

UNIVERSITY OF DEBRECEN
Faculty of Engineering
Department of Mechanical Engineering



**2st INTERNATIONAL SCIENTIFIC CONFERENCE ON
ADVANCES IN MECHANICAL ENGINEERING
(ISCAME 2014)**

9-10 October, 2014 Debrecen, Hungary

CONFERENCE PROGRAM



2nd INTERNATIONAL SCIENTIFIC CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING

9-10 October 2014, Debrecen, Hungary



Organizational Chairman of the ISCAME 2014

Tamás MANKOVITS PhD

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Scientific Program Committee

István BUDAI PhD, University of Debrecen, HU

Lajos FAZEKAS PhD, University of Debrecen, HU

Ferenc KALMÁR PhD, University of Debrecen, HU

Istvánné RÁTHY PhD, University of Debrecen, HU

Edit SZŰCS PhD, University of Debrecen, HU

Zsolt TIBA PhD, University of Debrecen, HU

János TÓTH PhD, University of Debrecen, HU

László TÓTH DSc, University of Debrecen, HU

Technical Assistance

Judit BAK, University of Debrecen, HU



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TECHNICAL PROGRAMME

Thursday, 9th of October 2014 (4028 Debrecen, Ótemető str. 2-4.)

8:30 – **Exhibition opening** (open till 17:00)
Prof. Dr. István GAÁL, Vice Rector of UD
Dr. Miklós CHAPPON, Honorary Associate Professor of UD, President of Building Service Engineering Branch, Hungarian Chamber of Engineers

Exhibition visiting is free of charge.

9:00 – 12:00 **Plenary session**
Chair: **Dr. Ferenc KALMÁR**, Vice Dean of UD Faculty of Engineering
Dr. habil Géza HUSI, Vice Dean of UD Faculty of Engineering

Language: English/Hungarian with simultaneous translation

9:00 – 9:05 **Prof. Dr. István GAÁL**, Vice Rector of UD
Welcoming words

9:05 – 9:20 **Dr. habil Edit SZÚCS**, Dean of UD Faculty of Engineering
The role of UD Faculty of Engineering in the regional and national engineering education

9:20 – 10:00 **Prof. em. Dr. Dr. hc Derek J. CLEMENTS-CROOME**
University of Reading, UK
Intelligent Buildings: Well-being, Health and Energy

10:00 – 10:40 **Prof. Dr. Hideki HASHIMOTO**
Chuo University, Japan
Adjustment of Human Position Sense and its applications

10:40 – 11:00 **Coffee Break**

11:00 – 11:20 **Prof. Dr. András NÁBRÁDI**, Vice Rector of UD
New teaching methods and experiences in the Faculty of Economics and Business of the University of Debrecen

11:20 – 11:40 **Prof. Dr. Mariann SOMOSI**, Dean
Faculty of Economics, University of Miskolc
Dr. habil Edit SZÚCS, Dean
Faculty of Engineering, University of Debrecen
Comparison of students competency measurements at the University of Debrecen and University of Miskolc

11:40 – 12:00 **Tamás KORMÁNY**, Director General
Kontroll Holding Zrt
*“Say the truth, not only the real”, other
What the message of European statistics of ISO 9001 is?*

12:00– 14:00 **Lunch**

19:00 – 20:00 **Concert of Lyra Symphony Orchestra of Debrecen**
CONSERVATORY OF UD (Egyetem tér 1)

20:00 – 23:00 **Conference Dinner (based on invitation)**
University of Debrecen, main building AULA (Egyetem tér 1)
Welcoming words: Prof. Dr. András NÁBRÁDI, Vice Rector of UD



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Friday, 10th of October 2014 (Faculty of Engineering UD, 4028 Debrecen, Ótemető 2-4)

8:45 - **Registration and Coffee – continuously (room E 320)**

9:05 - 9:15 **Opening of the ISCAME (room E 319)**

9:05 - 9:10 **Istvánné RÁTHY**, Head of Department of Mechanical Engineering
Welcoming words

9:10 - 9:15 **Tamás MANKOVITS**
ISCAME 2014

9:30 – 11:30 **Session ENERGY ENGINEERING AND MACHINERY (room E 314)**

Chair: **Gusztáv Áron SZÍKI PhD**

Secretary: **Gábor BALOGH**

9:30 – 9:50 **Tibor POÓS, Róbert WEINHANDL, Kinga BOTHNÉ FEHÉR**
Determination of Solar Radiation Values for Soda Can Heaters

9:50 – 10:10 **Zoltán SZAMOSI, Martí ROSAS-CASALS**
Sustainability Examinations on Torrefaction Technology

10:10 – 10:30 **Mária ÖRVÖS, Gyula SCHNEIDER, Zsombor VÁRKONYI**
Energy Consumption of Tomato Drying

10:30 – 10:50 **Gábor VENCZEL**
Scale-up of a Jacketed Stirred Tank Reactor

10:50 – 11:10 **Tibor POÓS, Viktor SZABÓ**
Examination of Evaporation Rate from Free Water Surface from Literature Sources

11:10 – 11:30 **Viktória MIKÁCSÓ, Gábor SZEPESI**
Pressure Characteristic of Propane-air Mixture Explosion

9:50 – 11:30 **Session MODELLING AND SIMULATION (room E 315)**

Chair: **Tamás SZABÓ PhD**

Secretary: **Sándor PÁLINKÁS**

9:50 – 10:10 **Sándor PÁLINKÁS, György KRÁLLICS, Zoltán BÉZI**
Finite Element Modelling of Cold Rolling Process

10:10 – 10:30 **Dávid HURI, Tamás MANKOVITS, Imre KÁLLAI, Imre KOCSIS**
Finite Element Analysis of a Rubber Component Used in Automotive Industry

