

ICOSTEE
2026

International Conference on Science, Technology, Engineering and Economy

29th May 2026



Faculty of Engineering
University of Szeged



International Conference on Science, Technology, Engineering and
Economy

ICOSTEE 2026

CONFERENCE PROGRAM

LECTURES AND POSTER PRESENTATIONS

29th May 2026

Faculty of Engineering University of Szeged

Szent-Györgyi Albert Agóra, 6722 Szeged, Kálvária sgt. 23, Hungary





Scientific and Organization Committee

Chair of the Conference

Prof. Dr. József Sárosi

Dean of the Faculty of Engineering, University of Szeged

Co-chair of the Conference

Prof. Dr. Zsuzsanna László

Vice Dean of the Faculty of Engineering, University of Szeged

Scientific Committee

Prof. Dr. István Bíró

Prof. Dr. Livia Cveticanin

Prof. Dr. Cecilia Hodúr

Dr. habil. Attila József Kovács

Prof. Dr. Ervin-Christian Lovasz

Prof. Dr. Domicián Máté

Prof. Dr. Zsolt Nemeskéri

Prof. Dr. Barbaros Özer

Prof. Dr. József Popp

Prof. Dr. József Prokisch

Prof. Dr. Juvenal Rodríguez-Reséndiz

Prof. Dr. Zita Seres

Prof. Dr. Péter Sipos

Prof. Dr. Stevan Stankovski

Dr. habil. Brigitta Zsótér

Organization Committee

Ádám Bálint

Réka Dobozi

Dr. Zoltán Fabulya

Ákos Fazekas

Dr. György Hampel

Éva Linkai

Dr. Valéria Nagy

Dr. Erzsébet Nyergesné Illés

Dr. habil. Gábor Veréb

Petra Veszelszki

Co-organizers

Agricultural and Bioengineering Scientific Committee of HAS

Technical Committee of Regional Committee of HAS in Szeged

Agroeconomy Regional Committee of HAS in Szeged



Scientific program

8 ³⁰ – 10 ⁰⁰	Registration
10 ⁰⁰ – 10 ¹⁵	Opening, conference introduction
10 ¹⁵ – 11 ¹⁵	Plenary lectures ▀ Prof. Dr. Barbaros Özer Novel and innovative food processing technologies from an ethical approach perspective research ▀ Dr. Orsolya Ferencz Hungarian space research
11 ¹⁵ – 12 ⁰⁰	Break
Poster session – continuous	
12 ⁰⁰ –	Oral presentations (Sessions)
13 ⁰⁰ –	Lunch
14 ⁰⁰ –	Oral presentations (Sessions)
Poster session – continuous	



Session 1A.

Bio- and Environmental Engineering

- Session Chair: **Dr. habil. Péter Emőd Korzenszky**, Hungarian University of Agriculture and Life Sciences
- Session Co-chair: **Dr. habil. Szabolcs Kertész**, University of Szeged
- Session Secretary: **Dr. Zoltán Péter Jákói**, University of Szeged
- Room: IV. (Seminar room)

12 ⁰⁰ – 12 ¹⁵	Karikari PREMPEH , Zsuzsanna LÁSZLÓ, Cecilia HODÚR Sustainable treatment of wastewater: Fabrication of novel geopolymeric-biochar based membrane for the removal of trace organic pollutants from water
12 ¹⁵ – 12 ³⁰	Tímea MIKLÓS , Erzsébet ILLÉS, Tamás GYULAVÁRI, Judit KOPNICZKY, Gangasalam ARTHANAREESWARAN, Szabolcs KERTÉSZ, Zsuzsanna LÁSZLÓ, Gábor VERÉB Blending and grafting of PVDF membranes with TiO ₂ and/or TiO ₂ /fCNT nanocomposite for enhanced separation of oily wastewater
12 ³⁰ – 12 ⁴⁵	Hadid SUKMANA , József CSANÁDI, Cecilia HODÚR, Zsuzsanna LÁSZLÓ, Szabolcs KERTÉSZ Cascade membrane system for whey and buttermilk solutions
12 ⁴⁵ – 13 ⁰⁰	Gyöngyvér Boglárka NUSSE R, Andrea IZBÉKINÉ SZABOLCSIK The impact of greywater irrigation on the edibility of wheatgrass (<i>Triticum aestivum</i>)
13 ⁰⁰ – 13 ¹⁵	Zoltán Péter JÁKÓI , Réka DOBOZI, Erzsébet ILLÉS, Sándor BESZÉDES Biokinetic and dielectric assessment of the anaerobic digestion of food industry wastewater sludge
13 ¹⁵ – 13 ³⁰	Dinesh CHANDOLA , Bence VERES, Zsuzsanna LÁSZLÓ, Tünde ALAPI Tailoring melamine-modified biochar for peroxymonosulfate activation for trimethoprim degradation: Synthesis routes, synergistic effects of UV and mechanistic insights
13 ³⁰ – 14 ³⁰	Lunch



