



**University of Miskolc,
Hungary**



**MultiScience - XXX. microCAD
International Multidisciplinary
Scientific Conference
21-22 April 2016**

PROGRAMME

WELCOME ADDRESS FROM THE RECTOR

The University of Miskolc, which is the legal successor of the Academy of Mining and Metallurgy (Bergschule) founded in 1735 in Selmecebánya (Banska Stiavnica), extends its greetings to the Reader on the occasion of organising the *XXXth MultiScience - microCAD International Multidisciplinary Scientific Conference*.

The scope of this conference is exceptionally wide. Experts in engineering, natural, economic, legal and health sciences, as well as in arts and humanities present and discuss their fresh research results. Having completed profound scientific investigations and having reached interesting conclusions, all the active participants should be proud of their achievements and all the colleagues and guests should be interested in the scientific value behind the research teams. It is also our hope that the professional and personal relations between the experts will remarkably contribute to the efficient co-operation between participants and institutions as well.

Over the last 29 years, this annual international conference has become the most significant meeting of professionals at the University of Miskolc.

More than 7800 presentations from about 15 different countries, 42 thousand pages of publications and many agreements signed between universities and numerous academic and research proposals witness the achievements of the last 29 years.

I recommend you the program of the *XXXth MultiScience - microCAD International Multidisciplinary Scientific Conference* in the hope that the presentations, discussions and social events will give you a golden opportunity to cherish and widen your professional relations. I truly believe that your presence, either as a proud speaker or as an interested participant, will contribute to the success of this great scientific event.

Prof. András TORMA
Rector of the
University of Miskolc

SCIENTIFIC COMMITTEE OF THE CONFERENCE

Chairman:	Tamás KÉKESI	Pro-Rector for International Relations and Scientific Affairs
Members:	Péter SZÚCS	Dean of the Faculty of Earth Science and Engineering
	Árpád Bence PALOTÁS	Dean of the Faculty of Materials and Metallurgical Engineering
	Edgárd BERTÓTI	Dean of the Faculty of Mechanical Engineering and Informatics
	Ákos FARKAS	Dean of the Faculty of Law
	Mariann SOMOSI VERES	Dean of the Faculty of Economics
	Mária KOVÁCS ILLÉS	Dean of the Faculty of Humanities
	Emőke KISS-TÓTH	Dean of the Faculty of Health Sciences

DETAILED PROGRAMME

of the MultiScience - XXX. microCAD International Multidisciplinary Scientific Conference
University of Miskolc, 21-22 April 2016

21 April (Thursday) 2016

10⁰⁰ – 10¹⁰ **International Scientific Conference**
Opening address
András TORMA – professor, Rector of the University of Miskolc
Venue: Lecture hall XXXVII., between Blds. A/3-A/4.

PLENARY SESSION

Venue: Lecture hall XXXVII, between Blds. A/3-A/4.

10¹⁰ – 10⁴⁰ **Stanislav KMET** *Rector of the Technical University of Kosice, Slovakia*
Adaptive Tensegrity Structures

10⁴⁰ – 11¹⁰ **Péter Mátyus** *professor, Bionics Innovation Center; Semmelweis University, Hungary*
Bionics: New Concepts, Tools and Devices. Examples of Healthcare Applications

11¹⁰ – 11⁴⁰ **Béla Viskolcz** *professor, University of Miskolc, Hungary*
Molecular Aging

11⁴⁰ – 12⁰⁰ *Break*

12⁰⁰ – 13³⁰ **Reception**
Venue: Main Building A/4. Assembly Hall (Entry: only with invitation cards)

13³⁰ – 14⁰⁰ *Break*

14⁰⁰ – 18⁰⁰ **Presentations in the parallel sessions**
Venue: as listed in the section table

19⁰⁰ – 21³⁰ **Gala Dinner**
Venue: Main Building A/4. Assembly Hall (Entry: only with invitation cards)

22 April (Friday) 2016

9⁰⁰ - 12⁰⁰ **Presentations in the parallel sessions**
Venue: as listed in the section table

REGISTRATION FOR THE CONFERENCE

Venue: The Registration Desk is opposite to the entrance of the Main Building (A/4.)

Registration is open:

20 April (Wednesday) 2016	---	12 ⁰⁰ - 19 ⁰⁰
21 April (Thursday) 2016	8 ⁰⁰ - 12 ³⁰	13 ³⁰ - 17 ⁰⁰
22 April (Friday) 2016	8 ⁰⁰ - 10 ⁰⁰	----

ORGANISATIONAL COMMITTEE OF THE CONFERENCE

The organiser of the Conference is the ***UNIVERSITY OF MISKOLC***

Address of the Scientific and Organisational Committee:
University of Miskolc, Rector's Office, International Affairs Team
H-3515 Miskolc Egyetemváros
Phone: (36-46) 565-111/ ext. 1016
Fax: (36-46) 563-423
e-mail: microcad@uni-miskolc.hu
www.uni-miskolc.hu/~microcad

SESSIONS AND VENUES OF THE CONFERENCE

Sign	Name	Venue	
Plenary	Plenary session	Lecture hall XXXVII.	between Blds. A/3-A/4.
A	Sustainable National Resources Management	Lecture hall VIII.	Bld. A/1. 1 st floor, 115.
B	Applied Materials Science and Nanotechnologies	Room 312.	Bld. B/1. 3 rd floor, 312.
C1	Logistics	Room 106.	Bld. A/5. 1 st floor, 106.
C2	Logistics and Management	Room 106.	Bld. A/5. 1 st floor, 106.
C3	Natural Science	Room 13.	Bld. A/1. mezzanine, 13.
C4	Electrical Engineering	Institute of Informatics	Library, 1 st floor
D1	Innovative Mechanical Engineering Technologies	Room 1.	Bld. C/1. ground floor, 1.
D2	Innovative Mechanical Technologies	Room 44.	Bld. A/4. ground floor, 44.
D3	Innovative Machine and Product Design	Institute of Machine and Construction Design, Room 115.	Bld. A/3. 1 st floor, 115.
D4	Innovative Mechanical Engineering Design and Technologies	Room 206.	Bld. A/5. 2 nd floor, 206.
D5	Technical Mechanics	Room 439.	Bld. A/4. 4 th floor, 439.
E	Legal Sciences	Faculty of Law	Bld. A/6. ground floor 31.
F	Economic Challenges in the 21 st Century	Room 110.	Bld. A/2. 1 st floor, 110.
G	Humanities and Social Sciences	Room 306.	Bld. C/1. 3 rd floor, 306.
H	Health and Medical Sciences	Bosch Room	Bld. B3-B4. 2 nd floor, 207.

