

# ICAV'2022

## The Fourth International Conference on Acoustics and Vibration

### SCIENTIFIC PROGRAM

December 19-21, 2022

Sousse - Tunisia

Organized By:

Tunisian Association of Industrial Acoustics and Vibration (ATAVI)



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# ICAV'2022

## Scientific Program

### Monday, December 19, 2022

8h30 – 10h	Registration
10h – 10h15	Opening ceremony
10h15 – 11h	Plenary Session
11h – 11h30	Coffee Break
11h30 – 12h15	Plenary Session
12h15 – 14h	Lunch
14h30 – 15h15	<b>ONLINE</b> Plenary Session
15h15 – 16h	<b>ONLINE</b> Plenary Session
16h – 16h30	Coffee Break
16h30 – 18h	Oral Presentations

### Tuesday, December 20, 2022

8h30 – 9h15	Plenary Session
9h15 – 10h	<b>ONLINE</b> Plenary Session
10h – 10h30	Coffee Break
11h – 12h15	Oral Presentations
12h15 – 14h	Lunch
14h – 15h30	Oral Presentations
15h30 – 16h	Coffee Break
16h – 17h20	<b>ONLINE</b> Oral Presentations

### Wednesday, December 21, 2022

8h30 – 10h30	Oral Presentations
10h30 – 11h	Closing ceremony

**Monday, December 19, 2022****8h30 – 10h Registration****10h – 10h15 Opening ceremony**

Pr. Moez ABDENNADHER, IPEIS-Sfax University, ICAV2022 Conference General Chair

Pr. Ali AKROUT, FSS- Sfax University, ICAV2022 Conference General Chair

Pr. Nabih FEKI, ISSAT Sousse, Organizing Committee Chairs

Dr. Dhouha TOUNSI, ISM Sfax, Organizing Committee Chairs

**10h15 – 11h Plenary Session****Chair : Pr. Mohamed TAKTAK****Professor Mabrouk BEN TAHER**Laboratory Roberval  
Université de Technologie de Compiègne**11h – 11h30 Coffee Break****11h30 – 12h15 Plenary Session****Chair : Pr. Anas BOUGUECHA****Professor Pierre-Olivier MATTEI**CNRS - Institute of Engineering Sciences and Systems  
Deputy Director of Mechanical and Acoustics Laboratory (LMA) - Marseille**12h15 – 14h Lunch****14h30 – 15h15 ONLINE Plenary Session****Chair : Pr. Mohamed Slim ABBES****Professor Tarek BELGASEM**

He is currently working at Honda R&amp;D Americas Inc. as Materials Research Engineer, who is responsible for researching and developing new materials related to automotive components (body, interior, chassis, and/or powertrain).

**15h15 – 16h ONLINE Plenary Session****Chair : Pr. Slim BOUAZIZ****Professor Weidong ZHU**Department of Mechanical Engineering  
University of Maryland, Baltimore County, USA**16h – 16h30 Coffee Break****16h30 – 18h Oral Presentations (see details pg4/9)**

	<b>Room 1</b>	<b>Room 2</b>	<b>Room 3</b>
16h30	ID 34	ID 43	ID 42
16h45	ID 52	ID 26	ID 47
17h	ID 38	ID 76	ID 53
17h15	ID 46	ID 41	ID 50
17h30	ID 54	ID 9	ID 55
17h45	ID 59	ID 89	ID 25
18h	ID 87	ID 39	ID 28
18h15			ID 94

**Monday, December 19, 2022**

**16h30 – 18h -----Oral Presentations**

**ROOM 1. Chairs: Pr. Taoufik BOUKHARROUBA & Mohamed Amine BEN SOUF**

- 16h30 ID 34.** Vibration characteristics of Porous Functionally graded cylindrical shells  
Sameh Elleuch, Hanen Jrad, Mondher Wali, Fakhreddine Dammak
- 16h45 ID 52.** Modeling and Correction of Technological Nanodefects on Dynamic Behavior of Microstructure  
Hicham Bourouina, Abdelmadjid Boussendel
- 17h ID 38.** Structural performance evaluation of the settling station of the Gafsa Phosphate Company  
Majdi Yangui, Ahmed Samet, Moez Beyaoui, Mohamed Haddar
- 17h15 ID 46.** Effect of Forging on Friction Welded Joint Quality  
Boukharouba Taoufik
- 17h30 ID 54.** Heavy Trucks with Intelligent Control Using Hybrid Model of Artificial Neural Networks Particle Swarm Optimization (ANN-PSO)  
Anis Hamza, Issam Dridi, Kamel Bousnina, Nouredine Ben Yahia
- 17h45 ID 59.** Centrifugal stiffness effect on dynamic response of rotating cantilever beams  
Hedi Hamdi, Adel Hamdi
- 18h ID 87.** Multi-Pass optimization of a face milling operation for energy, time, cost and surface roughness saving  
Anoire Ben Jdidia, Taissir Hentati, Mohamed Taoufik Khabou, Mohamed Haddar