Session 1B.

Bio- and Environmental Engineering

- Session Chair: **Dr. habil. Sándor Beszédes**, University of Szeged
- Session Co-chair: **Dr. habil. Gábor Veréb**, University of Szeged
- Session Secretary: **Ákos Fazekas**, University of Szeged
- Room: IV. (Seminar room)

14 ³⁰ – 14 ⁴⁵	Tadesse Weyuma BULTO , Vince LÁNG, Gábor GÉCZI Urban air pollution and public health: Comparative PM2.5 trends analyze in Addis Ababa, Beijing, and New Delhi
14 ⁴⁵ – 15 ⁰⁰	Dóra BALÁZS , Ákos ROZSNYÓI, Henriett HUNKÁR, Tamás MARIK, Chetna TYAGI New antimicrobial peptides from <i>Trichoderma</i> species for the future practical application
15 ⁰⁰ – 15 ¹⁵	Njomza GASHI , Péter DÁVID, Zsombor SZŐKE, Péter FAUSZT, Attila Csaba DOBOS, Judit REMENYIK, László STÜNDL, Melinda PAHOLCSEK Insights into soil microbial diversity, community composition, and resistome profiles across agricultural systems
15 ¹⁵ – 15 ³⁰	Salma Rahmah MOHAMED ELREHAIMAH , Szabolcs KERTÉSZ Comprehensive study of analytical separation and detection methods for micro and nano plastics
15 ³⁰ – 15 ⁴⁵	Gergő TERNA , Fanni KOVÁCS, Henriett HUNKÁR, Ákos ROZSNYÓI, Tamás MARIK Potential applications and limiting properties of bioactive fungal peptaibols



Poster session

Bio- and Environmental Engineering

Dheanda ABSHARINA, Csilla VERES, Csaba VÁGVÖLGYI, Alfonz KEDVES, Balázs P. SZABÓ

The potential of unprocessed agro-derived flours for nitrogen source substitution in bacterial cellulose production by *Komagataeibacter xylinus*

Tammam Khaliefeh Siliman ABU SALEEM, Karina KISS, Csilla SZEKENYI, Botond SZEGEDI, Tamás PAPP

Investigation of spore surface proteins in *Mucor lusitanicus* to establish virulence factors

Henrietta ALLAGA, Rita BÜCHNER, András VARGA, Csaba CSUTORÁS, László KREDICS

Development of an integrated microbial technology for sustainable and chemical-free champignon production

Sándor BESZÉDES, Ákos FAZEKAS, Cecilia HODÚR, Balázs LEMMER, Zoltán Péter JÁKÓI

Monitoring the efficiency of advanced wastewater treatment processes based on dielectric parameters

Andrea DORKOTA, Márk Kálmán HORVÁTH

Application of lignite in seawater desalination

Péter FAUSZT, Maja MIKOLÁS, Péter DÁVID, Zsombor SZÓKE, Njomza GASHI, Emese SZILÁGYI-TOLNAI, Endre SZILÁGYI, Mária Magdolna SZARVAS, Mónika Éva FAZEKAS, Andrea KUN-NEMES, Ferenc GÁL, László STÜNDL, Judit REMENYIK, Melinda PAHOLCSEK