SUSTAINABLE NATIONAL RESOURCES MANAGEMENT SYMPOSIUM

Chairman: Gábor MUCSI *assoc. professor*

A: SUSTAINABLE NATIONAL RESOURCES MANAGEMENT

VENUE: Lecture hall VIII., Bld. A/1. 1st floor, 115-116.

Chairman: Gábor MUCSI *assoc. professor*

Secretary: Norbert Péter SZABÓ *assoc. professor*

Date: April 21, 2016

14.00 **Katalin Bohács¹, Sándor Nagy¹, András Makai²** University of Miskolc¹, Borsod Bos 2004 Ltd.², Hungary
Flame Resistance Tests of a New Innovative, Environmentally Friendly Heat Insulating Material

14.15 **Iosif Andras, Andrei Andras, Stela Dinescu** University of Petrosani, Romania
On the Correlation of Cutting Resistance and Physical-mechanical Properties of Lignite and Overburden Rocks from Oltenia Coalfield

14.30 **Mátyás Krisztián Baracza** University of Miskolc, Hungary
A Geoelectric Application of 2.5 D Geophysical Inversion

14.45 **Csaba Ilyés, Ferenc Kovács** University of Miskolc, Hungary
Investigations of the Connections Between Atmospheric Carbon-Dioxide and Precipitation

15.00 **Gergely Pál Balogh** University of Miskolc, Hungary
New Statistical Approach for Water Content Determination in Shallow Geological Environment

15.15 **Anett Kiss** University of Miskolc, Hungary
Case Study on the Estimation Accuracy of the Parameters of a Rock Physical Model

15.30 *Break*

15.50 **Trinh Van Quyen, Sándor Nagy** University of Miskolc, Hungary
Development of Single Pelletizer Unit for Modelling Flat Die Pelletizer

16.05 **Trinh Van Quyen, Sándor Nagy** University of Miskolc, Hungary
Effect of Temperature and Particle Size on Beech Biomass Agglomerates

16.20 **Judit Kiss¹, András Makai¹, Gábor Mucsi²** Borsod-Bos 2004 Ltd.¹, University of Miskolc², Hungary
The Possibilities of Polystyrene Waste Recycling

16.35 **Roland Dócs** University of Miskolc, Hungary
The Effects of Polymer-Tenside Flooding on Secondary Oil Production in Sandstone Reservoirs

16.50 **Tamás Magyar, József Faitli, Roland Szabó** University of Miskolc, Hungary
Measuring the Thermal Conductivity of Geopolymer-EPS Composite Materials

17.05 **Marcell Szilvási, Endre Turai, Balázs Kovács** University of Miskolc, Hungary
In Field Geoelectric Measurements for Detection of Heavy Metal Contaminations

17.20 *Summary*

APPLIED MATERIALS SCIENCE AND NANOTECHNOLOGY SYMPOSIUM

Chairman: Tamás TÖRÖK *professor*

B: APPLIED MATERIALS SCIENCE AND NANOTECHNOLOGY

VENUE: Room 312, Bld. B/1. 3rd floor, 312.

Chairman: Tamás TÖRÖK *professor*

Secretary: Márton BENKE *assoc. professor*

Date: April 21, 2016

- 14.00 **Gernot Roesler, Manuel Leuchtenmueller, Juergen Antrekowitsch** Montanuniversitaet Leoben, Austria
Possible Alternative Secondary Resources for the Production of Ferroalloys
- 14.15 **Stefan Wegscheider, Stefan Steinlechner** Montanuniversität Leoben, Austria
Thermodynamic Considerations Regarding the Volatilization Behavior of Silver and Indium from Jarosite by a Pyrometallurgical Treatment
- 14.30 **Manuel Leuchtenmueller, Roesler Gernot, Antrekowitsch Juergen** Montanuniversitaet Leoben, Austria
Recovery of Chromium from Stainless Steel Slags
- 14.45 **Ali H. Hasan Al-Azzawi¹, Sytchev Jaroslav², Péter Baumli¹** University of Miskolc¹, Bay Zoltán Nonprofit Ltd for Applied Research², Hungary
Modification of a Cast Iron Surface by Electrodeposition of Boron from Molten Salts
- 15.00 **Noémi László, Tamás Kékesi** University of Miskolc, Hungary
Processing of Secondary Raw Materials by Hydrometallurgical Methods for the Recovery of Zinc
- 15.15 **Tibor Kulcsár, Zsolt Dobó, Tamás Kékesi** University of Miskolc, Hungary
The Effect of Tin Concentration on the Electrode Processes of Tin Electro-Refining in HCl Solutions
- 15.30 *Break*

APPLIED MATERIALS SCIENCE AND NANOTECHNOLOGY SYMPOSIUM

Chairman: Tamás TÖRÖK *professor*

B: APPLIED MATERIALS SCIENCE AND NANOTECHNOLOGY

VENUE: Room 312, Bld. B/1. 3rd floor, 312.

Chairman: Tamás TÖRÖK *professor*

Secretary: Márton BENKE *assoc. professor*

Date: April 21, 2016

15.45 **Simon Schwarz, Stefan Rung, Ralf Hellmann** University of Applied Sciences Aschaffenburg, Germany
Simulation of Process Parameters Towards the Generation of Low Spatial Frequency Lipss on Dielectric Materials

16.00 **Daniel Krysciak, Stefan Rung, Ralf Hellmann** University of Applied Science Aschaffenburg, Germany
Time Dependence of Wetting Behaviour after Applying Low Spatial Frequency Lipss with Three Different Wavelengths on Brass

16.15 **Mariann Kollár, Gabriella Zsoldos, Imre Kállai** University of Miskolc, Hungary
Polyethylene Crystalline Structure Differences in UHMWPE Ram Extruded Rod

16.30 **Kornél Szóda, Gabriella Zsoldos, Mariann Kollár** University of Miskolc, Hungary
Preparation and Evaluation Biofoil Materials

16.45 **Zsolt Sályi, Márton Benke** University of Miskolc, Hungary
Examination of Fe-Sn Intermetallic Layer Formation on C45 Steel in Calm SAC305 Solder Melt

17.00 **Dávid Angel, Márton Benke, Valéria Mertinger** University of Miskolc, Hungary
Monitoring the Residual Stress Evolution of a Spiral Bevel Gear During its Manufacturing Steps

17.15 *Summary*

APPLIED MATERIALS SCIENCE AND NANOTECHNOLOGY SYMPOSIUM

Chairman: Tamás TÖRÖK *professor*

B: APPLIED MATERIALS SCIENCE AND NANOTECHNOLOGY

VENUE: Room 312, Bld. B/1. 3rd floor, 312.

