



**UNIVERSITY of  
DEBRECEN**

Faculty of Engineering  
Department of Mechanical Engineering

**7<sup>th</sup> INTERNATIONAL SCIENTIFIC CONFERENCE ON  
ADVANCES IN MECHANICAL ENGINEERING**

**(ISCAME 2019)**

**7-8 November, 2019 Debrecen, Hungary**

**CONFERENCE PROGRAMME**

organized by

**Department of Mechanical Engineering**

**Faculty of Engineering, University of Debrecen**

and

**Working Commission in Mechanical Engineering**

**Specialized Committee in Engineering**

**Regional Committee in Debrecen, Hungarian Academy of Sciences**



# INTERNATIONAL SCIENTIFIC CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING

7-8 November 2019, Debrecen, Hungary



Chair of ISCAME 2019

**Tamás MANKOVITS, University of Debrecen, Hungary**

Scientific Program Committee of ISCAME 2019

**Piroska AILER, University of Debrecen, Hungary**

**†Ágnes BATTÁNÉ GINDERT-KELE, University of Debrecen, Hungary**

**Sándor BODZÁS, University of Debrecen, Hungary**

**Gábor BOHÁCS, Budapest University of Technology and Economics, Hungary**

**István BUDAI, University of Debrecen, Hungary**

**Levente CZÉGÉ, University of Debrecen, Hungary**

**Igor DRSTVENSEK, University of Maribor, Slovenia**

**János Péter ERDÉLYI, University of Miskolc, Hungary**

**Lajos FAZEKAS, University of Debrecen, Hungary**

**Csaba GYENGE, Technical University of Cluj-Napoca, Romania**

**Sándor HAJDU, University of Debrecen, Hungary**

**György JUHÁSZ, University of Debrecen, Hungary**

**Gábor KALÁCSKA, Szent István University, Hungary**

**Ferenc KALMÁR, University of Debrecen, Hungary**

**Imre KOCSIS, University of Debrecen, Hungary**

**Ákos LAKATOS, University of Debrecen, Hungary**

**Daniel LATES, Petru Maior University of Targu Mures, Romania**

**Stanislav LEGUTKO, Poznan University of Technology, Poland**

**János LÍSKA, John von Neumann University, Hungary**

**Zoltán MAJOR, Johannes Kepler University Linz, Austria**

**József MENYHÁRT, University of Debrecen, Hungary**

**Ljubica MILOVIC, University of Belgrade, Serbia**

**Imre Norbert ORBULOV, Budapest University of Technology and Economics, Hungary**

**Sándor PÁLINKÁS, University of Debrecen, Hungary**

**Tibor POÓS, Budapest University of Technology and Economics, Hungary**

**Milan RACKOV, University of Novi Sad, Serbia**

**Istvánné RÁTHY, Óbuda University, Hungary**

**Tamás SZABÓ, University of Miskolc, Hungary**

**Ferenc SZODRAI, University of Debrecen, Hungary**

**Edit SZŰCS, University of Debrecen, Hungary**

**György THALMAIER, Technical University of Cluj-Napoca, Romania**

**Zsolt TIBA, University of Debrecen, Hungary**

**László TÓTH, University of Debrecen, Hungary**

**Matej VESENJAK, University of Maribor, Slovenia**

**Zoltán WELTSCH, John von Neumann University, Hungary**

**László ZSIDAI, Szent István University, Hungary**

Technical Assistance of ISCAME 2019

**Szandra SITKU, University of Debrecen, Hungary**

**Lilla CSONKÁNÉ DÓRÓ, University of Debrecen, Hungary**



# INTERNATIONAL SCIENTIFIC CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING

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## WELCOME MESSAGE

On behalf of the ISCAME Scientific and Organizing Committee I am pleased to welcome you to Debrecen for the 7<sup>th</sup> International Scientific Conference on Advances in Mechanical Engineering organized by the Department of Mechanical Engineering, Faculty of Engineering of the University of Debrecen.

The main goal of ISCAME is to yearly bring together engineers working on research, development and practical application in the field of mechanical engineering. Furthermore, the purpose of this Conference is to provide opportunities for scientists and engineers to meet and to discuss current research, new concepts and ideas and establish possibilities for future collaborations in all aspects of mechanical engineering.

I am pleased to inform you that 120 experts from higher education have registered for this year's conference from altogether 6 countries. In the framework of ISCAME 64 presentations will be given and 29 posters will be exhibited.

We invite you to be an active participant in this Conference and to contribute to any topic of your scientific interest. We hope that the 7<sup>th</sup> International Scientific Conference on Advances in Mechanical Engineering will have an important impact on the research in all topics included in its program.

