

MISKOLCI
EGYETEM



DOKTORAND SEMINAR

István Sályi Doctoral School of Mechanical Engineering
Sciences

PROGRAM

University of Miskolc
2025. June. 2-5.

DOKTORAND SEMINAR

04 June 2026

FACULTY OF MECHANICAL ENGINEERING AND INFORMATICS
István Sályi Doctoral School of Mechanical Engineering Sciences
Section of Materials engineering and mechanical technology;
Section of Manufacturing systems and processes;
Section of Assembly systems;
Section of Structural integrity

Venue: Building C1, Ground floor 1

Chairman of the Section: Prof. Dr. János Lukács, Dr. Zsolt Maros

Secretary: Dr. Antal Nagy

Presentations

- 13⁰⁰ **Abdulhakim Shukurea Rahmato** (supervisor: Dr. Kovács Péter Zoltán)
Effects of Surface Conditions on the Joint Formation and Overlap Joint Performance of Clinched EN AW5754 Aluminium Sheet
- 13¹⁵ **Terdik Gábor Szabolcs** (supervisor: Dr. Ákos Meilinger)
Effect of Omitting Preheating on the Dynamic Properties of Hard-faced High-Strength Steels
- 13³⁰ **Németh Kristóf** (supervisor: Dr. András Molnár; co-supervisor: Prof. Dr. Marcell Gáspár)
Improvement of The Quality of Layers Applied by Laser Deposition on Maraging Steels
- 13⁴⁵ **Elchin Musayev** (supervisor: Prof. Dr. Marcell Gáspár)
Review Of Hydrogen Embrittlement Phenomena in Welded Joints of Pipelines
- 14⁰⁰ **László Kőrössi** (supervisor: Dr. Ákos Meilinger)
Exploring MM-WAAM Applications: A Focus on Mechanical Properties
- 14¹⁵ **Tanuj Namboodri** (supervisor: Dr. Csaba Felhő; co-supervisor: Dr. István Sztankovics)
Bayesian-Integrated Approach for Predictive Modeling of Tool Wear in Turning of 1.4301 Steel
- 14³⁰ **Szilárd Smolnicki** (supervisor: Dr. Gyula Varga)
Effect Of Diamond Burnishing Parameters on The Surface Roughness Of 42crmo4 Steel in Hardened and Non-Hardened Conditions
- 14⁴⁵ **Afraa Khattab** (supervisor: Dr. Csaba Felhő; co-supervisor: Dr. István Sztankovics)
Linking Tool Engagement Geometry to Functional Surface Topography in Plunge and Face Milling

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Secretary: Dr. Antal Nagy

Presentations

- 15⁰⁰ **Mikayil Valizada** (supervisor: Dr. István Sztankovics)
Process Parameter Optimization in The Machining of Fiber-Reinforced Polymers: A Review of Methodologies from Taguchi to Neural Networks
- 15¹⁵ **Inácio Manuel Junqueira** (supervisor: Dr. Csaba Felhő)
Cutting Dynamics and Surface Integrity in C45 Steel Turning: Correlation Between Cutting Forces, Vibration, Surface Roughness, and Cylindricity
- 15³⁰ **Wafae El Majdoub** (supervisor: Dr. István Sztankovics)
An Explainable Data-Driven Model for Machining Parameter Prediction Using Cutting Force Signals
- 15⁴⁵ **Elisha Zaheer** (supervisor: Prof. Dr. János Lukács)
Fatigue Crack Growth Resistance of X60 and X80 Pipeline Steels in Different Media

DOKTORAND SEMINAR

04 June 2026

FACULTY OF MECHANICAL ENGINEERING AND INFORMATICS

István Sályi Doctoral School of Mechanical Engineering Sciences

Section of Mechanics of solids;

Section of Transport processes and machines;

Section of Energy and chemical engineering systems design

Venue: Building A3, Room 201

Chairman of the Section: Prof. Dr. László Baranyi

Secretary: Sándor Tollár

Presentations

- 09⁰⁰ **Wekesa Simon Waswa** (supervisor: Dr. Krisztián Hriczó; co-supervisor: Dr. Winifred Mutuku)
Mhd Nanofluid with Micro-Organisms in Rotating Cylinders
- 09¹⁵ **Manaf Noofal Taha Ahmed** (supervisor: Dr. Péter Bencs)
Comparative Performance Analysis of Flat-Plate and Evacuated-Tube Solar Collectors for Seasonal Thermal Storage
- 09³⁰ **Lili Suller** (supervisor: Prof. Dr. Gabriella Bognár; co-supervisor: Dr. József Faitli)
Study on the Flow Characteristics of Non-Newtonian Fine-Grained Sand-Bentonite-Water Suspensions
- 09⁴⁵ **Dávid Szalánczi** (supervisor: Dr. Péter Bencs)
Solar Panel Technologies Lifespan Analysis
- 10⁰⁰ **Dávid Szalánczi** (supervisor: Dr. Péter Bencs)
Behavior Of Solar Panels Under Different Wind Conditions (Cooling Effect)
- 10¹⁵ **Zsolt Vadai** (supervisor: Dr. Balázs Tóth)
A p-Version Temporal Finite Element Approach for the Linear Harmonic Oscillator
- 10³⁰ **Bence Szemán** (supervisor: Dr. Attila Baksa)
Failure Mechanisms in Discrete Automotive Power Semiconductors
- 10⁴⁵ **Máté Szombathelyi** (supervisor: Dr. Máté Petrik)
Analysis Of Sustainable Polymers and Additives for The Development of Beverage Bottles in Terms of Mechanical, Chemical Resistance and Environmental Effects
- 11⁰⁰ **Hitham Marwan Ahmed Thabet** (supervisor: Dr. Zoltán Szamosi)
Solar Cooling by Using Nanofluid: Enhancing Efficiency and Sustainability in Thermal Management