Tracking antibiotic resistance in poultry farms and fecal litter

Ákos Ferenc FAZEKAS, Brunet Wagner Rosildo CASSULE, Gábor VERÉB, Zsuzsanna LÁSZLÓ

Preparation and investigation of the filtration properties of polydopamine-immobilized TIO₂-PAN nanocomposite membranes for the purification of oil emulsions

Njomza GASHI, Maja MIKOLÁS, Péter DÁVID, Péter FAUSZT, Ferenc GÁL, László STÜNDL, Judit REMENYIK, Melinda PAHOLCSEK

35 years of soil health science: Trends, gaps, and future directions

László GELLAI, Gábor GÉCZI

Impact of airflows generated by air conditioners and heat pumps on air quality

Dániel HERCEGFALVI, Mónika VARGA, Tamás PAPP, András SZEKERES

Medium-dependent surfactin production in *Bacillus subtilis*: differences in yield and surfactin-types

Csenge KASUBA

Functional analysis of the laccase gene family in *Aspergillus nidulans* through genetic and metabolomic approaches

Karina KISS, Csilla SZEKENYI, Tammam Khaliefeh Siliman ABU SALEEM, Botond Ferenc SZEGEDI, Tamás PAPP

Functional characterization of CotH proteins during sporangiogenesis in *Mucor lusitanicus*



Fanni KOVÁCS, Gergő TERNA, Henriett HUNKÁR, Ákos ROZSNYÓI, Tamás MARIK

Process development for scalable peptaibol production: optimization of extraction and purification strategies

Henriett L. HUNKÁR, Dóra Krisztina BALÁZS, Fanni KOVÁCS, Gergő TERNA, Chetna TYAGI

Solvent-based separation of peptaibiotics from *Trichoderma* species

Beatrix MAGYARÓDI, Kinga Dóra KOVÁCS, Róbert HORVÁTH, Ildikó SZABÓ, Szilvia BŐSZE

Investigation of the effect of the PHSRN synergy peptide on cell adhesion using real-time label-free technologies

Jelena MARIC, Nikola MARAVIC, Nataša ĐURIŠIĆ-MLADENOVIĆ, Dragica KUPUSINAC, Zita ŠEREŠ

Evaluation of pilot-scale nanofiltration for antibiotic removal from wastewater treatment plant effluent

Suren NEMUUZAYA, Judit AMON, Sandor KOCSUBE, Zoltan FARKAS, Zsuzsanna HAMARI

A non-canonical fungal peroxisome PTS-1 signal, SYM, and its evolutionary aspects

Csilla SZEKENYI, Anna MOLNÁR, Karina KISS, Botond SZEGEDI, Tamás PAPP

Possibilities for monitoring and treating mucormycosis based on newly identified cell surface molecules

Botond Ferenc SZEGEDI, Anna MOLNÁR, Karina KISS, Tammam Khaliefeh Siliman ABU SALEEM, Tamás PAPP

Host-pathogen interactions from the pathogen's perspective in mucormycosis

Kitti TARI, Tamás PAPP, András SZEKERES, Mónika VARGA

Effect of sodium butyrate and passaging on secondary metabolism in *Epicoccum nigrum*

Naomi VARGHESE

Septins as key regulators of virulence in *Mucor lusitanicus*

Gábor VERÉB, Anna FLAISZ, Erzsébet ILLÉS, Gangasalam ARTHANAREESWARAN, Judit KOPNICZKY, Zsuzsanna LÁSZLÓ

Effects of multilayer surface grafting of PVDF membranes with TiO₂/fCNT composites on the membrane filtration of oil emulsions

Szilveszter Bence VIRÁG, Zoltán KRÉMER, Aws N. AL-TAYAWI, Réka DOBOZI, Szabolcs KERTÉSZ

Mitigation of membrane fouling in a vibratory ultrafiltration module using 3D-printed spacers

Mónika VÖRÖS, Imre DÉKÁNY, Csaba VÁGVÖLGYI, László JANOVÁK

Durable antimicrobial protection of recycled feather fillings using Cu-TiO₂ nanoparticle coatings

Gergő WENNER, Kata LÁBAS, Viktor VOJNICH, Anita CSIBA

A survey of Generation Z's wine consumption habits to promote sustainable production and consumption in Southern Great Plain



Session 2.