It is also an honour for us to have a privilege to invite you to the 7<sup>th</sup> Mechanical Engineering Industrial Exhibition. The Faculty of Engineering of the University of Debrecen will host – parallel to ISCAME – the event, called “Industry Days in Debrecen” where 42 companies – 25 of which as partners of the Department of Mechanical Engineering – will exhibit. The list of our exhibiting partners can be found at the end of the program booklet. This professional program will surely benefit the visitors who want to get up-to-date knowledge with the latest technology.

We want to express our appreciation to all members of the committees involved in the preparation of this Conference and to all the staff who are managing the different aspects of the Conference and to all the contributing authors and participants who will create the real Conference. We hope that all of you feel awarded for your participation and contribution.

Yours Sincerely,

Tamás Mankovits  
Chair of ISCAME, Head of Department  
Department of Mechanical Engineering  
Faculty of Engineering, University of Debrecen



# INTERNATIONAL SCIENTIFIC CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING

7-8 November 2019, Debrecen, Hungary



## TECHNICAL PROGRAMME

(Industry Days in Debrecen – including 7<sup>th</sup> ISCAME and 7<sup>th</sup> Mechanical Engineering Exhibition)

### Thursday, 7<sup>th</sup> of November 2019 (2-4 Ótemető, Debrecen)

- 08:30 – 16:00 **ISCAME registration** – continuously (Main Hall)
- 09:00 – 16:00 **ISCAME poster exhibition and coffee** (ground floor, room 9)
- 09:00 – 16:00 **Industry Days in Debrecen** (Building of the Faculty of Engineering)
- 10:00 – 12:00 **opening ceremony and talks of the Industry Days in Debrecen** (Aula and Lecture Hall U.0.02)
- 11:30 – 14:00 **lunch** (Restaurant, Faculty of Engineering) – for ISCAME participants
- 14:00 – 15:00 **ISCAME poster session 1** (ground floor, room 9)
- 14:30 – 17:00 **Art Exhibition of the Department of Mechanical Engineering** (Library of the Faculty of Engineering)
- 15:00 – 15:45 **ISCAME opening and plenary lectures** (4<sup>th</sup> floor, Lecture Hall 413)
- 16:00 – 18:30 **ISCAME sessions**  
INDUSTRIAL PROCESSES  
MATERIALS SCIENCE AND TECHNOLOGY I.  
MATERIALS SCIENCE AND TECHNOLOGY II.
- 18:30 – 22:00 **ISCAME banquet** (Restaurant, Fac. of Eng.) –by pre-registration only, entrance only with invitation card

### Friday, 8<sup>th</sup> of November 2019 (2-4 Ótemető, Debrecen)

- 08:30 – 14:00 **ISCAME registration** – continuously (Main Hall)
- 09:00 – 14:30 **ISCAME poster exhibition and coffee** (ground floor, room 9)
- 09:00 – 10:00 **ISCAME poster session 2** (ground floor, room 9)
- 09:00 – 14:00 **Industry Days in Debrecen** (Building of the Faculty of Engineering)
- 10:00 – 12:00 **company presentations** (3<sup>rd</sup> floor, room 314)
- 10:00 – 12:15 **ISCAME sessions**  
APPLIED AND THEORETICAL MECHANICS  
MACHINE AND PRODUCT DESIGN  
MATERIALS SCIENCE AND TECHNOLOGY III.
- 11:30 – 14:00 **lunch** (Restaurant, Faculty of Engineering)
- 12:30 – 12:45 **ISCAME group photo** (meeting at the inner court)
- 13:00 – 14:30 **ISCAME sessions**  
MAINTANCE AND CONDITION MONITORING  
MANUFACTURING SCIENCE  
MATERIALS SCIENCE AND TECHNOLOGY IV



# INTERNATIONAL SCIENTIFIC CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING

7-8 November 2019, Debrecen, Hungary



## DETAILED PROGRAMME OF ISCAME 2019

Thursday, 7<sup>th</sup> of November 2019 (2-4 Ótomető, Debrecen)

08:30 – 16:00 **ISCAME registration** – continuously (Main Hall)  
09:00 – 16:00 **ISCAME poster exhibition** (ground floor, room 9)  
11:30 – 14:00 **lunch** (Restaurant, Faculty of Engineering)  
14:00 – 15:00 **ISCAME poster session 1** (ground floor, room 9)

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15:00 – 15:45 **ISCAME opening and plenary lectures**  
(Lecture Hall 413, 4<sup>th</sup> floor)  
15:00 – 15:05 **Tamás MANKOVITS PhD**, University of Debrecen, Hungary  
*Welcoming words*  
15:05 – 15:25 **Piroska AILER PhD**, University of Debrecen, Hungary  
*Trends of automotive industry and the effects on engineering education in Debrecen*  
15:25 – 15:45 **Gábor BOHÁCS PhD, Sándor HAJDU, Dávid BODNÁR, Tibor PÁLFI**  
Budapest University of Technology and Economics and University of Debrecen, Hungary  
*Concepting collaborative modular multipurpose AGV structure*