Chairman: Tamás TÖRÖK *professor*

Secretary: Márton BENKE *assoc. professor*

Date: April 22, 2016

- 9.00 **László Duma** Reused Products Ltd., Hungary
Reusing Solution for Used Alu Cans
- 9.20 **Máté Sepsi, József Parti, Valéria Mertinger** University of Miskolc, Hungary
Microstructure Characterisation of Casted 17% Cr Stainless Steel
- 9.40 **Viktor Kárpáti¹, József Majtényi¹, Szabolcs Nyitrai², Márton Benke¹, Valéria Mertinger¹**
University of Miskolc¹, Alcoa First Rixon Ltd.², Hungary
Comparative Study of Residual Stress State Induced by Quenching and Tempering
- 10.00 **Zoltán Kéri** University of Miskolc, Hungary
Increasing Resistance to Permanent Deformation of Al-Base Die Casting
- 10.20 **Dávid Halápi, Dániel Molnár** University of Miskolc, Hungary
Computer Simulation of Gravity Die Casting Process
- 10.40 **Henrietta Hudák** University of Miskolc, Hungary
Investigation of Core Sand Additives
- 11.00 **Enikő Ádám, Jenő Dúl** University of Miskolc, Hungary
Examination of Resin Burnout of Resin Bonded Sand Mixtures
- 11.20 *Summary*

MECHATRONICS AND LOGISTICS SYMPOSIUM

Chairman: Béla ILLÉS *professor*

C1: LOGISTICS

VENUE: Room 106., Bld. A/5. 1st floor, 106

Chairman: Béla ILLÉS *professor*

Secretary: Péter TELEK *assoc. professor*

Date: April 21, 2016

14.00 *Opening Ceremony*

14.05 **Béla Illés** University of Miskolc, Hungary
Logistics Trends, Umi-twinn Project

14.20 **Kay Matzner** Fraunhofer Institute for Factory Operation and Automation IFF , Germany
I4.0 and Successful Examples from Germany

14.35 **Oliver Meier** Fraunhofer Institute for Factory Operation and Automation IFF, Germany
An Example of a Simulated Integrated Wood Supply Chain

14.50 **Gábor Bohács, Angéla Rinkács** Budapest University of Technology and Economics, Hungary
Implementation of an Adaptive Simulation Model in Plant Simulation Environment

15.05 **György Sárközi, Márton Tamás Horváth** National Mobile Payment Plc., Hungary
Evaluation Criteria for Demand Responsive Transport – Through the Analysis of Domestic and International Systems

15.20 **István Ferenc Lövétei, Géza Szabó** Budapest University of Technology and Economics, Hungary
Human Error Modes and Their Analysis in Centralized Railway Traffic Control

15.35 *Break*

MECHATRONICS AND LOGISTICS SYMPOSIUM

Chairman: Béla ILLÉS *professor*

C1: LOGISTICS

VENUE: Room 106., Bld. A/5. 1st floor, 106

Chairman: Béla ILLÉS *professor*

Secretary: Péter TELEK *assoc. professor*

Date: April 21, 2016

- 15.50 **Béla Illés, Róbert Skapinyecz, Péter Tamás** University of Miskolc, Hungary
Implementation of a State of the Art Logistics Course in a MOOC System
- 16.05 **Péter Tamás, Béla Illés** University of Miskolc, Hungary
The Concept of a Virtual Logistics Center for a Hungarian Region
- 16.20 **Iosif Kovacs, Ovidiu-Bogdan Tomus, Jula Dumitru** University of Petrosani, Romania
Assessment on Spare Parts Requirement Based on Reliability Theory
- 16.35 **Renáta Kriston, Mária Kovács Illés** University of Miskolc, Hungary
A Contrastive Analysis of the German and Hungarian Logistics Terminology
- 16.50 **Erika Kegyes, Béla Illés** University of Miskolc, Hungary
Logistics and Language Teaching
- 17.05 **Péter Telek** University of Miskolc, Hungary
Design Problems of Conveyors
- 17.20 **János Korponai, Ágota Tóth Bányai, Béla Illés** University of Miskolc, Hungary
The Analyses of the Stochastic Characteristics in the Purchasing Logistics
- 17.35 *Summary*

MECHATRONICS AND LOGISTICS SYMPOSIUM

Chairman: Béla ILLÉS *professor*

C2: LOGISTICS AND MANAGEMENT

This section is organized by the University of Miskolc and the Czestochowa University of Technology

VENUE: Room 106., Bld. A/5. 1st floor, 106
Chairman: Marta KADLUBEK *assoc. professor*
Secretary: Zoltán VARGA *assist. lecturer*

Date: April 22, 2016

- 9.00 *Opening Ceremony*
- 9.05 **Aleksandra Grabińska, Iлона Paweloszek, Tomasz Turek** Czestochowa University of Technology, Poland
Linked Data in Supply Chain Management
- 9.20 **Nicoletta Baskiewicz, Anna Lemańska-Majdzik, Ryszard Królik, Piotr Kuraś** Czestochowa University of Technology, Poland
Methodology of Research Efficiency in the Distribution Area
- 9.35 **Katarzyna Grondys, Beata Skowron-Grabowska, Katarzyna Sukiennik, Jaroslaw Jasinski** Czestochowa University of Technology, Poland
Process of Warehousing on e-commerce Market
- 9.50 **Marta Kadlubek, Iga Kott, Wioletta Skibińska, Tomasz Szczepanik** Czestochowa University of Technology, Poland
Sustainable Development Connections with Transport Logistics Management
- 10.05 **Robert Salek, Anna Brzozowska, Leszek Ziora, Anna Wisniewska-Salek** Czestochowa University of Technology, Poland
The Possibilities of Big Data Solutions Application in Logistics
- 10.20 *Break*