**ROOM 2. Chairs: Pr. Zoubeir BOUAZIZ & Pr. Ahmed HAMMAMI**

- 16h30 ID 43.** Remaining Useful Life Prediction of Bearing Using Artificial Neural Network  
Chaima Chikhaoui, Fathi Djemal, Ahmed Hammami, Fakher Chaari, Mohamed Haddar
- 16h45 ID 26.** Reliability analysis of mechanical structure with surrogate model  
Lun Shao, Alexandre Saidi, Abdel-MalekZine, Mohamed Ichchou
- 17h ID 76.** Numerical and experimental study of the lubricant oil leak phenomenon on a metro traction motor gear box  
Mohamed Chadi Yakoubi, Walid Najjar, Hatem Mrad
- 17h15 ID 41.** Effects of LRB isolators and Viscous dampers on seismic isolated irregular reinforced concrete buildings  
Abed El Rahman Yaktine, Magdalini Titirla, Walid Larbi
- 17h30 ID 9.** An automatic differentiation tool for the computation through linear homotopy of acoustic wavenumbers  
Ahmed Kessemtni, Mohamed Taktak, Mohamed Haddar
- 17h45 ID 89.** On the correction of dynamic measurements provided by force transducers  
Chaima Boussollaa, Vincent Debut, Jose Antunes, Tahar Fakhfakh, Mohamed Haddar
- 18h ID 39.** Fluid-Structure Interaction: Application to segmented wind turbine blades  
Ahmed Samet, Majdi Yangui, Moez Beyaoui, Mohamed Haddar

**ROOM 3. Chairs: Pr. Fathi DJEMAL & Pr. Nabih FEKI**

- 16h30 ID 42.** The effect of flights delayed on passenger load and utilization of Airbus A320 aircraft  
Khaled Aljaly, Omar Ayadi, Salem Sultan, Faouzi Masmoudi
- 16h45 ID 47.** A Study on Temperature Evolution During Milling of FRP Composites  
Sami Ghazali
- 17h ID 53.** Uncertainties propagation through robust reduced non-linear dynamic model in large displacements  
Mohamed Guedri, Nouredine Bouhaddi
- 17h15 ID 50.** Optimal design parameters of a tuned mass damper for offshore wind turbines  
*Helmi Mahmoudi, Maroua Hammami, Nabih Feki, Olfa Ksentini, Mohamed Slim Abbas*
- 17h30 ID 55.** Design of feedback controllers for timed event graphs networks to satisfy generalized mutual exclusion constraints using Min-Plus formalisms  
Jihene Rajah, Maher Barkallah, Said Amari, KarimaTebani, Mohamed Haddar
- 17h45 ID 25.** Modelling the operating behavior of a single cylinder SI engine used in power generator  
Mohamed *Brayek, Zied Driss*
- 18h ID 28.** Analysis of nonlinear behavior of smart MEE composite plate  
Hajer Elouza, Hanen Jrad, Mondher Wali, Fakhreddine Dammak
- 18h15 ID 94.** Uncertainty analysis for the robust dimensioning of a gearbox of wind turbine  
Amir Guizani, Hassen Trabelsi, Moncef Hammadi, Mohamed Haddar

**Tuesday, December 20, 2022****8h30 – 9h15 Plenary Session****Chair : Pr. Fakher CHAARI****Professor Li CHENG**

Department of Mechanical Engineering  
The Hong Kong Polytechnic University, Hong Hom, Kowloon, Hong Kong Director,  
Consortium for Sound and Vibration Research

**9h15 – 10h ONLINE Plenary Session****Chair : Pr. Lassaad WALHA****Professor Abdelkhalek EL HAMI**

Laboratory Optimization and Reliability in Structural Mechanics (LOFIMS)  
National Institute of Applied Sciences of Rouen (INSA Rouen), FRANCE

