

## Doctoral Seminar

19th May 2023

István Sályi Doctoral School of Mechanical Engineering Sciences

**Section of Basic Engineering Sciences;  
Section Design of Machines and Structures;  
Section Engineering Material Science, Production Systems and Processes**

**Venue:** A/5 312 Institute of Machine and Product Design

**Chairman of the Section:** Dr. Károly Jármai

- 8<sup>00</sup> **Mohammad Alaa Alwafaie** (supervisor: Dr. Béla Kovács)  
Harvesting energy for ERS Automotive
- 8<sup>15</sup> **Mohammed Sahib Al-Hamzawi Mortda** (supervisor: Dr. Szabolcs Szávai,  
Prof. Dr. György Kovács)  
Using Artificial Neural Network in Sandwich Structure Design
- 8<sup>30</sup> **Eszter Borsodi** (supervisor: Dr. Ágnes Judit Takács)  
Design for Circular Economy
- 8<sup>45</sup> **Alireza Aghakhani** (supervisor: Dr. Ágnes Judit Takács)  
Introduction to the literature of design methodology
- 9<sup>00</sup> **Kristóf Szabó** (supervisor: Dr. György Hegedűs)  
Exploration of generative design methods and algorithms for the design  
of components produced by additive manufacturing technology
- 9<sup>15</sup> **Abderrazek Messaoudi** (supervisor: Dr. László Péter Kiss)  
Stability of Fixed Arches Subjected to a Radial Concentrated Load
- 9<sup>30</sup> **Fruzsina Fülöp** (supervisor: Dr. Mária Berkes Marosné)  
Application potential of 3D optical microscopy in the characterization  
of tribological surfaces
- 9<sup>45</sup> **Sándor Tollár** (supervisor: Dr. Betti Bolló, Dr. László Kollár)  
Icing problem on wind turbine blades, numerical method of investigation
- 10<sup>00</sup> **Illés Sas** (supervisor: Prof. Dr. János Lukács)  
Experimental program for investigation of fatigue strength improvement  
of S960QL steels welded joints by post weld treatment methods
- 10<sup>15</sup> **Bálint Siktár** (superv.: Dr. György Hegedűs)  
Modeling a hedgetrimmer's eccentric Mechanism

- 10<sup>30</sup> **Jemal Ebrahim Dessie** (superv.: Dr. Zsolt Lukács)  
The effect of W-Temper forming of AA6082 on springback
- 10<sup>45</sup> **Sebastian Alejandro Cabezas Pazmino** (supervisor: Dr. György Hegedűs,  
Dr Péter Bencs)  
Thermal Model of an Angular Contact Ball Bearing in Standard  
Arrangement subjected to Radial Loads based on State Variables  
and Control Volumes
- 11<sup>00</sup> **Break Time**
- 11<sup>20</sup> **Ziya Mehdiyev** (supervisor: Dr. Csaba Felhő)  
Metal Additive Manufacturing in Automotive Industry: A Review of  
Applications, Advantages, and Limitations
- 11<sup>35</sup> **Ákos Levente Kókai** (supervisor: Dr. Mária Berkes Marosné)  
Wear of honing tools under machining of different oxide content  
thermally sprayed cylinder coatings
- 11<sup>50</sup> **Pálma Kapitány** (supervisor: Dr. Tamás Szabó)  
Simultaneous current and force measurement for analysis of  
electromagnet
- 12<sup>05</sup> **Alaa Iskandar** (supervisor: Dr. Béla Kovács)  
Deep reinforcement learning for swarm robotic system
- 12<sup>20</sup> **Zsombor Lajos Fülöp** (supervisor: Dr. Sándor Mátyás Szirbik)  
Transverse vibrations of the free belt
- 12<sup>35</sup> **Sulaiman Mustafa Khazaal Al-Timmimi** (supervisor: Dr. Szabolcs Szávai)  
Effects of hybrid metal matrix composite punch on the deep drawing  
process
- 12<sup>50</sup> **Mustafa Moayad Hasan** (supervisor: Dr. Krisztián Hriczó)  
Energy and exergy efficiencies of a v-corrugated solar air heater
- 13<sup>05</sup> **Dávid Bodnár** (supervisor: Dr. Károly Jármái)  
Design optimisation opportunities of robots
- 13<sup>20</sup> **Judit Kovács** (supervisor: Prof. Dr. János Lukács, Prof. Dr. Ing.  
Gerald Wilhelm)  
Comparative analysis of hydrogen embrittlement models and their  
applicability to high strength natural gas transmission pipelines
- 13<sup>35</sup> **Afterword**