MECHATRONICS AND LOGISTICS SYMPOSIUM

Chairman: Béla ILLÉS *professor*

C2: LOGISTICS AND MANAGEMENT

This section is organized by the University of Miskolc and the Czestochowa University of Technology

VENUE: Room 106., Bld. A/5. 1st floor, 106
Chairman: Marta KADLUBEK *assoc. professor*
Secretary: Zoltán VARGA *assist. lecturer*

Date: April 22, 2016

- 10.35 **Jaroslav Jan Jasinski, Michal Dziadkiewicz** Czestochowa University of Technology, Poland
Benefit of Kind as a Method of Managing Rent Arrears in the Municipality of Czestochowa
- 10.50 **Tomasz Turek, Sylwia Łęgowik-Świacik, Malgorzata Łęgowik-Malolepsza, Marcin Stępień**
Czestochowa University of Technology, Poland
Information Management in Dispersed Enterprises with the Use of Business Intelligence
- 11.05 **Izabela Turek, Malgorzata Kuraś, Marcin Stępień** Czestochowa University of Technology,
Poland
*Formal and Legal Conditions for Research and Development Activity in Poland for the Needs
of Enterprise Management*
- 11.20 **Bogusław Ziółkowska, Stanisław Brzeziński, Izabela Krawczyk-Sokolowska, Halina Tomczyk**
Czestochowa University of Technology, Poland
Networking and Cooperation in the Area of Innovation Activity Among Enterprises in Poland
- 11.35 **Anna Wiśniewska-Salek, Anna Brzozowska, Iga Kott, Robert Salek** Czestochowa University
of Technology, Poland
*Managing Innovations in Selected Regions and Their Influence on Creation the Polish
Economy*
- 11.50 **Bogusława Ziółkowska, Stanisław Brzeziński, Izabela Krawczyk-Sokolowska, Halina
Tomczyk** Czestochowa University of Technology, Poland
Social Media Usage in Terms of the Relationship Management
- 12.05 **Paula Bajdor, Dagmara Bubel, Tomasz Lis** Czestochowa University of Technology, Poland
Management of a Virtual Organisation from the Aspect of Creating Business Processes
- 12.20 *Summary*

MECHATRONICS AND LOGISTICS SYMPOSIUM

Chairman: Béla ILLÉS *professor*

C3: NATURAL SCIENCE

VENUE: Room 13., Bld. A/1. mezzanine 13.

Chairman: Béla PARIPÁS *professor*

Secretary: Zsolt KARÁCSONY *assoc. professor*

Date: April 21, 2016

14.00 *Opening Ceremony*

14.05 **László Ujfaludi** Eszterházy Károly College, Hungary
Optical Illusions

14.25 **József Vida** Eszterházy Károly College, Hungary
Magic Tower of Eger Lyceum Renewed

14.45 **János Majár** University of Miskolc, Hungary
New Challenges for the Technical Higher Education in the 21st Century

15.05 **Miklós Béres, Béla Paripás, János Majár, Tamás Bodolai, László Rónai, Vanda Illavszky**
University of Miskolc, Hungary
Comparative Study of Two Laser Interferometric Methods for the Study of Vibrations

15.25 **Béla Paripás, Palásthy Béla** University of Miskolc, Hungary
Some Results of the Evaluation of the Angle-Dependent Autoionization Spectra of Helium

15.45 *Break*

16.05 **János Macsuga** University of Miskolc, Hungary
Optics and Information Technology

16.25 **Sándor Pecsora, István Fazekas, Bettina Porvázsnyik** University of Debrecen, Hungary
General Theorems on Exponential and Rosenthal's Inequalities

16.45 **Attila Perecsényi, István Fazekas** University of Debrecen, Hungary
Evolution of a Generalized Population Model

17.05 **Zsolt Karácsony, Szabolcs Stremmler** University of Miskolc, Hungary
Efficient Handwritten Digit Recognition Using Normalized Cross-Correlation

17.25 *Summary*

MECHATRONICS AND LOGISTICS SYMPOSIUM

Chairman: Béla ILLÉS *professor*

C4: ELECTRICAL ENGINEERING AND INFORMATICS

VENUE: Institute of Informatics, Library, 1st floor

Chairman: László KOVÁCS *assoc. professor*

Secretary: Norbert SZABÓ *engineer*

Date: April 21, 2016

14.00 *Opening Ceremony*

14.05 **Gábor Szabó** University of Miskolc, Hungary
Edit Distance Based Grammatical Rule Generation Using an Improved Cost Function

14.20 **Ferenc Attila Somogyi** Budapest University of Technology and Economics, Hungary
Merging Textual Representations of Software Models

14.35 **Ákos Nagy, Viktor Czeglédi, Bence Kővári** Budapest University of Technology and Economics, Hungary
Optimizing Communication of Rest Services on the .net Platform

14.50 **Szabolcs Oláh** iBeer Ltd., Hungary
Development of a New Interactive Beer Font

15.05 **Nobert Hajdu** Reporter Community Ltd., Hungary
Reporter – E-market for Newsworthy Media Contents

15.20 **János Beluzsár, Péter Martinek** Budapest University of Technology and Economics, Hungary
A Customizable Production Scheduling Framework for ERP Systems

15.35 *Break*

15.50 **Ildikó Bölkény, Viktor Füvesi, József Konyha** University of Miskolc, Hungary
Analyses of Gas Hydrate and a Detection Methode

16.05 **Roland Kilik** University of Miskolc, Hungary
Preliminary Results on the Estimation of Head Movement Measures from Acoustic Features

16.20 **Bence Eckl, Norbert Szabó** University of Miskolc, Hungary
Desing and Simulation of Electric Arc Generator Device

16.35 **Tamás György, Attila Áron Popp, Ágoston Károly Bíró** Technical University of Cluj-Napoca, Romania
Optimization of a Three-Phase Induction Machine Using Genetic Algorithm

16.50 **Áron Attila Popp, Claudia Marțiș, Tamás György, Ágoston Károly Bíró** Technical University of Cluj-Napoca, Romania
Comparing Two Inductions Machine Noise and Vibration Characteristics Using HiL Testing

17.05 *Summary*

INNOVATIVE MECHANICAL DESIGN AND TECHNOLOGY SYMPOSIUM

Chairman: Károly JÁRMAI *professor*

D1: INNOVATIVE MECHANICAL ENGINEERING TECHNOLOGIES

VENUE: Room 1. Bld. C/1. ground floor, 1.