**10h – 10h30 Coffee Break****10h30 – 12h15 Oral Presentations (see details pg6/9)**

	<b>Room 1</b>	<b>Room 2</b>	<b>Room 3</b>
10h30	ID 95	ID 61	ID 11
10h45	ID 97	ID 74	ID 65
11h	ID 12	ID 75	ID 66
11h15	ID 8	ID 68	ID 64
11h30	ID 29	ID 63	ID 83
11h45	ID 6	ID 51	ID 82
12h	ID 13	ID 30	ID 10

**12h15 – 14h Lunch****14h – 15h30 Oral Presentations- (see details pg7/9)**

	<b>Room 1</b>	<b>Room 2</b>	<b>Room 3</b>
14h	ID 71	ID 79	ID 62
14h15	ID 92	ID 58	ID 85
14h30	ID 56	ID 40	ID 84
14h45	ID 72	ID 80	ID 36
15h	ID 77	ID 91	ID 81
15h15	ID 67	ID 96	ID 69
15h30	ID 70	ID 73	ID 98

**15h30 – 16h Coffee Break****16h – 17h40 ONLINE Oral Presentations (see details pg8/9)**

	<b>Room 2</b>	<b>Room 3</b>
16h – 16h20	ID 44	ID 78
16h20 – 16h40	ID 18	ID 76
16h40 – 17h	ID 32	ID 31
17h – 17h20	ID 19	ID 7
17h20 – 17h40	ID 23	

**Tuesday, December 20, 2022**

**10h30 – 12h15 ----- Oral Presentations**

**ROOM 1. Chairs: Pr. Moez ABDENNADHER & Hatem MRAD**

- 10h30 **ID 95.** A multi-objective model case study for the sustainable flow-shop scheduling issue  
Hager Triki, Ben Ammar Hanen, Yasmine Tchaicha
- 10h45 **ID 97.** A phase field numerical modelling of quasi-brittle material fracture applied to low velocity impact.  
Mariem Saidane, Sana Koubaa, Zoubeir Bouaziz, Radhi Abdelmoula
- 11h **ID 12.** Numerical study of machining vibration effect on machined surface roughness in orthogonal milling  
*Wael Baklouti, Charfeddine Mrad, Rachid Nasri*
- 11h15 **ID 8.** Nonlinear dynamics analysis of FGM plate using a modified first shear deformation theory  
*Safieddine Kalleli, Abdessalem Hajlaoui, Fakhreddine Dammak*
- 11h30 **ID 29.** Effect of the correlation between random variables on the reliability assessment of the corroded pipelines  
Djamel Zelmati, Oualid Ghelloudj, Wissem Richi, Hamza Hazourli, Afef Azzi
- 11h45 **ID 6.** Forecasting the Gradually Varied Regime in Free-Surface Flow  
Souad Mnassri, Ali Triki
- 12h **ID 13.** Predicting the Transient Free-Surface Wave Behavior in Prismatic Open Channel  
*Souad Mnassri, Ali Triki*

**ROOM 2. Chairs: Pr. Bassem ZOUARI & Pr. Sana KOUBAA**

- 10h30 **ID 61.** Acoustic velocity estimation in the presence of steady flow using Particle Image Velocimetry.  
Simon Rampnoux, Islam Ramadan, Solène Moreau, Mabrouk Ben Tahar
- 10h45 **ID 74.** Vibration response of unbalanced shaft during start-up regime  
Safa Boudhraa, Ahmed Hammami, Fakher Chaari, Mohamed Haddar
- 11h **ID 75.** On optimal stabilization of a magnetic bearing system  
Abdelileh Mabrouk, Olfa Ksentini, Nabih Feki, Mohamed Slim Abbas, Mohamed Haddar
- 11h15 **ID 68.** Friction power loss prediction for rough and smooth surfaces of lubricated wind turbine gearbox  
Wiem Boulaabi, Maroua Hammami, Nabih Feki, Olfa Ksentini, Mohamed Slim Abbas
- 11h30 **ID 63.** Use of ultrasound and resonance tools for dynamic modulus of elasticity measurement  
Wiem Jarboui, Ahmed Koubaa, Bisma Bouslimi, Chedly Bradai
- 11h45 **ID 51.** The dependence of the characteristics of the dispersion curves on the orientation angle of the CARALL structures  
Hana Driss, Moez Beyaoui, Mohamed Haddar
- 12h **ID 30.** Study of crack size effect on the Polymer Spur Gear mesh stiffness using the XFEM  
Abderrahim Baccar, Abderrahim Baccar, Nuno Dourado, Ali Akrouf, Ahmed Hammami, Fakher Chaari, Mohamed Haddar