Cyber-Physical Systems: Security, Sensing and Robotics

- Session Chair: **Prof. Dr. Erwin-Christian Lovasz**, Politehnica University of Timișoara
- Session Co-chair: **Dr. habil. János Simon**, University of Szeged
- Session Secretary: **Éva Linkai**, University of Szeged
- Room: I. („Élményműhely 1”)

12 ⁰⁰ – 12 ¹⁵	Boldizsár BEDNÁRIK , László GOGOLÁK Temporal dissonance in vulnerability disclosure: A comparative analysis of early warning signals versus public documentation
12 ¹⁵ – 12 ³⁰	Dominik CSÍK , Ákos ODRY, Richárd PESTI, Péter SARCEVIC Comparison of odometry and WiFi trilateration in mobile robotics
12 ³⁰ – 12 ⁴⁵	Sándor CSIKÓS , József SÁROSI Design and implementation of a measurement system for hysteresis characterization of pneumatic artificial muscles
12 ⁴⁵ – 13 ⁰⁰	Imre KOVÁCS , Péter SARCEVIC, Ákos ODRY Optimization-driven covariance tuning strategies for EKF localization of wheeled mobile robots
13 ⁰⁰ – 13 ¹⁵	Attila MÉSZÁROS Tendon-controlled soft robotic gripper finger for adaptive manipulation
13 ¹⁵ – 13 ³⁰	Richárd PESTI , Dominik CSÍK, Ádám BÁLINT, Ákos ODRY, Péter SARCEVIC Neural network-based fusion and calibration of MEMS accelerometers
13 ³⁰ –	Lunch

Poster session

Cyber-Physical Systems: Security, Sensing and Robotics

Fanni APRÓ, Attila MÉSZÁROS, József SÁROSI Digital twin-based condition monitoring in pneumatic systems in an Industry 4.0 environment
Dávid KÓCZI Application of generative artificial intelligence to image processing tasks
János SIMON Cognitive augmented reality systems: Leveraging machine learning for adaptive and personalized user experiences



Session 3. Economic Sciences

- Session Chair: **Prof. Dr. Domicián Máté**, University of Debrecen
- Session Co-chair: **Dr. habil. Brigitta Zsótér**, University of Szeged
- Session Secretary: **Mária Baranyainé Szabó**, University of Szeged
- Room: II. („Élményműhely 2”)

12 ⁰⁰ – 12 ¹⁵	Árpád BENKŐ-KISS , Piroska JOÓNÉ MUHI, Magdolna KISS, Árpád GUÓTH Pricing optimalization based on the price elasticity
12 ¹⁵ – 12 ³⁰	László CSORBA The impact of supplier and product diversification on outputs
12 ³⁰ – 12 ⁴⁵	Kata FÖLDI, Eszter TÓTH-BENEDEK , Anita MONDOK The impact of digital transformation on marketing communication in the accommodation sector and customer decision-making processes – A comparative analysis of two Hungarian lodging facilities
12 ⁴⁵ – 13 ⁰⁰	József GÁL Investigation of collection, storage and disposal habits of household medical waste
13 ⁰⁰ – 13 ¹⁵	Sándor NAGY , Ádám MOLNÁR Spatial autocorrelation and distance effects: An analysis of a startup database along geographical dimensions
13 ¹⁵ – 13 ³⁰	Nikolett NÉMETH Sustainability of animal-based food consumption: A comparative study of Hungary, Denmark and Spain
13 ³⁰ – 13 ⁴⁵	Gréta ÚJVÁRI , Brigitta ZSÓTÉR, Zoltán VERES Is sustainability a consumer preference when purchasing dietary supplements?
13 ⁴⁵ –	Lunch



Poster session

Economic Sciences

Zoltán FABULYA, György HAMPEL

Automating independence testing with Excel VBA

József GÁL, Ádám SASS, Dalma DEÁK

Logistics processes of fuel for biomass-fired boilers

Krisztián KIS, Csilla SAMU, Zoltán FABULYA

Evaluation of the complex quality of fruit juices using the Kano model

Edina LENDVAI, Cecília HODÚR, Zsuzsanna LÁSZLÓ, József CSANÁDI, Szabolcs KERTÉSZ

Investigating consumer acceptance and market potential of functional dairy beverages produced via innovative technology

