



**University of Miskolc,
Hungary**



**MultiScience - XXXI. microCAD
International Multidisciplinary
Scientific Conference
20-21 April 2017**

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 Selmezbánya (Banská Štiavnica), extends its greetings to the Reader on the occasion of organising the ***XXXIst 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 30 years, this annual international conference has become the most significant meeting of professionals at the University of Miskolc.

More than 8000 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 30 years.

I recommend you the program of the ***XXXIst 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** Vice-Rector for International Relations and Scientific Affairs

Members: **Péter SZŰCS** 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 - XXXI. microCAD International Multidisciplinary Scientific Conference
University of Miskolc, 20-21 April 2017

20 April (Thursday) 2017

10⁰⁰ – 10¹⁰

Opening address and remarks

Tamás KÉKESI professor, Vice-Rector of the University of Miskolc

Venue: Lecture hall XXI. Bld. A/6 groundfloor 32.

PLENARY SESSION

Venue: Lecture hall

10¹⁰ – 10⁴⁰

Numan M. DURAKBASA professor, Technical University of Wien, Austria

Novel Trends in Advanced Production Systems and Multi-Functional Intelligent Factories of the Future

10⁴⁰ – 11¹⁰

Károly JÁRMAI professor, Vice-Rector of the University of Miskolc, Hungary

Optimization of Objects and Systems

11¹⁰ – 11⁴⁰

Norbert ZAJZON assoc. professor, University of Miskolc, Hungary

UNEXMIN Robot Development for Flooded Mines

11⁴⁰ – 12⁰⁰

Break

12⁰⁰ – 13³⁰

Reception

Welcome address by **András TORMA** professor, Rector of the University of Miskolc

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 –

Gala Dinner, Awards Ceremony and Social Networking

Welcome speech: **András TORMA** – professor, Rector of the University of Miskolc
Thematic background music: **Happy Metal** (the band and friends of the Faculty of Materials Science and Technology, University of Miskolc)

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

21 April (Friday) 2017

9⁰⁰ - 12⁰⁰

Presentations in the parallel sessions

Venue: as listed in the section table

13⁰⁰ -

Optional Program

REGISTRATION FOR THE CONFERENCE

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

Registration is open:

19 April (Wednesday) 2017	---	12 ⁰⁰ - 19 ⁰⁰
20 April (Thursday) 2017	8 ⁰⁰ - 12 ³⁰	13 ³⁰ - 17 ⁰⁰
21 April (Friday) 2017	8 ⁰⁰ - 11 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 XXI.	Bld. A/6 ground floor 32
A1	Environment- and Energy Management	Lecture hall VIII.	Bld. A/1 1 st floor 115
A2	Earth Science	Lecture hall VII.	Bld. A/1 1 st floor 102
B1	Applied Materials Science and Nanotechnologies	Káldor Mihály Lecture Hall	Bld. B/1 ground floor 8
B2	Applied Materials Science and Nanotechnologies	Room 312.	Bld. B/1 3 rd floor
C1	Logistics	Room 106.	Bld. A/5 1 st floor
C2	Natural Sciences	Room 14.	Bld. A/1 mezzanine
C3	Informatics and Automation	Institute of Informatics	Library, 1 st floor
D1	Fluid and Heat Engineering	Room 201.	Bld. A/5 2 nd floor
D2	Material Processing Technologies	Room 44.	Bld. A/4 ground floor
D3	Production Engineering	Room 1.	Bld. C/1 ground floor
E1	Legal Sciences	Faculty of Law	Bld. A/6 ground floor 31
E2	Legal Sciences	Faculty of Law	Sample Court Room, Bld. C/2 1 st floor
F	Economic Challenges in the 21 st Century	Institute Library	Bld. A/4 4 th floor 422/b.
G	Humanities and Social Sciences	Room 306.	Bld. C/1 3 rd floor
H	Health and Medical Sciences	Bosch Room	Bld. B3-B4 2 nd floor 207