**ROOM 3. Chairs: Pr. Riadh CHAARI & Dr. Nacer ALAGOURI**

- 10h30 **ID 11.** Experimental investigation on the dynamics of a hydraulic dual tube automobile strut damper  
*Amina Ben Abdelwahed, Jamel Chakhari, Charfeddine Mrad, Lotfi Mezghani*
- 10h45 **ID 65.** Potential of acoustic tomography for characterization of wood decay and dynamic modulus of elasticity  
Achraf Ammar, Ahmed Koubaa, Dorra Gassara, Yves Bergeron, Pierre Grondin, David Voyer
- 11h **ID 66.** Uncertainty approach for the design and analysis of a Macpherson suspension system  
*Hassen Trabelsi, Amir Guizani, Moncef Hammadi, Mohamed Haddar*
- 11h15 **ID 64.** Experimental and numerical investigation of viscoelastic layer on dynamic behavior  
*Firas Meddeb, Abderrahim El Mahi, Jean-Luc Rebiere, Mohamed Amine Ben Souf, Hajer Daoud*
- 11h30 **ID 83.** Mechanical properties and fracture toughness behavior of cold worked AA 5754 alloy  
Wafa Taktak, Riadh Elleuch
- 11h45 **ID 82.** Identification des sources sonores par la méthode d'analyse en composantes indépendantes  
Hamdaoui Hajer, Taktak Mohamed, Tounsi Dhouha
- 12h **ID 10.** Effects of the mechanical characteristics on the dynamic behavior of a bolted structure under transient excitation  
Ahmed Ben Saidane, Charfeddine Mrad, Jamel Chakhari

**Tuesday, December 20, 2022**

**14h – 15h30 -----Oral Presentations**

**ROOM 1.** Chairs: Pr. Slim BOUAZIZ & Pr. Mohamed TAKTAK

- 14h ID 71.** Analysis of the new piston design in a single cylinder four stroke petrol engine  
Hayder Mohammed Mnati, Maroua Hammami, Laith Jaafer Habeeb, Olfa Ksentini, Nabih Feki, Mohamed Slim Abbes, Mohamed Haddar
- 14h15 ID 92.** Application of Particle Swarm Optimization to minimize active magnetic bearing forces  
Salwa Benali, Anoire Ben Jdidia, Taissir Hentati, Slim Buaziz, Mohamed Haddar
- 14h30 ID 56.** Damping behavior of bio-based anti-trichiral materials made with additive manufacturing Damping behavior of bio-based anti-trichiral materials made with additive manufacturing  
Anis Hamrouni, Jean-Luc Rebiere, Abderrahim El Mahi, Moez Beyaoui, Mohamed Haddar
- 14h45 ID 72.** Effect of nanoparticles on the heat transfer of the phase change materials  
Maissa Bouguila, Ahmed Samet, Mohamed Amine Ben Souf, Abdelkhalak El Hami, Mohamed Haddar
- 15h ID 77.** An adapted formulation for the Locally adaptive Weak Quadrature Element Method using Gauss-Lobatto points  
Mohamed Ali Argoubi, Mohamed Trabelssi, Molka Hili
- 15h15 ID 67.** Polynomial Chaos and Monte-Carlo methods for the robustness of a complex system: study case gearing system  
Mouna Hadj Kacem, Hassen Trabelsi, Khalil Dammak, Abdelkhalak El Hami, Lassaad Walha, Mohamed Haddar
- 15h30 ID 70.** Prediction of the state of lubricating oils  
Lamia Benzaid, Toufik Sebbagh