Chairman: Zebala WOJCIECH *professor*

Co-Chairman: Angelos MARKOPOULOS *PhD*

Secretary: Gyula VARGA *assoc. professor*

Date: April 21, 2016

- 14.00 **Ildiko Mankova, Vrabel Marek** Technical University of Košice, Slovakia
Evaluation Cutting Edge of Microgeometry for Uncoated and Tin Coated End Milling Cutter
- 14.20 **Wojciech Zebala, Struzikiewicz Grzegorz, Rumian Ksenia** Cracow University of Technology, Poland
Predictive Modelling of the Residual Stresses Distribution in the Aircraft Steel Part After Machining
- 14.40 **Nóra Nagy, János Kundrák** University of Miskolc, Hungary
Measuring Twist on Machined Surfaces
- 15.00 **Numan M. Durakbasa¹, Ilknur Cavusoglu², Mustafa Cakir², Eva Maria Walcher¹** Vienna University of Technology, Austria¹, Marmara University Istanbul, Turkey²
The Optimization of Drilling Parameters of Glass Fiber Reinforced Plastics Via Taguchi Method
- 15.20 **Balázs Mikó** Óbuda University, Hungary
Investigation of the Surface Quality of the EDM Electrode and the Machined Surface
- 15.40 *Break*

INNOVATIVE MECHANICAL DESIGN AND TECHNOLOGY SYMPOSIUM

Chairman: Károly JÁRMAI *professor*

D1: INNOVATIVE MECHANICAL ENGINEERING TECHNOLOGIES

VENUE: Room 1. Bld. C/1. ground floor, 1.

Chairman: Zebala WOJCIECH *professor*

Co-Chairman: Angelos MARKOPOULOS *PhD*

Secretary: Gyula VARGA *assoc. professor*

Date: April 21, 2016

- 16.00 **Angelos P. Markopoulos, Nikolaos E. Karkalos** National Technical University of Athens, Greece
Power Consumption Predictive Tool for Grinding Process Based on Anfis Method
- 16.20 **Magdalena Machno, Wojciech Bizoń, Sebastian Skoczypiec** Cracow University of Technology, Poland
The Experimental Research of Electrodischarge Drilling of X5CrNi18-10 Stainless Steel
- 16.40 **Vladimir L. Dobroskok, Andrei V. Pogarsky, Yaroslav N. Garashchenko** National Technical University Kharkiv Polytechnic Institute, Ukraine
Improving the Accuracy of Products in their Building by Selective Laser Sintering Using Compensating Deformations of Initial Triangulated Models
- 17.00 **Viktória Ferencsik, Gyula Varga** University of Miskolc, Hungary
Examination of Shape Correctness of Diamond Burnished Component Surfaces
- 17.20 **Tadeusz Otko, Wojciech Zebala, Andrzej Matras** Cracow University of Technology, Poland
Improvement of Machining Efficiency During Turning of Engine Block Made of Inconel 718 Alloy
- 17.20 **Nóra Nagy** University of Miskolc, Hungary
Influences of the Technological Parameters on the Twist Characteristic at Grinding
- 17.40 *Summary*

INNOVATIVE MECHANICAL DESIGN AND TECHNOLOGY SYMPOSIUM

Chairman: Károly JÁRMAI *professor*

D2: INNOVATIVE MECHANICAL TECHNOLOGIES

VENUE: Room 44. Bld. A/4. ground floor, 44.

Chairman: János LUKÁCS *professor*

Secretary: Ádám DOBOSY *assist. lecturer*

Date: April 22, 2016

JUBILEE GREETINGS

- 9.00 **Gaszton Gál** University of Miskolc, Hungary
My Ideas about Technical Higher Education
- 9.20 **László Tóth** Bay Zoltán Nonprofit Ltd. for Applied Research – Engineering Division
Own Contributions to My Profession
- 9.40 **János Lukács** University of Miskolc, Hungary
Our 70-Year-Old Colleagues – Congratulations to Gaszton Gál, István Gál and László Tóth
- 9.50 *Break*

SCIENTIFIC LECTURES

- 10.00 **Dávid Budai, Miklós Tisza, Péter Zoltán Kovács** University of Miskolc, Hungary
Investigation of the Formability of EN AW 5754 Aluminium Alloy Sheets with Different Thickness
- 10.20 **Zsolt Lukács, Miklós Tisza, Dénes Tóth** University of Miskolc, Hungary
Numerical Modelling of Hot Forming of Sheet Components Made of 22MnB5 Steel
- 10.40 **Ádám Dobosy, János Lukács** University of Miskolc, Hungary
The Effect of the Welding Parameters on the Properties of Thermomechanically Rolled High Strength Steels
- 11.00 **Ákos Meilinger, Imre Török** University of Miskolc, Hungary
Investigation of Dynamic Recrystallization on the Root Side of FSW Joints
- 11.20 **Marcell Gáspár, András Balogh, Ádám Dobosy** University of Miskolc, Hungary
Effect of Postweld Heat Treatment on HAZ Toughness of Q+T High Strength Steels
- 11.40 **Gábor Kerekes¹, Mária Kocsis Baán¹, Imre Felde²** University of Miskolc², Óbuda University², Hungary
Possibility of Use Bio Oils as Quenchant
- 12.00 *Summary*

INNOVATIVE MECHANICAL DESIGN AND TECHNOLOGY SYMPOSIUM

Chairman: Károly JÁRMAI *professor*

D3: INNOVATIVE MACHINE AND PRODUCT DESIGN

VENUE: Insitute of Machine and Construction Design, Bld. A/3. 1st floor, 115.