SUSTAINABLE NATURAL RESOURCES MANAGEMENT SYMPOSIUM

Chairman: Gábor MUCSI *assoc. professor*

A1: ENVIRONMENT- AND ENERGY MANAGEMENT

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

Chairman: Gábor MUCSI *assoc. professor*

Secretary: Péter Tamás VASS *assoc. professor*

Date: April 20, 2017

- 14.00 **Ion Dosa, Marica Laura** University of Petrosani, Romania
Efficiency Assessment of a Lignite-Fired Steam Generator
- 14.20 **Anikó Tóth, Adam V. Pasztor** University of Miskolc, Hungary
Effect of Perforation Parameters on the Productivity of Geothermal Wells
- 14.40 **Zsolt Pinjung¹, János Szanyi², Balázs Kóbor², Tamás Medgyes²** P-Mont Ltd.¹, University of Szeged², Hungary
District Heating System with Geothermal Energy Use in Szeged, Southern Great Plain Region, Hungary
- 15.00 **Ágnes Horváth** University of Miskolc, Hungary
Prethought's on Improving Electronic Waste Resource Estimation Methods
- 15.20 **Ágnes Horváth¹, Tamás Magyar¹** University of Miskolc¹, Dél-Konstrukt Zrt.², Hungary
Experimental Investigation of Metal Recovery from Printed Circuit Boards by Mechanical Processes
- 15.40 *Break*
- 16.00 **Trinh Van Quyen, Sándor Nagy** University of Miskolc, Hungary
Effect of Temperature and Particle Size on Acacia Mangium Biomass Agglomeration
- 16.20 **Roland Szabó, Sándor Nagy** University of Miskolc, Hungary
Control of Mechanical Properties of Geopolymers by Compacting
- 16.40 Mária Ambrus, Gábor Mucsi** University of Miskolc, Hungary
Raw Materials for Geopolymerisation
- 17.00 **Ali H. Hasan Al-Azzawi, Péter Baumli, Gábor Mucsi** University of Miskolc, Hungary
Preliminary Grinding Experiments of Niobium Carbide and Silicon
- 17.20 **Zoltán Pap** University of Miskolc, Hungary
Application of Eddy Current Separator in Slag Preparation
- 17.40 *Summary*

SUSTAINABLE NATURAL RESOURCES MANAGEMENT SYMPOSIUM

Chairman: Gábor MUCSI *assoc. professor*

A2: EARTH SCIENCE

VENUE: Lecture hall VII, Bld. A/1 1st floor, 102-103.

Chairman: Norbert Péter SZABÓ *assoc. professor*

Secretary: Ádám RÁCZ *assist. professor*

Date: April 20, 2017

- 14.00 **Katalin Bohács¹, Máté Baráth¹, Norbert Udvardi²** University of Miskolc¹, Josab Hungary Ltd.², Hungary
Grindability of Zeolite as Function of Moisture Content
- 14.20 **Anett Kiss** University of Miskolc, Hungary
Testing Program for Acoustic Measurements Under Triaxial Conditions
- 14.40 **Ildikó Brînaş, Andraş Andrei** University of Petrosani, Romania
The Study of Building of a Barrel Cam Mechanism
- 15.00 **Andreea Cristina Tataru, Dorin Tataru, Aurora Stanci** University of Petrosani, Romania
The Use of Herbaceous Plants to Stabilize Tailing Ponds of Thermal Power Plants
- 15.20 **Nikolina Mjić, Gábor Bartha** University of Miskolc, Hungary
Inspire Infrastructure for Spatial Data - Main Aspects of Future Development
- 15.40 *Break*
- 16.00 **Jozsef Kovacs, Iosif Andras, Sorin Mihai Radu, Maria Lazar, Andrei Andras, Sorina Stanila** University of Petrosani, Romania
Requirements to Be Fulfilled by Existing BWES Working in Hard to Excavate Rock Formations
- 16.20 **Roland Róbert Romenda, József Faitli** University of Miskolc, Hungary
Examination of Unsteady and Steady Motion of Single MSW Particles in Normal Air Condition
- 16.40 **Vladu Bogdan, Marin Silviu Nan, Ioan Cucu** University of Petrosani, Romania
Study on Sustainable Development in Mining Sector
- 17.00 **Andras Iosif¹, Jozsef Kovacs¹, Mircea Risteiu², Andrei Andras¹, Ovidiu Bogdan Tomus¹, Stela Dinescu¹** University of Petrosani¹, Alba Iulia University², Romania
Study on the Theoretical Background of in Situ and Test Rig Measurements of Load in Boom of BWE Working in Hard to Excavate Rocks
- 17.20 *Summary*

APPLIED MATERIALS SCIENCE AND NANOTECHNOLOGY SYMPOSIUM

Chairman: Tamás I. TÖRÖK *professor*

B1: APPLIED MATERIALS SCIENCE AND NANOTECHNOLOGY

VENUE: Káldor Mihály Lecture Hall, Bld. B/1 ground floor, 8.