**ROOM 2.** Chairs: Pr. Moez ABDENNADHER & Hamdi HENTATI

- 14h ID 79.** Modelling and dynamic study of an energy storage system  
Ahmed Ghorbel, Amel Bouaziz, Nabih Feki, Mohamed Haddar
- 14h15 ID 58.** Detailed specification for an intelligent mobile sensor for air quality monitoring based on a risk and functional analysis  
Mohamed Abdessamia Chakchouk, Pierre Richard Dahoo, Abdelkhalak El Hami, Azzedine Lakhlifi, Wajih Gafsi, Mohamed Haddar
- 14h30 ID 40.** Damaged aircraft repaired by composite patch  
Mahseur Samah, Lecheb Samir, Kebir Hocine
- 14h45 ID 80.** Implementation of a new approach based on Harmonic Quadrature Method on the study of a misaligned rotor supported in ball bearings squeeze film system  
Farouk Thaljaoui, Mohamed Trabelssi, Molka Hili
- 15h ID 91.** Torsional load influence on the bolt joint self-loosening at the resonant frequency  
Olfa Ksentini, Maroua Hammami, Nabih Feki, Mohamed Slim Abbes, Mohamed Haddar
- 15h15 ID 96.** Local sensitivity analysis of the dynamic response of a transmission system to material and geometrical parameters of lightweight gears  
Firas Bejar, Joel Perret-Liaudet, Olivier Bareille, Mohamed Ichchou, Mauro Fontana
- 15h30 ID 73.** Vibration response of wind turbine gearbox  
Ahmed Hammami, Fakher Chaari, Mohamed Haddar

**ROOM 3.** Chairs: Pr. Ali AKROUT & Pr. Riadh CHAARI

- 14h ID 62.** Comparative study of particle representations on the performance of MOPSO algorithm in solving capacitated lot-sizing problem  
Hanen Ben Ammar, Wafa Ben Yahia, Omar Ayadi, Faouzi Masmoudi
- 14h15 ID 85.** Seismic behavior of a building structure rein-forced with composite trusses  
Sofiene Helaili
- 14h30 ID 84.** Modelling and optimization of coupling Process-Properties of composite structures  
Oumou El Mouminine Alaoui, Mohamed Mtibaa, Slim Bouaziz, Mohamed Haddar
- 14h45 ID 36.** Damping behavior of water-aged bio-based sandwich with auxetic core  
Zeineb Kesentini, Abderrahim El Mahi, Jean Luc Rebiere, Rachid El Guerjouma, Moez Beyaoui, Mohamed Haddar
- 15h ID 81.** Friction in Spur Geared Transmission : A Parametric Study  
Naser Sanoussi, Tarek Belgasam, Mohamed Slim Abbes, Nabih Feki, Maroua Hammami, Mohamed Haddar
- 15h15 ID 69.** Heavy Trucks with Intelligent Control Using Extended Adaptive Neuro-Fuzzy Inference System (EANFIS)  
Anis Hamza, Kamel Bousnina, Issam Dridi , Noureddine Ben Yahia
- 15h30 ID 98.** Morphological analysis of brake lining material for railway type application  
Mouna Baklouti, Anne-Lise Cristol , Yannick Desplanques, Riadh Elleuch

**Tuesday, December 20, 2022**

**16h – 17h20 ----- ONLINE Oral Presentations**

**To attend ICAV'2022 Online Sessions, please use the links below :**

**1- For Room 2 sessions :**

<https://meet.google.com/zjk-avea-eeep>

**2- For Room 3 sessions :**

<https://meet.google.com/yuh-fydd-uvvg>

**ROOM 2.** Chairs: Pr. Fathi DJEMAL & Pr. Hassen TRABELSI

16h – 16h20	<b>ID 44.</b> A Wavelet-Based Statistical Control Chart Approach for Monitoring and Detection of Spur Gear System Faults Rasheed Majeed, Maroua Haddar, Fakher Chaari, Mohamed Haddar
16h20 – 16h40	<b>ID 18.</b> Hybrid data based supervised classification for gear crack defect monitoring on a ball mill drivetrain Gauthier Ngandu Kalala, Xavier Chiementin, Lanto Rasolofondraibe, Abir Boujelben
16h40 – 17h	<b>ID 32.</b> Mechanical behavior and damage of advanced iron-based Metal Matrix Composite under shear Manel Kharrat Dammak, Monique Gaspérini
17h – 17h20	<b>ID 19.</b> Predictive design of structural steel beam by artificial intelligence Marouene Ferchichi, Sofiene Helaili, Rasmus Rempling, Johan Lagerkvist
17h20 – 17h40	<b>ID 23.</b> Vibration Effect on the electrothermal mechanical behavior of the BGA solder joints Sinda Ghenam, Abdelkhalak El Hami, Wajih Gafsi, Ali Akrouf, Mohamed Haddar