Chairman: Gabriella BOGNÁR *professor*

Secretary: Ferenc János SZABÓ *associate professor*

Date: April 21, 2016

- 14.00 **Sándor Vajna** Otto von Guericke University Magdeburg, Germany
The Holistic Process Model of Integrated Design Engineering
- 14.20 **Jonathan Borg** University of Malta, Malta
Integrated Product Development Based on Foreseeing Life-Cycle Consequences
- 14.40 **Jakob Moder, Florian Grün** University of Leoben, Austria
Contact Models for Mixed Friction Simulation
- 14.55 **Philipp Bergmann¹, Florian Grün¹, István Gódor¹, Klaus Herbst²** University of Leoben¹, Miba Gleitlager GmbH², Austria
Methodology Development for Numerical Evaluation of Wear in Tribological Contacts
- 15.10 **Gabriel Stadler, Philipp Bergmann, István Gódor, Florian Grün** University of Leoben, Austria
Wear Detection in Tribological Systems Based on Acoustic Emissions
- 15.25 *Break*
- 15.40 **Ferenc János Szabó** University of Miskolc, Hungary
Journal Bearing Optimization for Minimum Lubricant Viscosity
- 15.55 **Szabolcs Szávai, Sándor Kovács** Bay Zoltán Nonprofit Ltd. for Applied Research, Hungary
Thermo Elasto-Hydrodynamic Contact Element and its Implementation to a Commercial Fem Software
- 16.10 **Gabriella Bognár** University of Miskolc, Hungary
On Continuum Modelling of Surface Nanopattern Evolution
- 16.25 **Krisztián Hriczó, Gabriella Bognár** University of Miskolc, Hungary
Surface Pattern Formation for One-Dimensional Interfaces
- 16.40 **Zoltán Bihari, Ádám Juhász** University of Miskolc, Hungary
Investigation of Friction Coefficient Measuring Machine
- 16.55 **Zoltán Bihari, Norbert Matisz** University of Miskolc, Hungary
Acoustic Investigation of Vacuum Cleaners
- 17.10 **Zoltán Tomori^{1,2}, Gabriella Bognár²** Nordker-M Ltd.¹, University of Miskolc², Hungary
Defining the Top Land Thickness of Involute Gears
- 17.25 **Zoltán Tomori^{1,2}, Gabriella Bognár²** Nordker-M Ltd.¹, University of Miskolc², Hungary
A Production Interferences of Internal Gears – Interference at Root Fillet on Shaper Cutter
- 17.40 *Summary*

INNOVATIVE MECHANICAL DESIGN AND TECHNOLOGY SYMPOSIUM

Chairman: Károly JÁRMAI *professor*

D4: INNOVATIVE MECHANICAL ENGINEERING DESIGN AND TECHNOLOGIES

VENUE: Room 206, Bld. A/5. 2nd floor, 206.

Chairman: László BARANYI *professor*

Secretary: Viktória MIKÁCSÓ *PhD student*

Date: April 21, 2016

- 14.00 **Márton Balczó** Budapest University of Technology and Economics, Hungary
Design Issues of a New Wind Tunnel Laboratory for Environmental and Vehicle Aerodynamics
- 14.15 **Árpád Varga** Budapest University of Technology and Economics, Hungary
Application of Two Component Hot-Wire Anemometry Technique for Flow Measurement Inside Street Canyons
- 14.30 **Tom-Robin Teschner, László Könözy, Karl W. Jenkins** Cranfield University, United Kingdom
Numerical Investigation of an Incompressible Flow Over a Backward Facing Step Using a Unified Fractional-Step, Artificial Compressibility and Pressure-Projection (FSAC-PP) Method
- 14.45 **László Baranyi, Dániel Dorogi** University of Miskolc, Hungary
Effect of Frequency Ratio on Flow Around a Cylinder Oscillated In-line At $Re=80-200$
- 15.00 **Róbert Beleznai, Szabolcs Szávai, Gergely Dobos** Bay Zoltán Nonprofit Ltd. for Applied Research, Hungary
Development of Virtual Reality Training Platform for Power Plant Applications
- 15.15 **Dániel Dorogi, László Baranyi** University of Miskolc, Hungary
Richardson Extrapolation for Simulation of Laminar Flow Past a Circular Cylinder
- 15.30 **Gyula Krámer, Zoltán Siménfalvi, Gábor L. Szepesi** University of Miskolc, Hungary
Calculation of Properties of NH_3-H_2O Refrigerant, and Modeling of Absorption Refrigeration Systems
- 15.45 *Break*

INNOVATIVE MECHANICAL DESIGN AND TECHNOLOGY SYMPOSIUM

Chairman: Károly JÁRMAI *professor*

D4: INNOVATIVE MECHANICAL ENGINEERING DESIGN AND TECHNOLOGIES

VENUE: Room 206, Bld. A/5. 2nd floor, 206.

Chairman: László BARANYI *professor*

Secretary: Viktória MIKÁCSÓ *PhD student*

Date: April 21, 2016

- 16.00 **Viktória Mikáczó** University of Miskolc, Hungary
Preliminary Investigation of Vented Propane-Air Explosions - Part I.
- 16.15 **Máté Petrik, Gábor Szepesi, Károly Jármai** University of Miskolc, Hungary
Optimum Design of Shell-and-Tube Heat Exchangers
- 16.30 **László Könözy, Csaba Klajbár** Cranfield University, United Kingdom
Multiphase Eulerian Simulations of a Sedimentation Process in a Solid-Fluid Particle-Laden Flow
- 16.45 **Wojciech Pospolita, Krzysztof Jesionek** Wroclaw University of Technology, Poland
Exploitation Problems of Coal Pulverizers
- 17.00 **Károly Jármai** University of Miskolc, Hungary
Publications and Modern Search of the Literature
- 17.15 **Ildikó Renáta Száva (Munteanu)¹, István Sebe², Károly Jármai²** Transylvania University of Brasov, Romania¹, University of Miskolc, Hungary²
Optimum Design of Vessel Supporting Frame for Fire
- 17.30 **Tibor Varga, Gábor L. Szepesi, Zoltán Siménfalvi** University of Miskolc, Hungary
Flow Characteristic and Pressure Drop Inside the Horizontal Scraped Surface Heat Exchanger
- 17.45 **Andor Zemberi, Zoltán Siménfalvi, Árpád Bence Palotás** University of Miskolc, Hungary
Thermal and Thermo Catalytic Co-Cracking
- 18.00 **Kornél Bernhardt¹, Zoltán Siménfalvi², Béla Tolvaj², Péter Arató²** BSX Ltd.¹, University of Miskolc², Hungary
Development of Small-Medium Capacity Sorption System Heat Pump Propotype, with Particular Regard to Utilization of Waste Heat and Renewing Energy Source
- 18.15 *Summary*

INNOVATIVE MECHANICAL DESIGN AND TECHNOLOGY SYMPOSIUM

Chairman: Károly JÁRMAI *professor*

D5: TECHNICAL MECHANICS

VENUE: Room 439, Bld. A/4. 4th floor, 439.