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16:00 – 17:45 **Session INDUSTRIAL PROCESSES**  
(Aventics Pneumatic Laboratory, ground floor, room E.0.21)  
Chairman: **Tibor POÓS PhD**, Budapest University of Technology and Economics, Hungary  
Co-chairman: **József MENYHÁRT PhD**, University of Debrecen, Hungary  
Secretary: **Tibor PÁLFI**, University of Debrecen, Hungary

16:00 – 16:15 **Ferenc SZODRAI, Árpád KUTHY**  
*Pareto optimization of thermoelectrically cooled heatsink*

16:15 – 16:30 **Mohamad KLAZLY**  
*Simulation of nanofluid*

16:30 – 16:45 **Viktor SZABÓ, Tibor POÓS**  
*Effect of the mean temperature difference on the mathematical model of fluidized bed dryers*

16:45 – 17:00 **Mariam FERCHICHI, László HÉGELY, Péter LÁNG**  
*Separation of a ternary mixture with semi-batch distillation*

17:00 – 17:15 **Dániel HORVÁTH, Tibor POÓS, Kornél TAMÁS**  
*Numerical investigation of shear velocity on shear force in direct shear box test using discrete spherical elements*

17:15 – 17:30 **József MENYHÁRT**  
*Artificial intelligence solutions and vehicle industry*

17:30 – 17:45 **Yassine CHAHBOUB, Szabolcs SZÁVAI**  
*Determination of GTN parameters using local approach Gurson model*



Faculty of Engineering, University of Debrecen



# INTERNATIONAL SCIENTIFIC CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING

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- 16:00 – 18:00 **Session MATERIALS SCIENCE AND TECHNOLOGY I.**  
(Metallographic Laboratory, 1<sup>st</sup> floor, room E.1.20)  
Chairman: **László VARGA PhD**, University of Miskolc, Hungary  
Co-chairman: **Sándor HAJDU PhD**, University of Debrecen, Hungary  
Secretary: **András GÁBORA**, University of Debrecen, Hungary
- 16:00 – 16:15 **Sándor Endre KOVÁCS, László VARGA, Zsolt SZENTES**  
*Analysis of special, 3D metal-printed HPDC tool material*
- 16:15 – 16:30 **Dávid HALÁPI**  
*Application of additive technology in precision casting*
- 16:30 – 16:45 **László VARGA, Viktória DARGAI**  
*Investigation of the granulometric and mechanical properties of inorganic used sand*
- 16:45 – 17:00 **Laura MÁDI, Imre BUDAVÁRI, Laszlo VARGA**  
*The pressure characteristics of the released gases from sand cores*
- 17:05 – 17:15 **Laura MÁDI, Imre BUDAVÁRI, Laszlo VARGA**  
*The variation of gas pressure in Furan no – bake sand cores*
- 17:15 - 17:30 **Gábor GYARMATI, György FEGYVERNEKI, Monika TOKÁR, Tamás MENDE**  
*Investigation on double oxide film initiated pore formation in aluminum casting alloys*
- 17:30 - 17:45 **Dániel MOLNÁR, Ádám KISS, Csaba MAJOROS**  
*Casting issues of thick-walled high pressure die castings*
- 17:45 - 18:00 **János Péter ERDÉLYI, Balázs SÁNDOR**  
*P-Q2 relation between die casting machine power and die characteristics*

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- 16:00 – 17:45 **Session MATERIALS SCIENCE AND TECHNOLOGY II.**  
(Robert Bosch Engineering Education and Development Laboratory, ground floor, room E.0.22)  
Chairman: **Istvánné RÁTHY PhD**, Obuda University, Hungary  
Co-chairman: **György JUHÁSZ PhD**, University of Debrecen, Hungary  
Secretary: **Dávid HURI**, University of Debrecen, Hungary
- 16:00 – 16:15 **Meriem SASSI, Andrea SIMON**  
*Glass foam production based on waste material*
- 16:15 – 16:30 **Wafaa CHEIKH, Béla VISKOLCZ**  
*Urethane bond formation*
- 16:30 – 16:45 **Mustafa AL JWEIJATI, Dávid HURI**  
*Fundamental considerations for finite element modeling of a polyurethane foam joint*
- 16:45 – 17:00 **Mohamed ABDELFATTAH, István KOCSERHA, Róbert GÉBER**  
*The effect of bentonite on the properties of lightweight expanded clay aggregates*
- 17:00 – 17:15 **Istvánné RÁTHY, Péter PINKE, Enikő Réka FÁBIÁN, Erzsébet NAGYNÉ HALÁSZ**  
*Structural investigation of granular composites by modern methods*
- 17:15 – 17:30 **Ei Ei KHINE, George KAPTAY, Peter BAUMLI**  
*Preparation of calcium oxide nanoparticles by using precipitation method*
- 17:30 - 17:45 **Gábor BALOGH**  
*Design study of a sea water resistance test equipment for testing devices applied in the nuclear industry*