Emmanuel OKPALA

Infrastructure without governance: The hydropolitical tax in the Nile basin

Ágota PANYOR, Marcell IVÁNKOVITS

Analyzing consumer attitudes towards plant-based meat substitutes

Gréta ÚJVÁRI, Áron KRIMINÁL, Bence BOTTYÁN, Zsuzsanna LÁSZLÓ

Engineering for Beginners and Experts: The Emergence of the SZTEREO Podcast in the Hungarian Science Communication Landscape



Session 4A.

Food Science, Safety and Technologies

- Session Chair: **Prof. Dr. Zsolt Turcsán**, PPS Plus Ltd.
- Session Co-chair: **Prof. Dr. Antal Véha**, University of Szeged
- Session Secretary: **Réka Dobozi**, University of Szeged
- Room: V. („Informatórium”)

12 ⁰⁰ – 12 ¹⁵	Domonkos KIRÁLY , Péter Emőd KORZENSZKY Optimization of hammer mill grinding parameters for energy efficiency and feed quality in broiler feed production
12 ¹⁵ – 12 ³⁰	Valéria Margit LŐRINCZ , Gabriella KISKÓ, József BARANYI Joint use of probabilistic and kinetic predictive models redefines the growth/no-growth interface in the space of environmental factors
12 ³⁰ – 12 ⁴⁵	Fruzsina Bettina TÓTH , Alexandra ADORJÁN, Dávid BARNA, István KERTÉSZ Development of an automated tracing and cold chain verification system for food products based on RFID technology
12 ⁴⁵ – 13 ⁰⁰	Marianna TÓTH , László BARANYAI, Viktória ZSOM-MUHA The classification of broken and whole rice kernels using a machine vision system
13 ⁰⁰ – 13 ¹⁵	Nermin TAHBOUB , Tamás KOVÁCS, Csaba VÁGVÖLGYI, Tamás PAPP, Miklós TAKÓ Fermentation of germinated and non-germinated sorghum with mare's milk <i>Lactobacillus</i> isolates
13 ¹⁵ – 14 ¹⁵	Lunch



Session 4B.

Food Science, Safety and Technologies

- Session Chair: **Prof. Dr. Zsolt Turcsán**, PPS Plus Ltd.
- Session Co-chair: **Prof. Dr. Antal Véha**, University of Szeged
- Session Secretary: **Réka Dobozi**, University of Szeged
- Room: V. („Informatórium”)

14 ¹⁵ – 14 ³⁰	Tamás KOVÁCS , Mária KÖRÖSI, Mónika VARGA, Tamás PAPP, Balázs P. SZABÓ, Miklós TAKÓ, Judit KRISCH Investigation of antioxidant and enzyme inhibitory properties of sorghum extracts produced by fungal-based enzyme-assisted extraction
14 ³⁰ – 14 ⁴⁵	Ádám LŐRINCZ , József CSANÁDI, Diána BÁNÁTI, Balázs P. SZABÓ The effect of various proteinase enzymes on the texture of goat milk curd
14 ⁴⁵ – 15 ⁰⁰	Csaba ALADICS , Balázs P. SZABÓ The importance of continuous air disinfection in the food industry: NASA's Airocide technology
15 ⁰⁰ – 15 ¹⁵	Botond DEZSŐ , Anikó FEHÉR, Gáborné PINTÉR ⁺ , Erzsébet ILLÉS Analysis and possible uses of canning plant waste
15 ¹⁵ – 15 ³⁰	Réka DOBOZI , Tímea Lilla URR, Zoltán Péter JÁKÓI, Sándor BESZÉDES, Balázs P. SZABÓ, Szabolcs KERTÉSZ Effect of 3D-printed turbulence promoters on the diafiltration performance of sweet whey



Poster session

Food Science, Safety and Technologies

Ramez Jamal Mitri AL MASSADEH, Erika BUJNA, Quang Duc NGUYEN

Preliminary characterization of β -galactosidase production by *Limosilactobacillus reuteri* HA-188 under different carbon sources and fermentation times