10:30 – 10:50 **László RÓNAI, Tamás SZABÓ**
Controlling of a 4 DOF Model Robot

10:50 – 11:10 **Milos STANKOVIC, Aleksandar GRBOVIĆ, Aleksandar MARINKOVIĆ, Ljubica MILOVIĆ, Tatjana LAZOVIĆ**
Simulation of the Crack Propagation through a Planar Plate with the Middle Positioned Cylindrical Hole

11:10 – 11:30 **Ljubica MILOVIC, Vujadin ALEKSIC, Aleksandar MARINKOVIC, Tatjana ALEKSIC, Milos STANKOVIC**
Experimental J-integral Determination of Different Weldments Region at Low Temperature



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10:10 – 11:30 **Session CONDITION MONITORING (room E 319)**

Chair: **Imre KOCSIS PhD**

Secretary: **Zsolt BÉKÉSI**

10:10 – 10:30 **Krisztián DEÁK, Imre KOCSIS, Attila VÁMOSI, Zoltán KEVICZKI**

Tool Condition Monitoring Using Machine Learning Techniques

10:30 – 10:50 **Zoltán KEVICZKI, Krisztián DEÁK, Imre KOCSIS**

Machine Condition Monitoring in Bearing Manufacture Using Vibration Analysis and Intelligent Approaches

10:50 – 11:10 **Attila Károly VARGA**

ZigBee Based Wireless Sensor Networks

11:10 – 11:30 **Aleksandar MARINKOVIĆ, Miloš STANKOVIĆ, Ljubica MILOVIĆ, Tatjana LAZOVIĆ, Svetislav MARKOVIĆ**

Experimental Investigation of Selflubricating Sliding Bearings

11:30 – 12:30 **Lunch (Canteen, Faculty of Engineering UD)**

12:30 – 14:10 **Session METAL FOAMS (room E 314)**

Chair: **Tamás MANKOVITS PhD**

Secretary: **Tamás Antal VARGA**

12:30 – 12:50 **Gábor BALOGH, Tamás MANKOVITS, Sándor MANÓ, László TÓTH**

Production Methods of Ti-foam

12:50 – 13:10 **Gherasim GABRIEL, Şuta SILVIA, Gyorgy THALMAIER, Niculina SECHER, Ioan VIDA - SIMITI**

Graded Open-cell Aluminium Alloy Foams Obtained by a Sintering and Dissolution Process

13:10 – 13:30 **Tamás Antal VARGA, Tamás MANKOVITS, István BUDAI, Gábor BALOGH, András GÁBORA, István KOZMA, Sándor MANÓ, Imre KOCSIS**

Structural Analysis and its Statistical Evaluation of a Closed-cell Metal Foam

13:30 – 13:50 **Sándor MANÓ, Tamás MANKOVITS, László TÓTH, Gábor BALOGH, Zoltán CSERNÁTONY**

Mechanical Tests of Metal Foams

13:50 – 14:10 **Tamás MANKOVITS, István BUDAI, Gábor BALOGH, András GÁBORA, István KOZMA, Tamás Antal VARGA, Sándor MANÓ, Imre KOCSIS, László TÓTH**

Structural Modelling of Closed-cell Metal Foams



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12:30 – 14:10 **Session MODELLING AND SIMULATION (room E 315)**

Chair: **Gábor BOHÁCS PhD**

Secretary: **Sándor HAJDU**

12:30 – 12:50 **Gusztáv Áron SZÍKI, Rita NAGYNÉ KONDOR, György JUHÁSZ, Botond JUHÁSZ**

Computer Program for the Calculation of the Performance Parameters of Pneumobiles

12:50 – 13:10 **Sándor HAJDU**

Dynamic Modeling of Stacker Cranes via Finite Element Method

13:10 – 13:30 **Gábor BOHÁCS, Boglárka ODONICS, András GYIMESI**

Trends and Some Actual Mechanical Challenges in Lifting Machine's Development

13:30 – 13:50 **József KERTÉSZ**

Can Bus System Developments of Vehicles

13:50 – 14:10 **Zsolt TIBA, József KERTÉSZ**

Stator Frame and Air Compressor Drive Design

12:30 – 14:30 **Session MANUFACTURING AND MATERIALS TESTING (room E 319)**

Chair: **Sándor BODZÁS PhD**

Secretary: **András GÁBORA**

12:30 – 12:50 **Sándor SZABÓ, László Z. TÓTH, Lajos DARÓCZI, Dezső L. BEKE**

Investigation of Sound Signals from Shape Memory Alloys

12:50 – 13:10 **Sándor BODZÁS, Illés DUDÁS**

Determination of Contact Curves of a New Type Spiroid Gear Pairs

13:10 – 13:30 **Imre KÁLLAI, Umut CAKMAK, Zoltán MAJOR**

Examination of UHMWPE Material Structural Homogeneity

13:30 – 13:50 **András MOLNÁR, Gábor Buza, András BALOGH, Lajos FAZEKAS**

HVOF Sprayed Coatings Remelting with Laser Beam

13:50 – 14:10 **András MOLNÁR, Lajos FAZEKAS, Istvánné RÁTHY, András BALOGH**

Thermal Sprayed NiCrBSi Coatings Modification with Different Methods

14:10 – 14:30 **György GÁVAI, József GYARMATI, Zoltán SZAKÁL, Gábor KALÁCSKA**

Evaluation of Bullet Resistance of Different Steel Alloys in Army Application

Information

TO PRESENTERS

- Show up to the session 10 minutes before the session begins.
- Oral presentations each have 20 minutes (15 minutes for full paper presentation, 5 minutes discussion).

TO SESSION CHAIRS

- During the presentations enforce time limits strictly so that no author monopolizes someone else's time.
- One presentation is 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.