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- 18:30 – 23:00 **ISCAME banquet – by pre-registration only and entrance fee is charged**  
(Restaurant, Faculty of Engineering)



Lake Békás and Water Tower, Debrecen



# INTERNATIONAL SCIENTIFIC CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING

7-8 November 2019, Debrecen, Hungary



## Friday, 8<sup>th</sup> of November 2019 (2-4 Ótmetető, Debrecen)

08:30 – 14:00 **ISCAME registration and coffee** – continuously (Main Hall)  
09:00 – 14:30 **ISCAME poster exhibition** (ground floor, room 9)  
09:00 – 10:00 **ISCAME poster session 2** (ground floor, room 9)

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10:00 – 12:00 **Session APPLIED AND THEORETICAL MECHANICS**  
(Aventics Pneumatic Laboratory, ground floor, room E.0.21)

Chairman: **Balázs TÓTH PhD**, University of Miskolc, Hungary  
Co-chairman: **Levente CZÉGÉ PhD**, University of Debrecen, Hungary  
Secretary: **Sándor ANDRÁSKÓ**, University of Debrecen, Hungary

10:00 – 10:15 **László E. KOLLÁR**

*Digital control of cable vibration due to periodic excitation*

10:15 – 10:30 **András SZÁNTÓ, Sándor HAJDU**

*Parameter estimation of drag coefficient and rolling resistance of vehicles based on GPS speed data*

10:30 – 10:45 **Muhammad Ahmed ABDULLAH, Dávid HURI**

*Fundamental considerations for finite element modeling of rubber material tensile test*

10:45 – 11:00 **Balázs TÓTH**

*Hybridized, dual-mixed variational formulation for the development of hp-shell-FE: mathematical model and convergence behavior*

11:00 – 11:15 **István ECSEDI, Ákos József LENGYEL, Attila BAKSA**

*Neutral inhomogeneity in circular cylinder subjected to axial load on its lateral boundary*

11:15 – 11:30 **Géza LÁMER**

*Force distribution in a set of regularly arranged, congruent, convex, rigid particlesticle*

11:30 – 11:45 **Géza LÁMER**

*State equation of equilibrium and rearrangement of a set of convex, rigid particles*

11:45 – 12:00 **Muhammad Ahmed ABDULLAH**

*Topology optimization of acetabular cup using finite element simulation*

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10:00 – 11:15 **Session MACHINE AND PRODUCT DESIGN**

(Robert Bosch Engineering Education and Development Laboratory, ground floor, room E.0.22)

Chairman: **Sinisa KUZMANOVIC DSc**, University of Novi Sad, Serbia

Co-Chairman: **Zsolt TIBA PhD**, University of Debrecen, Hungary

Secretary: **Zsolt BÉKÉSI**, University of Debrecen, Hungary

10:00 – 10:15 **Enikő SZALAI, Szabolcs JÓNÁS**

*Introduction of a new industrial process flow for topology optimization through a case study of a bracket*

10:15 – 10:30 **Sinisa KUZMANOVIC, Milan RACKOV, Ivan KNEŽEVIĆ, Maja ČAVIĆ, Marko PENČIĆ**

*Analysis of conceptual solutions of universal helical geared reducers*

10:30 – 10:45 **Rabab BENOTSMANE, László DUDÁS, György KOVÁCS**

*Optimization of robotic arm trajectory*

10:45 – 11:00 **László DUDÁS**

*Spatial rotary combustion engine*

11:00 – 11:15 **Zsolt TIBA, Dániel FEKETE-SZŰCS**

*Design of a technology-oriented bearing assembling cell*



# INTERNATIONAL SCIENTIFIC CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING

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- 10:00 – 12:15 **Session MATERIALS SCIENCE AND TECHNOLOGY III.**  
(Metallographic Laboratory, 1<sup>st</sup> floor, room E.1.20)
- Chairman: **Zoltán WELTSCH PhD**, John Von Neumann University, Hungary  
Co-Chairman: **Sándor PÁLINKÁS PhD**, University of Debrecen, Hungary  
Secretary: **Gábor BALOGH**, University of Debrecen, Hungary
- 10:00 – 10:15 **Muhandes HASAN, Gábor KALÁCSKA**  
*Study the temperature evolution of several materials in Pin-on-Plate Abrasive Wear Test*
- 10:15 – 10:30 **Manoj KUMAR PAL, Gréta GERGELY, Dániel KONCZ-HORVÁTH, Zoltán GÁCSI**  
*Microstructure characterization of the SAC305 solder reinforcing SiC and SiC (Ni)*
- 10:30 – 10:45 **Ferenc TAJTI, Miklós BERCZELI**  
*Wettability changing effect of femtosecond laser impulsis on DP steels*
- 10:45 – 11:00 **Tibor HEGYES, Péter BARKÓCZY**  
*Simulation of hot rolling by cellular automata*
- 11:00 – 11:15 **Flórián GARAI**  
*Modern applications of aluminium foams*
- 11:15 – 11:30 **Norbert BABCSÁN**  
*Battery innovations and circular economy*
- 11:30 – 11:45 **Szabolcs JÓNÁS, Miklós TISZA**  
*Effects of different frictional conditions of clinched joints*
- 11:45 – 12:00 **Szabolcs JÓNÁS, Péter Zoltán KOVÁCS**  
*Effect of punching tool geometry on clinch joints*
- 12:00 – 12:15 **Bassel ALSALAMAH**  
*NIL-stregh temperature and hot tensile tests on S960QL*