Márk BAKOS, Balázs LEMMER, József MIHALKÓ

Comparative analysis of a beer brand produced in different countries

Anikó BOROS

Comparison of methodologies for colour measurement in fresh beef topside under different storage temperatures

Bálint GÓCZÁN, Beatrix NÓTIN, Judit FRIEDRICH-IVANICS, Mónika MÁTÉ

Color stabilization in canned vegetables: Performance of clean label antioxidant extracts

Vendel HORNYÁK, Klaudia PRIVIGYEI, Katalin SZILÁDI, Balázs SZEGEDI

Effect of UV-C food pre-treatment on surface temperature and liquid content

Lenka JUKIC, Milica PEROVIĆ, Marija LEMIĆ, Marija KOSTIĆ, Mirjana ANTOV

Characterization of pectins isolated from fruit pomaces for potential use in the food industry

Orsolya KEDVES, György SIPOS, Árpád BRÁNYI, Younes REZAEI DANESH, László KREDICS

Isolation and field evaluation of potential biocontrol microorganisms against walnut pathogens

Biljana LONČAR, Vladimir FILIPOVIĆ, Milica NIĆETIN, Miloš RADOSAVLJEVIĆ, Ivica ĐALOVIĆ, Milenko KOŠUTIĆ, Jelena FILIPOVIĆ

ANN modeling of non-essential amino acids content in extruded maize-based product

Mónika MÁTÉ, Antal KOZÁK, Granit SELIMAJ, Gitta FICZEK

"Remény" - Fruit quality characteristics of the first Hungarian-bred sea buckthorn variety

Juraj MIKULA, Tomas HOLOTA, Miroslav KROČKO

Evaluation of operational characteristics of filtration equipment in wine filtration with respect to winery production capacity

Azin OMID JEIVAN, Oumaima KERBOUT, Beatrix SZABÓ-NÓTIN, Mónika MÁTÉ

Evaluation of surface color stability in cutted potato varieties

Muhammad Iqbal PERDANA, Csilla SZEBENYI, Tamás PAPP, Csaba VÁGVÖLGYI, Miklós TAKÓ

Characterization and application of starch/chitosan-based film incorporated with cinnamic acid for active food packaging

Klaudia PRIVIGYEI, Nóra Zsófia TÓTH, Vendel HORNYÁK, Balázs SZEGEDI, Katalin SZILÁDI

Examination of color changes in the surfaces of freshly cut vegetables and fruits under the effect of UV-C radiation utilizing spectroscopic methods



Urjinkham RYENCHINDORJ, Csaba VÁGVÖLGYI, Tamás PAPP, Miklós TAKÓ, Erika KEREKES

Effect of commercial preservatives and farnesol on biofilm formation and quorum sensing of bacteria

Shohrukh SHUKUROV, Judit KRISCH, Tamás KOVÁCS, Balázs P. SZABÓ

In vitro inhibition of alfa glucosidase with different fruit extracts

Beatrix SIK, Erika LAKATOS

Thyme-enriched durum wheat pasta: Sensory quality, antioxidant activity and rosmarinic acid content

Anita SINKÓ, Balázs LEMMER

Beer tapping methods and customer reviews

Branislav ŠOJIC, Ivana LONČAREVIĆ, Snežana ŠKALJAC, Marija JOKANOVIĆ, Milica STOŽINIĆ

Novel antioxidants in meat industry

Erika SZALKAI, Dóra CSERCICS, Erzsébet ILLÉS

Production, characterization, and storage quality monitoring of traditional and vegan fudge

Boglárka SZÁSZ, Brigitta ZSÓTÉR, József MIHALKÓ

Assessment of food waste quantities and their environmental impact in the food industry

Eszter TRENVIK, Virág OLASZ, Balázs P. SZABÓ

Effect of pearling on SKCS kernel hardness in colored and conventional wheat

Krisztina VARGA, Melinda Vivien MOLNÁR, Boglárka SOMOGYI, Balázs P. SZABÓ, Diána BÁNÁTI

Detection of potential microbial contaminants in microalgal cultures



Session 5A.