Chairman: Ioan Száva *professor*
György SZEIDL *professor*

Secretary: Dávid Gönczi *lecturer*

Date: April 21, 2016

- 14.00 **Ioan Száva¹, Holger Hota¹, Valentin Oleksiuk², Adrian Pascu², Péter Dani¹, Botond-Pál Gálfi¹, Ildikó Renata Száva (Munteanu)¹, Sorin Vlase¹, Gabriel Popa¹** Transylvania University of Brasov¹, Lucian Blaga University, Sibiu², Romania
Investigations on the Rolling Friction Coefficient's Evaluation of Uncovered Steel Parts
- 14.20 **Ioan Cucu, Marin Silviu Nan, Aurelian Nicola** University of Petrosani, Romania
Researches Regarding the Use of Laminated Profiles for the Support of Jiu Valley Mine Galleries in Order to Increase their Operational Performances
- 14.40 **Ákos József Lengyel, István Ecsedi** University of Miskolc, Hungary
Complementary Energy Method for Curved Composite Beams
- 15.00 **Florin D. Popescu, Nan Marin Silviu, Radu Sorin Mihai, Tutuianu Gabriel** University of Petrosani, Romania
Study of Kinematics of Multi-Rope Hoisting Machinery Statically, Balanced Using Solidworks®
- 15.20 **Zoltán Virág, Ádám Béres** University of Miskolc, Hungary
Optimal Dimensioning of Pipes Above Ground
- 15.40 **Dávid Gönczi, István Ecsedi** University of Miskolc, Hungary
Thermal Stresses in Functionally Graded Circular Cylinders
- 16.00 *Summary*

LEGAL SCIENCES SYMPOSIUM

Chairman: Csilla CSÁK *assoc. professor*

E: LEGAL SCIENCES

VENUE: Faculty of Law, Bld. A/6. ground floor 31.

Chairman: Csilla CSÁK *assoc. professor*

Secretary: Zoltán VARGA *assoc. professor*

Date: April 21, 2016

- 14.00 **Csilla Csák, György Kenderes** University of Miskolc, Hungary
New Organizational and Employment Opportunities of the Multifunctional Agriculture
- 14.15 **Klára Nagy** Győr Mayor's Office, Hungary
Certain Types of Electoral Fraud
- 14.30 **Lajos Csörgits** Győr Mayor's Office, Hungary
Civil Protection Organization in the 21st Century
- 14.45 **Zoltán Rác** University of Miskolc, Hungary
The Situation of Social Dialogue in Hungary
- 15.00 **Vivien László** University of Miskolc, Hungary
The Situation of People with Disabilities in the World of Labour Law
- 15.15 **Éva Erdős** University of Miskolc, Hungary
Tax Conflicts in the Light of the European Tax Harmonization
- 15.30 **Zoltán Nagy** University of Miskolc, Hungary
The Sharing Economy and Financial Regulation
- 15.45 **Ildikó Szabó** Pázmány Péter Catholic University, Hungary
Advance Tax Ruling
- 16.00 **Klaudia Murányi** University of Miskolc, Hungary
Institutional Changes of Financial Supervision in Hungary
- 16.15 **Beáta Gergely** University of Miskolc, Hungary
Public Finances in the Fundamental Law of Hungary
- 16.30 **Zoltán Varga** University of Miskolc, Hungary
Pension Policy from Financial Point of View in the European Union
- 16.45 *Break*

LEGAL SCIENCES SYMPOSIUM

Chairman: Csilla CSÁK *assoc. professor*

E: LEGAL SCIENCES

VENUE: Faculty of Law, Bld. A/6. groundfloor 31.

Chairman: Csilla CSÁK *assoc. professor*

Secretary: Zoltán VARGA *assist. professor*

Date: April 21, 2016

- 17.00 Nóra Béres University of Miskolc, Hungary
The Principle of Complementarity in Practice Based on the Case-Law of the International Criminal Court
- 17.15 Bence Udvarhelyi University of Miskolc, Hungary
Supranationality Versus National Sovereignty – Linking Points Between EU Law and National Criminal Law
- 17.30 Eszter Kiss-Kondás University of Miskolc, Hungary
Hungarian Land Auctions in the Mirror of New Regulations
- 17.45 Bianka Maksó University of Miskolc, Hungary
International Data Transfer with Special Attention to the Conclusions of the Invalidity of US Safe Harbour Scheme
- 18.00 Tímea Barzó University of Miskolc, Hungary
The Relationships between Restitution and Non-Pecuniary Damage
- 18.15 Réka Pusztahelyi University of Miskolc, Hungary
Delictual and Contractual Liability for Damages Resulting from Highly Dangerous Activities
- 18.30 Tünde Majoros University of Miskolc, Hungary
Actual Questions on the Liability of the Executive Officers
- 18.45 Judit Barta University of Miskolc, Hungary
Legal Guarantees in the Case of Construction Contracts
- 19.00 *Summary*

CHALLENGES OF INNOVATIVE PRODUCTION – SERVICE AND INSTITUTIONAL OPERATION IN THE FRAME OF INFORMATION SOCIETY SYMPOSIUM

Chairman: Szabolcs NAGY *assoc. professor*

F: ECONOMIC CHALLENGES IN THE 21st CENTURY

VENUE: Room 110. Bld. A/2. 1st floor, 110.

