **Bachar Lior**, Dadon Ido, Klein Renata, Bortman Jacob	Influence of Gaussian Signal Distribution Error on Random Vibration Fatigue Calculations **Wang Yuzhu** , Serra Roger	Macroscopic-Microscopic Attention in LSTM Networks based on fusion Features for prediction of bearing remaining life **Qin Yi** , Xiang Sheng , Yan Haoran
17:10	Towards a better understanding of helical gears vibrations – dynamic model validated experimentally **Silverman Nadav** , Dadon Ido , Klein Renata, Bortman Jacob	Helicopter transmission gearbox fault detection using an enhanced minimum entropy deconvolution adjusted method **Zhang Xin** , Wang Jiaxu , Liu Zhiwen, Antoni Jérôme	Milling diagnosis using machine learning approaches **Knittel Dominique** , Nouari Mohammed

GALA DINNER (please be at the boat before 20:00)

PROGRAM DAY 3 (July, 10th)

09:00 — **Plenary Session 4** (Chair: M. Thomas) — Rot
Eric Bechhoefer Improving the Business Case to Expand the Condition Monitoring Market

09:45 — **CONTEST Results** — Rot

10:45 — **Posterity Time** — Rot

Coffee break

	AI 4 (Chair : K. Gryllias) — RC	AA 4 (Chair: F. Girardin) — AE	FDP 3 (Chair : G. Dalpiaz) — AO
11:25	Multi-label fault diagnosis based on Convolutional Neural Network and Cyclic Spectral Coherence Chen Zhuyun , Mauricio Alexandre , Li Weihua , **Gryllias Konstantinos**	Angle domain inverse acoustic imaging for ICE powertrain combustion and mechanical noise identification **Colangeli Claudio** , Montani Stefano, Lanslots Jeroen, Paillasseur Sebastien, Bianciardi Fabio, Janssens Karl	Early bearing defect detection in a noisy environment based on a method combining singular value decomposition and empirical mode decomposition Kedadouche Mourad , Liu Zhaoheng , **Thomas Marc**
11:45	A semi-supervised Support Vector Data Description-based fault detection method for rolling element bearings based on Cyclic Spectral Coherence **Liu Chenyu**, Gryllias Konstantinos	Angular vibration on-site measurements and application to torsional analysis on industrial cases **Combet François**, Boisseleau Louis	Prognostics of rolling element bearings based on Entropy indicators and Particle Filtering **Qi Junyu**, Mauricio Alexandre, Konstantinos Gryllias
12:05	Big vibration data identification of bearing fault base on autoencoder network-based feature representation and optimal LSSVM-PSO classifier model **Nguyen V Hung**	Towards the use of hybrid models for diagnosis and prognosis in turbomachinery health management **Heyns Stephan**, Ellis Brian, Diamond David, Du Toit Ronald	Spall Evolution in a Rolling Element Bearing **Gazizulin Dmitri** , Klein Renata , Bortman Jacob
12:25			Adaptive tacho information estimation for surveillance of rotatory machine under nonstationary conditions **Wang Yi**, Hou Bingchang , Baoping Tangang , Qin Yi

Tutorial

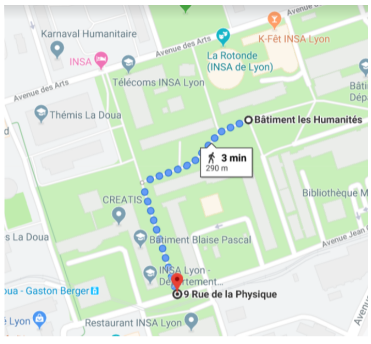
Thibaud TEDROUX

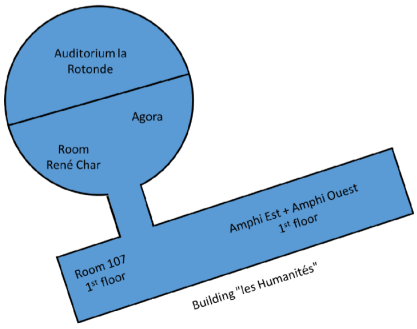
(2 hours)

Room 107

Lunch break

	AI 5 (Chair : M. El Badaoui) — AE	CM 2 (Chair : Y. Qin) — AO
13:40	Machine teaching to optimize algorithms performances on restricted dataset. **Carbonelli Alexandre** , Waussen Maurin	CMBase, a universal gateway to condition monitoring datasets **Capdessus Cécile , Bonnardot Frédéric**
14:00	Effects and optimization of the Particle Swarm Optimization parameters for structural dynamic monitoring of cantilever beam **Li Xiao-Lin** , Serra Roger , Olivier Julien	Experimental investigation of sensor mounting positions for localized faults detection of epicyclic gear sets **Guo Yu** , Zhen Liu , Wu Xing , Yu Yinxin
14:20	The virtual machine : a signal generator based on realistic dynamic behavior **Remond Didier , Bourdon Adeline**	Towards 3D AFM Using Multiple Variation Modes **Rubin Eyal**, Bucher Izhak Davis Solomon1





Session	Full name
SMART	Smart Structures
AA	Angular Approches
D&D	Diagnostics and dynamic models
JOINT	Jointed Structure
MODS	Model and System ident
CM	Condition Monitoring
SPOC	Signal Processing
FDP	Fault diagnosis and prognosis for roller bearings
EM	Electrical motors
URSS	Uncertainties, robustness, stochastic systems
AI	Data Mining Classification Machine learning methods
PCV	Passive controle of vibrations

Room	Full name
Rot	Auditorium "la Rotonde"
AE	Room Amphi Est
AO	Room Amphi West
RC	Room René Char
107	Room 107 (tutorials)
Agora	place for coffe break, poster session