DOKTORAND SEMINAR

05 June 2026

FACULTY OF MECHANICAL ENGINEERING AND INFORMATICS
István Sályi Doctoral School of Mechanical Engineering Sciences

Section of Product development and design
Section of Design of machines and elements

Venue: Building A3, Room 115

Chairman of the Section: Prof. Dr. Gabriella Vadászné Bognár

Secretary: Tamás Árvai

Presentations

- 8³⁰ **Alireza Aghakhani** (supervisor: Dr. Ágnes Takács)
Toward the Evaluation of Conceptual Design for Additive Manufacturing: A Decision-Support Framework for Early-Stage Sustainable Design
- 8⁴⁵ **Karam Shaaya** (supervisor: Dr. Ferenc Sarka)
CAD-Based Generation of Real Involute Gear Tooth Profile and Investigation of Tool Rounding Radius Effects on Tooth Bending Stress
- 9⁰⁰ **Sándor Imre Szabó** (supervisor: Dr. Zoltán Bihari)
Investigation of the Accuracy of 3D-Printed Gears
- 9¹⁵ **Áron Rohály** (supervisor: Dr. Ágnes Takács; co-supervisor: Dr. Károly Jálics)
State-of-the-Art in Design Methodology of Half shaft Design
- 9³⁰ **Benedek Kulcsár** (supervisor: Dr. Szabolcs Szávai)
Evaluation and Measurement of strength properties of in-service pipeline steel using small punch test and indentation ball test
- 9⁴⁵ **Alaa Alrudhan** (supervisor: Prof. Dr. Gabriella Bognár)
CAD Modeling of Porous Media Microstructures Using SolidWorks
- 10⁰⁰ **Katreen Ebrahim** (supervisor: Dr. Szabolcs Szávai)
A Mixed-Methods Bibliometric Analysis of the Literature in Lumbar Total Disc Replacement
- 10¹⁵ **Eszter Borsodi** (supervisor: Dr. Ágnes Takács)
A Multidimensional Product Evaluation Framework for Integrating Circular Economy Principles into Engineering Design
- 10³⁰ **Tamás Árvai** (supervisor: Dr. Károly Jálics)
Vibration Transfer Behaviour of Vehicular Structures
- 10⁴⁵ **Ali Zainab** (supervisor: Prof. Dr. Gabriella Vadászné Bognár)
Comparative Analysis of CFD And Katsui Correlation in Apredicting Roughness-Induced Resistance on KVLCC2
- 11⁰⁰ **Jakiya Sultana** (supervisor: Dr. Gyula Varga)
Effect Of Manufacturing Parameters on Wood-PLA Composite Bending and Surface Roughness

DOCTORAND SEMINAR

02 June 2026

FACULTY OF MECHANICAL ENGINEERING AND INFORMATICS
István Sályi Doctoral School of Mechanical Engineering Sciences

Section of Design of mechatronic systems
Section of Design of engineering structures
Section of Design of machine tools

Venue: Building A3, Room 201

Chairman of the Section: Prof. Dr. Károly Jármái, Dr. György Hegedűs

Secretary: Dávid Bodnár

Presentations

- 9⁰⁰ **Muhammad Ali Sadiq** (supervisor: Prof. Dr. György Kovács)
Progressive Failure Analysis of Laminated Fiber-Reinforced Plastic Composite Plate Structure in the Post-Buckling Region
- 9¹⁵ **Md Mazedur Rahman** (supervisor: Dr. Szabolcs Szávai)
Design Optimization of Cellulose Fiber Composite for Biomedical Application
- 9³⁰ **Dávid Bodnár** (supervisor: Prof. Dr. Károly Jármái)
Machine Learning as Part of Digital Twin Models
- 9⁴⁵ **Bálint Siktár** (supervisor: Dr. Hegedűs György; co-supervisor: Dr. József Kakuk)
Vibration Analysis Executed on A Hedge Trimmer Using a Special Eccentric Disc
- 10⁰⁰ **Nazmul Hossan Irfan** (supervisor: Dr. Szabolcs Szávai)
Buckling Behavior of Sub-stiffened Panels based on Aluminum Alloy