Chairman: Szabolcs NAGY *assoc. professor*

Secretary: Roland SZILÁGYI *assoc. professor*

Date: 21 April, 2016

- 14.00 **Vladimir Modrak, Slavomir Bednar** Technical University of Kosice, Slovakia
Modelling of Assembly Process Modules in Terms of Mass Customized Manufacturing
- 14.20 **Szabolcs Nagy, Csilla Molnár Konyha, László Molnár** University of Miskolc, Hungary
Theoretical Concept of Promotion Optimization Model for Higher Educational Institutions (UNIPOM)
- 14.40 **Roland Szilágyi, Beatrix Varga, Renáta Géczi-Papp** University of Miskolc, Hungary
Possible Methods for Price Forecasting
- 15.00 *Break*
- 15.20 **Zoltán Nagymáté** University of Miskolc, Hungary
Cloud Computing Service as a Driving Force for Corporate Innovation
- 15.40 **Ágnes Bene¹, Péter Salamon²** University of Debrecen¹, MTA Institute for Nuclear Research, Debrecen², Hungary
CSR Potential
- 16.00 **Mirjana Hladika, Danimir Gulin** Faculty of Economics and Business, Croatia
Challenges in Applying the Fair Value Accounting During Financial Crisis
- 16.20 *Summary*

HUMANITIES AND SOCIAL SCIENCES SYMPOSIUM

Chairman: Ágnes MAGNUCZNÉ GODÓ *assoc. professor*

G: HUMANITIES AND SOCIAL SCIENCES

VENUE: Room 306. Bld. C/1. 3rd floor, 306.

Chairman: Ágnes MAGNUCZNÉ GODÓ *assoc. professor*

Secretary: Judit SZABÓNÉ PAPP *assoc. professor*

Date: April 21, 2016

- 14.00 **Marina Mićin, Hrvoje Perčević, Marcela Samodol** University of Zagreb, Croatia
The Interdependence between EPS and Share Price in Croatian Companies
- 14.20 **Ferenc Leuko** University of Pécs, Hungary
The Application of Narrative Analysis in Executive Coaching
- 14.40 **Ferenc Leuko** University of Pécs, Hungary
The Narratives of Sales Teams
- 15.00 **Tünde Bajzát** University of Miskolc, Hungary
The Most Common Barriers of Successful Intercultural Communication
- 15.20 *Break*
- 15.40 **Ágnes Magnucz Godó** University of Miskolc, Hungary
Developing Transcultural Awareness in a Digital ELT Course Material for Primary School Students
- 16.00 **Judit Szabó Papp** University of Miskolc, Hungary
Teaching and Practising Grammar in a Digital ELT Course Material for Primary School Students
- 16.20 **Andrea Kovács Duró** University of Miskolc, Hungary
Developing Personalities and Assessing in Teaching Music
- 16.40 *Summary*

HEALTH AND MEDICAL SCIENCES SYMPOSIUM

Chairman: Olivér RÁCZ *professor*

H: HEALTH AND MEDICAL SCIENCES

VENUE: Room BOSCH, Bld. B3-B4. 2nd floor, 207.

Chairman: Olivér RÁCZ *professor*

Secretary: Andrea LUKÁCS *assist. professor*

Date: April 21, 2016

- 14.00 Márta Kerégyártó¹, Emőke Kiss-Tóth¹, László Barkai^{1,2}, Bertalan Fodor¹ University of Miskolc¹, Velkey László Center for Child Health², Hungary
The Role of Wharton's Jelly Mesenchymal Stem Cells in Diabetes Mellitus
- 14.15 Laura Marica, Mariana Malanciuc University of Petrosani, Romania
Some Aspects of Occupational Morbidity in the Romanian Coal Mining Industry
- 14.30 Veronika Rajki, Mária Csóka Semmelweis Egyetem, Hungary
Objective Measurement of Hungarian Nurses' Transfusion-Related Knowledge with Use of Modern Test Theoretical Instruments (Item Response Theory: IRT)
- 14.45 Krisztina Mayer, Emőke Kiss-Tóth, Andrea Lukács University of Miskolc, Hungary
Can We Differentiate Between Different Forms of Risk Seeking Behavior on the Basis of Sensation Seeking, Resilience, Performance Motivation and Temperament and Character Factors?
- 15.00 Tünde Lebenszky Szabó, Csaba Kató, Emőke Kiss-Tóth University of Miskolc, Hungary
Health Status Survey of Physiotherapists and Physiotherapy Students in Miskolc
- 15.15 Dóra Kiss-Kondás, Eleonóra Juhász, Annamária Breznai, Emőke Kiss-Tóth University of Miskolc, Hungary
The Comparison of the Efficiency of Aquatic Physical Therapy and Dry Land Exercises – Splash for Health?
- 15.30 *Break*
- 15.45 Zsófia Bényei¹, Eleonóra Juhász¹, Zsuzsanna Ziegler² University of Miskolc¹, MISEK², Hungary
Change of Stamina After Thoracotomy
- 16.00 Dóra Szoťák¹, Eleonóra Juhász¹, Péterné Tomorszki² University of Miskolc¹, Sajószentpéteri Gyógyító-Megelőző Intézmény², Hungary
Balance After Stroke
- 16.15 Zsuzsanna Gyombolai, Krisztina Mayer University of Miskolc, Hungary
Music as Legal Doping
- 16.30 Andrea Rucska, Emőke Kiss-Tóth University of Miskolc, Hungary
Use of Health Care in Berente
- 16.45 Annamária Mató-Juhász, Krisztina Szegedi University of Miskolc, Hungary
Theoretical Context between Health Conscious Behaviour and Sustainable Development
- 17.00 *Summary*

OPTIONAL PROGRAMME

The Organisational Committee of the Conference would like to make your stay more pleasant by organising the

Gala Dinner

19.00, 21 April 2016

Venue: Main Building A/4. Assembly Hall (*Entry: only with invitation cards*)

Programme

<i>19⁰⁰ - 19¹⁰</i>	<i>Opening address by the Rector of the University of Miskolc</i>
<i>19¹⁰ - 19²⁰</i>	<i>Musical block #</i>
<i>19²⁰ - 19³⁰</i>	<i>Inauguration of the new honorary citizens of the conference</i>
<i>19³⁰ - 19⁴⁰</i>	<i>Conference Award</i>
<i>19⁴⁰ - 19⁵⁰</i>	<i>Musical block #2</i>
<i>19⁵⁰ - 20⁵⁰</i>	<i>Gala dinner</i>
<i>20⁵⁰ - 21⁰⁰</i>	<i>Musical block #3</i>
<i>21⁰⁰ - 22⁰⁰</i>	<i>Networking</i>