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11:30 – 14:00 **lunch** (Restaurant, Faculty of Engineering)

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12:40 – 12:50 **ISCAME group photo** (meeting at the inner court)



A group of ISCAME Participants in 2018





# INTERNATIONAL SCIENTIFIC CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING

7-8 November 2019, Debrecen, Hungary



- 13:00 – 14:30 **Session MAINTANCE AND CONDITION MONITORING**  
(Robert Bosch Engineering Education and Development Laboratory, ground floor, room E.0.22)  
Chairman: **Ferenc DÖMÖTÖR PhD**, Budapest University of Technology and Economics, Hungary  
Co-chairman: **Ferenc SZODRAI PhD**, University of Debrecen, Hungary  
Secretary: **Krisztián DEÁK**, University of Debrecen, Hungary
- 13:00 – 13:15 **József Zoltán SZABÓ, Ferenc DÖMÖTÖR**  
*Some aspects of the reliability of vibration monitoring of rotating machinery*
- 13:15 – 13:30 **Ferenc DÖMÖTÖR, József Zoltán SZABÓ**  
*Some aspects of the reliability of vibration monitoring of rotating machinery within the framework of the new industrial revolution*
- 13:30 – 13:45 **Krisztián DEÁK, Imre KOCSIS**  
*Applied diagnostic methods in bearing health monitoring*
- 13:45 – 14:00 **Dániel TÓTH, György TAKÁCS, Attila SZILÁGYI**  
*Analysis methods to detect bearing failures*
- 14:00 – 14:15 **György BARKÓ, Gábor KALÁCSKA**  
*Application of pattern recognition for engineering data classification*
- 14:15 – 14:30 **Andor NAGY, István LAKATOS**  
*Evaluation of rack railway bogie movement data*
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- 13:00 – 14:15 **Session MANUFACTURING SCIENCE**  
(Aventics Pneumatic Laboratory, ground floor, room E.0.21)  
Chairman: **Lubomir JAVOREK PhD**, Technical University in Zvolen, Slovakia  
Co-chairman: **Sándor BODZÁS PhD**, University of Debrecen, Hungary  
Secretary: **Zoltán GÉRESI**, University of Debrecen, Hungary
- 13:00 – 13:15 **Dániel KISS, György HEGEDŰS**  
*Investigating of shaped helical thread cutting process*
- 13:15 – 13:30 **Luboslav STRAKA, Gabriel DITTRICH**  
*Simulation of production process of mould for die casting by EDM technology*
- 13:30 – 13:45 **Luboslav STRAKA, Gabriel DITTRICH**  
*The influence of MPT at WEDM of tool steel on workpiece surface quality*
- 13:45 – 14:00 **Lubomir JAVOREK**  
*Using of the statistical method for machining process analyze*
- 14:00 – 14:15 **Sándor BODZÁS**  
*Designing and analysis of special gear pairs by GearTeq and Solidworks softwares*