**ROOM 3.** Chairs: Pr. Nabih FEKI & Pr. Ahmed HAMMAMI

16h – 16h20	<b>ID 78.</b> Anomaly detection in ultrasonic monitoring system using unsupervised machine learning Yassine Kanoun, Hatem Mrad, Bassem Zouari, Tikou Belem
16h20 – 16h40	
16h40 – 17h	<b>ID 31.</b> Non-destructive identification of damage mechanisms in unidirectional composites by acoustic emission and machine learning based clustering Mariem Ben Hassen, Sahbi Tamboura, Joseph Fitoussi, Hatem Mrad
17h – 17h20	<b>ID 7.</b> A New approach based on traceable artefact: Application for the camera calibration Safouane Elghazouali, Alain Vissiere, Bandar Alzahrani, Mohamed Lamjed Bouazizi, Hichem Nouria



**Wednesday, December 21, 2022****8h30 – 10h30 Oral Presentations**

	<b>Room 1</b>	<b>Room 2</b>
8h30	ID 27	ID 90
8h45	ID 57	ID 93
9h	ID 37	ID 86
9h15	ID 60	ID 99
9h30	ID 5	ID 100
9h45	ID 45	ID 17
10h	ID 33	ID 22
10h15	ID 49	ID 88

**ROOM 1. Chairs: Pr. Maher BARKALLAH & Pr. Moez BEYAOUI**

- 8h30 ID 27.** Large deflection of smart magneto-electro-elastic cylindrical shell  
Hanan Jrad, Hajer Ellouz, Mondher Wali, Fakhreddine Dammak
- 8h45 ID 57.** Static study of bio-based architectural materials made with 3D printing technology  
Anis Hamrouni, Jean-Luc Rebiere, Abderrahim El Mahi, Moez Beyaoui, Mohamed Haddar
- 9h ID 37.** Experimental and numerical characterization of the acoustic behavior of a roller shutter box  
Soraya Bakhouch, Walid Larbi, Jean-François DeÛ, Philippe Macquart
- 9h15 ID 60.** Porous functionally graded cylindrical shells' buckling study  
Jamel Mars, Hanan Jrad, Mondher Wali, Fakhreddine Dammak
- 9h30 ID 5.** On the vibrations of functionally gradient porous shells  
*Souhir Zghal, Najah Joueid, Mouldi Chrigui, Fakhreddine Dammak*
- 9h45 ID 45.** Numerical thermal modelling of high-performance concrete slabs subjected to fire on their underside  
Djaknoun Samira
- 10h ID 33.** Vibration Analysis of Carbon Steel pipes in Oil industry  
Musaab Zarog, Mohammed Al Sawwafi, Riadh Zaier, Amur Al Yahmedi
- 10h15 ID 49.** Ball bearing diagnosis using data hybridisation in supervised machine learning  
Souleymane Sow, Xavier Chimentin, Lanto Rasolofondraibe, Olivier Cousinard

**ROOM 2. Chairs: Pr. Anas BOUGUECHA & Mohamed Slim ABBES**

- 8h30 ID 90.** Dynamic modelling of high-speed spindle supported by active magnetic bearings in presence of defects  
Abdessalem Jarraya, Saeed Rubaiee, Abdullah Salmeen Bin Mahfouz, Slim Bouaziz, Mohamed Haddar
- 8h45 ID 93.** Estimation of the uncertainties effect in the acoustic performance of locally reactive materials  
Hannachi Hanan, Taktak Mohamed, Trabelsi Hassen, Haddar Mohamed
- 9h ID 86.** Proposal of a vibratory behavior model of inter-action between concrete and Tunis silt  
Sofiene Helaili, Atef Ben Othmen
- 9h15 ID 99.** Enhanced disc brake thermo-kinetics for better wear test reproducibility  
Amira Sellami, Mohamed Guesmi and Riadh Elleuch
- 9h30 ID 100.** Towards the development of a numerical model for the simulation of thermal behavior of disc brake systems: application of the calculation code ANSYS v15.0  
Amira Sellami, Kawthar Zerai and Riadh Elleuch
- 9h45 ID 17.** An investigation of the aerodynamics of horizontal wind turbine blades  
Rania Maktouf, Yangui Majdi, Mohamed Haddar
- 10h ID 22.** Estimation of the crack initiation on a spur gear tooth using the Extend Finite Element Method  
Abderrahim Baccar, Abderrahim Baccar, Nuno Dourado, Ali Akrouf, Ahmed Hammami, Fakher Chaari, Mohamed Haddar
- 10h15 ID 88.** An Investigation into Free Flexural Vibration of Delaminated 3D-Printed PLA Beams  
Seyed M. Hashemi, Karankumar Pandya, Bhargava R. Mudumby

**10h30 – 11h Closing Ceremony**