Engineering Methods, Technologies and Innovations

- Session Chair: **Prof. Dr. István Bíró**, University of Szeged
- Session Co-chair: **Dr. István Tibor Tóth**, University of Szeged
- Session Secretary: **Erik Kőműves**, University of Szeged
- Room: III. („Élményműhely 3”)

12 ⁰⁰ – 12 ¹⁵	István Tibor TÓTH Question marks regarding household energy storage and their support
12 ¹⁵ – 12 ³⁰	István BÍRÓ Beam-type dynamic vibration absorber for multi-frequency vibration control: Theory and application
12 ³⁰ – 12 ⁴⁵	Raul-Rusalin TURIAC , Mihael MAGDA, Zoltan-Iosif KORCA, Ovidiu-Lucian RADU Dimensional and surface roughness evaluation of FDM-printed ABS parts after hot acetone vapor treatment
12 ⁴⁵ – 13 ⁰⁰	Mihael MAGDA , Zoltan-Iosif KORCA, Raul-Rusalin TURIAC Analyzing the torsional rigidity of 3D printed spur gears with lattice structures for improved performance
13 ⁰⁰ – 13 ¹⁵	István Tibor TÓTH The need for technical development, its logical steps and results with a LEAN approach
13 ¹⁵ – 13 ³⁰	Attila GERŐCS , Zoltan-Iosif KORCA, Andrei KOMJATY, Lavinia-Ioana CULDA, Daniel KOMJATY Analytical testing and application possibilities of the reaction shock system in powered hand tools
13 ³⁰ – 14 ³⁰	Lunch



Session 5B.

Engineering Methods, Technologies and Innovations

- Session Chair: **Dr. Péter Bencs**, University of Miskolc
- Session Co-chair: **Dr. László Csizmadia**, University of Szeged
- Session Secretary: **Fanni Apró**, University of Szeged
- Room: III. („Élményműhely 3”)

14 ³⁰ – 14 ⁴⁵	László CSIZMADIA Kapitza's pendulum from a geometric point of view
14 ⁴⁵ – 15 ⁰⁰	Ferenc JOZEFKÓ, Péter BENCS , Péter BOZZAY Experimental comparison of high-speed imaging and PIV optical measurement techniques for bubble flow analysis
15 ⁰⁰ – 15 ¹⁵	Péter BENCS , Nóra BENCS-NAGY Overview of international hydrogen strategies
15 ¹⁵ – 15 ³⁰	Gréta TÁLOSI , Alex KUMMER, Zoltán ELLER, Bálint Levente TARCSAY Breaking the grid: Efficient industrial optimization via adaptive Bayesian strategies
15 ³⁰ – 15 ⁴⁵	Siniša BIKIĆ , Dragan BUDOŠAN, Milivoj RADOJČIN, Ivan PAVKOV, Milan VRANEŠ Energy inefficiency in natural gas preheating: A case study of an oversized heat exchange system



Poster session

Engineering Methods, Technologies and Innovations

Nóra BENCS-NAGY, János LUKÁCS

The effect of blending hydrogen into natural gas in the case of polymers with different microstructures

Szonya ERDÉLYI, Tamás TORNAI, Igor FÜRSTNER, László GOGOLÁK

Experimental evaluation of geometric tolerances in FDM manufactured components

György HAMPEL, Zoltán FABULYA

Using power query for agricultural data preparation

Bence KOCSIS

Trapped powder: New horizons for 3D printed magnetic cores

Róbertné KOVÁCS

Strategic synergies in manufacturing process optimization

Erik KÖMŰVES, Martin CSEH, Árpád MÁRKI, Zsolt GERETOVSZKY

Mechanical characterization of SLS-printed TPU and TPU/PA12 composite specimens: A comparative tensile study

Valeria NAGY

Engineering approaches and analogies to the concept of transformative work

Tamás TORNAI, László GOGOLÁK, Igor FÜRSTNER

Experimental identification of a commercial servo drive using input–output analysis

Bálint Nándor VESZPRÉMI, István Péter SZABÓ

Development of a hydrogen-powered fuel supply system