City Centre, Debrecen

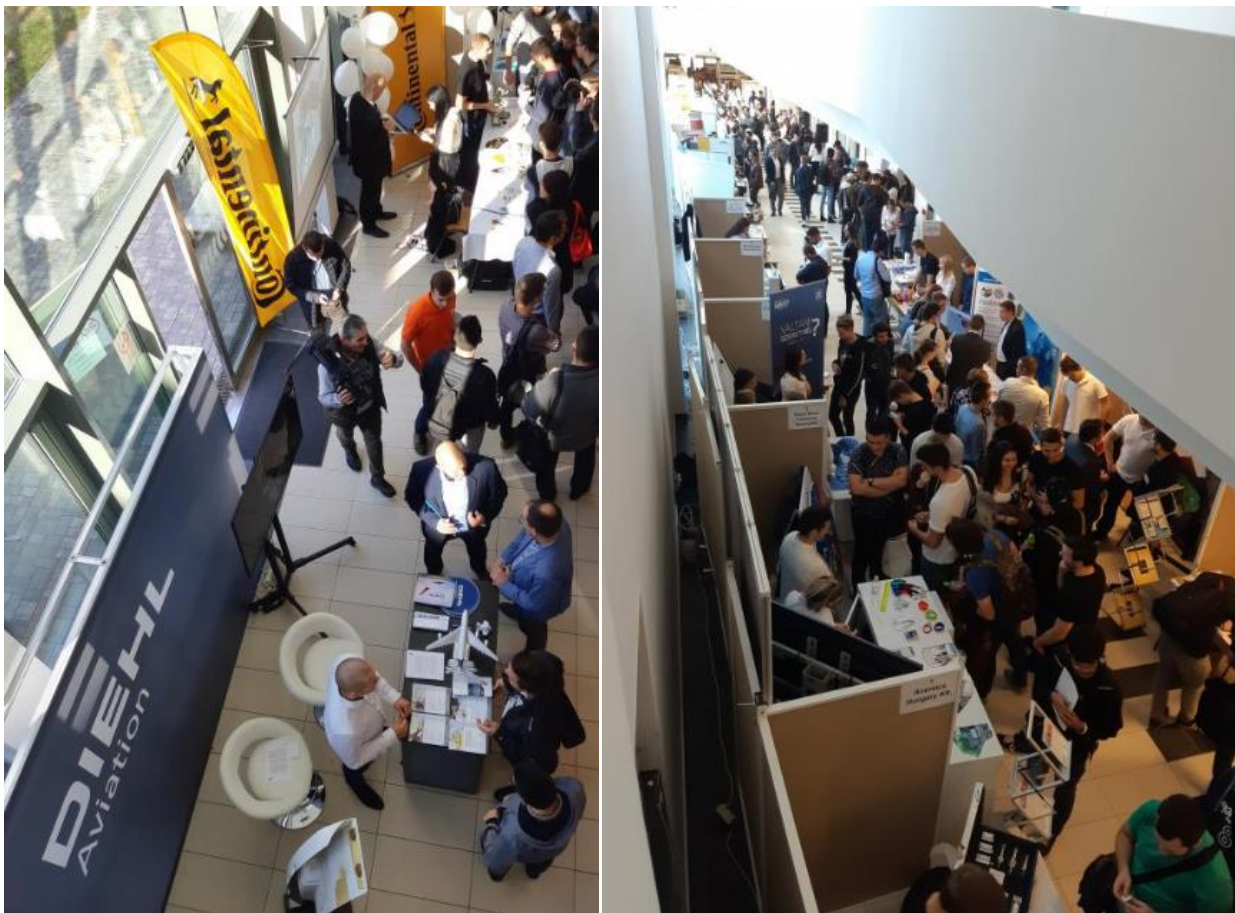


# INTERNATIONAL SCIENTIFIC CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING

7-8 November 2019, Debrecen, Hungary



- 13:00 – 14:30 **Session MATERIALS SCIENCE AND TECHNOLOGY IV.**  
(Metallographic Laboratory, 1<sup>st</sup> floor, room E.1.20)
- Chairman: **György THALMAIER PhD**, Technical University of Cluj-Napoca, Romania  
Co-chairman: **Lajos FAZEKAS PhD**, University of Debrecen, Hungary  
Secretary: **Márton LÉVAI**, University of Debrecen, Hungary
- 13:00 – 13:15 **Miklós BERCZELI**  
*Development potential of bonding technologies in the automotive industry using surface treatments*
- 13:15 – 13:30 **Mahmood Hasan Dakhil ALHAFADHI**, György KRÁLLICS  
*Numerical and experimental investigation on microstructure and residual stress of multi-pass welded pipe*
- 13:30 – 13:45 **Raghavendra Pratap Singh SISODIA**, Marcell GÁSPÁR, Béla FODOR  
*Application of diode laser for post weld heat treatment on DP1000*
- 13:45 – 14:00 **Gergely JUHÁSZ**, Miklós BERCZELI  
*Formation of oxide layers with femtosecond laser on steel surfaces for color marking*
- 14:00 – 14:15 **András MOLNÁR**, Lajos FAZEKAS, András BALOGH, Péter BARKÓCZI,  
†Ágnes BATTÁNE GINDERT-KELE  
*Thermal sprayed NiCrBSi layer remelting with mixed laser process*
- 14:15 – 14:30 **András MOLNÁR**, Sándor PÁLINKÁS, Gábor BUZA, László DRASKÓCZI, Zsolt CSABAI  
*Advanced laser beam processes in surface treatment*



6<sup>th</sup> Mechanical Engineering Industrial Exhibition, Faculty of Engineering



# INTERNATIONAL SCIENTIFIC CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING

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**ISCAME poster exhibition** (ground floor, room 9)

**Sándor Gergő TÓTH, György TAKÁCS**

*Functional examination of machine tool slideway with hydraulic relief*

**Tihomir DOVRAMADJIEV**

*Principles of three-dimensional computer design for understanding impossible figures*

**Kristóf SZABÓ, György HEGEDŰS**

*Design of chip conveyor*

**Daniel LATES, Marius Gabriel CASVEAN**

*Compliant mechanisms in modern industry development*

**Mohammad Yousef Mohammad ALKHATEEB, Sándor BODZÁS**

*Design of clamping devices for different milling and drilling operations*

**Gergő KAKUK, Sándor BODZÁS, Zsolt CSANK**

*Loss analysis methods in the world of digitalization*

**Csaba NEMES, Lubomir JAVOREK, Sándor BODZÁS, Sándor PÁLINKÁS**

*Turning simulation with finite element method*

**Tamás ANTAL, Benedek KERESKES, Zsolt KISS**

*The possibility of determination the deformation of the product after drying*

**Saad ALSARAYEFI, Károly JÁLICS**

*Analysis of the vibration decay rate of a damaged fiber reinforced polymer component*

**Henrietta HUDÁK, László VARGA**

*Effect of the changes in bulk density and granulometric properties on the strength properties of the moulding sand mixtures*

**Ali AL-AZZAWI, Péter BAUMLI**

*Modelling, microstructure and properties of novel wear resistant and hardness of 1.4404 using brazing and nitriding method*

**Fatima Zohra BRAHMIA, Tibor ALPÁR, Péter György HORVÁTH**

*Increasing fire resistance of date palm leaflet*

**Alula Gebresas GEREZGIHER, Andrea SIMON, Tamás SZABÓ**

*Natural fiber/filler reinforced TPS (thermoplastic starch) composite*

**Szabolcs JÓNÁS**

*Charpy impact tests of clinched joints*

**Annamária TÓTH, Katalin HALÁSZ**

*Effect of copper-sulfate and humate modified cellulose sheets on the shelf-life of berries*

**Luboš KAŠČÁK, Emil SPIŠÁK**

*Joining car body sheets by combination of mechanical joining and adhesive bonding*

**Veronika TOMPOSNÉ SZÜLE**

*Literature overall of fatigue analysis approaches of vehicle components made of rubber*

**Rami BENKREIF, Csilla CSIHA**

*Behavior of contact angle on birch*

**Judit BABCSÁN KISS, Mária MAROS BERKES**

*Tribological properties of ion-implanted silicon nitride ceramics*

**György THALMAIER, Alexandra CSAPAI, Niculina A. SECHEL, Ioan VIDA-SIMITI**

*Aluminum perlite syntactic foams*

**Vinicius LISBOA SOUZA, Sándor PÁLINKÁS**

*Structural and economic assessment of hybrid composite materials using Excel Data Analysis*

**Sándor PÁLINKÁS, András MOLNÁR, Lajos FAZEKAS, †Ágnes BATTÁNÉ GINDERT-KELE**

*Advanced laser beam processes in surface treatment*



# INTERNATIONAL SCIENTIFIC CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING

7-8 November 2019, Debrecen, Hungary



**Kinga TAMÁSI**, Jamal Eldin Fadoul, Kálmán MAROSSY, László A. Gömze  
*Zeolit filled PLA blends and their properties*

**Ali I. AL-MOSAWI**, Mohammed H. AL-MAAMORI, Maytham A. ABED, Shaymaa Abbas ABDULSADA  
*Recycling of polyethylene terephthalate bottles waste (PET)*

**Tibor HORVÁTH**  
*Polylactic acid as a potential alternatives of traditional plastic packagings in food industry*

**Tibor HORVÁTH**  
*Synthesis of polylactic acid (PLA) by polycondensation method*

**György THAILMAIER**, **Alexandra CSAPAI**, Nicoleta COBIRZAN  
*Thermal response of a brick filled with PCM composite*

**András GÁBORA**, Tamás MANKOVITS, Gábor KALÁCSKA, Zoltán Gergő GÉRESI  
*Metal foam specimen production problems focusing mechanical tests*

**Dorottya PREZENSZKI**, Csaba WESSER, Sándor BODZÁS  
*Analysis of face milling technology with a thermal camera by changing of the number of revolution*



Main building of the University of Debrecen



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## INFORMATION TO CHAIRMEN, TO PRESENTERS AND TO VISITORS

Chairmen, Presenters and on-line registered Visitors are invited for lunches and coffees, but it is connected to registration at the registration desk at the Main Hall in the building of the Faculty of Engineering on the Conference days.

### To Presenters:

- The official language of ISCAME is English;
- Show up to the session 10 minutes before the session begins;
- Each oral presentation will take 15 minutes including discussion;
- The files required for the presentation (PowerPoint or PDF) must be uploaded and tested in the computer placed in the room before the respective presentation session.

### To Poster Presenters:

- The official language of ISCAME is English;
- The Poster Exhibition will be opened on Thursday 7 November, 9:00 and can be visited until the end of the ISCAME (8 November, 14:30). It means from 9:00 onwards posters can be put on display (Location: Faculty of Engineering, ground floor, room 9.).
- Poster sessions are scheduled on 7 November, from 14:00-15:00 and 8 November, from 9:00-10:00. At this time anyone interested should be received in front of the posters;
- Posters will be displayed on vertical boards with maximum dimensions of 1000mm (width) x 2000mm (height), the recommended poster size is standard A0 with page orientation portrait.

### To Chairmen:

- During the presentations enforce time limits strictly so that no author monopolizes someone else's time;
- One presentations are complete the remainder of the time can be used for informal discussion with the audience and session participants. It is your job to field questions from the audience.

In any case please contact:

#### **ISCAME Secretary**

Szandra SITKU, administrator

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Mobile: +36704098909

E-mail: [iscame@eng.unideb.hu](mailto:iscame@eng.unideb.hu)

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Notes:

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## LIST OF THE EXHIBITING COMPANIES 7<sup>th</sup> Mechanical Engineering Industrial Exhibition, Debrecen

<b>Coloplast Hungary Kft.</b>	<a href="http://www.coloplast.hu">www.coloplast.hu</a>	Nyírbátor
<b>Diehl Aviation Hungary Kft.</b>	<a href="http://www.diehl.com">www.diehl.com</a>	Debrecen, Nyírbátor
<b>DKV Debreceni Közlekedési Zrt.</b>	<a href="http://www.dkv.hu">www.dkv.hu</a>	Debrecen
<b>Electrolux Lehel Kft.</b>	<a href="http://www.electrolux.hu">www.electrolux.hu</a>	Nyíregyháza
<b>Emerson Automation Solution</b>	<a href="http://www.aventics.com">www.aventics.com</a>	Eger
<b>Enterprise Communications Kft.</b>	<a href="http://www.enterprisegroup.hu/plm">www.enterprisegroup.hu/plm</a>	Budapest
<b>EREDŐ Garázsipari Kft.</b>	<a href="http://www.eredo.hu">www.eredo.hu</a>	Debrecen
<b>EuroSolid Kft.</b>	<a href="http://www.eurosolid.hu">www.eurosolid.hu</a>	Budaörs
<b>FAG Magyarország Ipari Kft.</b>	<a href="http://www.schaeffler.hu">www.schaeffler.hu</a>	Debrecen
<b>GYULAI Irányítástechnikai Kft.</b>	<a href="http://www.gyulaikft.hu">www.gyulaikft.hu</a>	Debrecen
<b>HAJDU Autotechnika Ipari Zrt.</b>	<a href="http://www.hajduautort.hu">www.hajduautort.hu</a>	Téglás
<b>HAJDU Hajdúsági Ipari Zrt.</b>	<a href="http://www.hajdurt.hu">www.hajdurt.hu</a>	Téglás
<b>Henkel Magyarország Operation Kft.</b>	<a href="http://www.henkel.hu">www.henkel.hu</a>	Körösladány
<b>HOYA Szemüveglencse Gyártó Magyarország Zrt.</b>	<a href="http://www.hoya.com">www.hoya.com</a>	Mátészalka
<b>KEVIÉP Kft.</b>	<a href="http://www.keviep.hu">www.keviep.hu</a>	Debrecen
<b>KITE Zrt.</b>	<a href="http://www.kite.hu">www.kite.hu</a>	Nádudvar
<b>Manz Hungary Gépgyártó Kft.</b>	<a href="http://www.manz.com">www.manz.com</a>	Debrecen
<b>Promatech Célgépgyártó Kft.</b>	<a href="http://www.promatech.hu">www.promatech.hu</a>	Nagytarcsa
<b>Robert Bosch Automotive Steering Kft.</b>	<a href="http://www.bosch-automotive-steering.com">www.bosch-automotive-steering.com</a>	Eger, Maklár
<b>S&amp;T Consulting Hungary Kft.</b>	<a href="http://www.snt.hu">www.snt.hu</a>	Budaörs
<b>SPM Budapest Kft.</b>	<a href="http://www.spminstrument.com">www.spminstrument.com</a>	Budapest
<b>TRUMPF Hungary Kft.</b>	<a href="http://www.trumpf.com">www.trumpf.com</a>	Vecses
<b>Unilever Magyarország Kft.</b>	<a href="http://www.unilever.hu">www.unilever.hu</a>	Nyírbátor
<b>Vitesco Technologies Hungary Kft.</b>	<a href="http://www.continental.com">www.continental.com</a>	Debrecen
<b>ZF Hungária Kft.</b>	<a href="http://www.zf.com/hu">www.zf.com/hu</a>	Eger