Chairman: Valéria MERTINGER *professor*

Secretary: Máté SEPSI *student*

Date: April 20, 2017

- 14.00 **Simon Schwarz, Stefan Rung, Ralf Hellmann** University of Applied Sciences Aschaffenburg, Germany
High Quality One-Dimensional Low Spatial Frequency Lipss on Sapphire Generated by Top-hat Beam Shaped Ultrashort-Pulsed Laser
- 14.15 **Sabrina Koss, André Edelmann, Ralf Hellmann** University of Applied Sciences Aschaffenburg, Germany
Efficient Selective Laser Melting of AlSi10Mg0.5
- 14.30 **Lisa Riedel, Sabrina Koss, André Edelmann, Ralf Hellmann** University of Applied Sciences Aschaffenburg, Germany
Design Rules to Prevent Thermal Distortion of Large Area Components Manufactured by Selective Laser Melting
- 14.45 **Benjamin Schiller, André Edelmann, Ralf Hellmann** University of Applied Sciences Aschaffenburg, Germany
Characterization of Surface Quality for Inconel 625 Components Manufactured by Selective Laser Melting
- 15.00 **Stefan Steinlechner** Montanuniversitaet Leoben, Austria
Optimization in the Copper Anode Slime Treatment – Mineralogical Characterization and Hydrometallurgical Process Development for Separation of Selected Side-Elements
- 15.15 **Stephan Steinacker, Jürgen Antrekowitsch** Montanuniversitaet Leoben, Austria
The Role and Influence of Impurities on the Quality of Copper Cathodes
- 15.30 **Tibor Kulcsár, Tamás Kékesi** University of Miskolc, Hungary
Thermo-Mechanical Extraction of Aluminium from the Dross of Melting Al and AlMg Scrap
- 15.45 *Break*

APPLIED MATERIALS SCIENCE AND NANOTECHNOLOGY SYMPOSIUM

Chairman: Tamás I. TÖRÖK *professor*

B1: APPLIED MATERIALS SCIENCE AND NANOTECHNOLOGY

VENUE: Káldor Mihály Lecture Hall, Bld. B/1 ground floor, 8.

Chairman: Valéria MERTINGER *professor*

Secretary: Máté SEPSI *Student*

Date: April 20, 2017

- 16.00 **Andreas Cziegler, Peter Schumacher** Montanuniversitaet Leoben, Austria
Influence of Solute Content on Grain Size in Binary Cu Alloys
- 16.15 **Shaymaa Abbas Abdulsada, Ali I. Al-Mosawi, Tamás I. Török** University of Miskolc, Hungary
Testing the Inhibition Potential of Fenugreek Seed Powders on Steel Rebar Samples Immersed in Aqueous NaCl Solution
- 16.30 **Cucu Ioan, Radu Sorin Mihai, Nan Marin Silviu, Nicola Aurelian, Vladu Bogdan** University of Petrosani, Romania
Researches Regarding the Residual Strain Recorded During the Cold Bending Process of Metallic Support Elements
- 16.45 **Máté Seps, Arjun Talgotra, Erzsébet Nagy, Márton Benke, Valéria Mertinger** University of Miskolc, Hungary
Martensites Formation During Thermomechanical Treatments of Twip Steels
- 17.00 **Máté Czagány, Baumli Péter** University of Miskolc, Hungary
Development and Investigation of Electroless Ni-P Coatings on Steel Substrates
- 17.15 **Bronislav Kanev¹, Emese Kurovics², Alexandra Shmakova¹, László A. Gömze²** Institute of Geology Komi SC UB RAS, Russia¹, University of Miskolc, Hungary²
Development Ceramic Composites Based on Al₂O₃, SiO₂ and IG-017 Additive
- 17.30 **Emese Kurovics, László A. Gömze** University of Miskolc, Hungary
Development of High-tech Ceramic Composites from Conventional Kaolinite Minerals and IG-017 Additives
- 17.45 **Emese Kurovics, László A. Gömze** University of Miskolc, Hungary
Influence of Sintering Atmosphere and IG-017 Bio-Original Additives on Porosity of Ceramics Made from High Purity Al₂O₃ and SiO₂ Powders
- 18.00 *Summary*

APPLIED MATERIALS SCIENCE AND NANOTECHNOLOGY SYMPOSIUM

Chairman: Tamás I.TÖRÖK *professor*

B2: APPLIED MATERIALS SCIENCE AND NANOTECHNOLOGY

VENUE: Room 312, Bld. B/1 3rd floor
Chairman: Tamás József SZABÓ *assoc. professor*
Secretary:

Date: April 21, 2017

- 9.00 **Bella Udvardi, Róbert Géber, László A. Gömze** University of Miskolc, Hungary
Examination of the Properties of Dental Ceramics
- 9.15 **Ali I. Al-Mosawi, Shaymaa Abbas Abdulsada, Kálmán Marossy, Mohammed H. Al-Maamori**
University of Miskolc, Hungary
Effect of Novolac wt.% on Adhesion Force of Hybrid Rubber Blends
- 9.30 **Krisztina Román, Gabriella Zsoldos** University of Miskolc, Hungary
Soft PVC Mixtures Analysis by DMA Measurement
- 9.45 **Viktor Pálfalusi, Gabriella Zsoldos, Mariann Kollár** University of Miskolc, Hungary
Preparation Possibilities and FTIR Spectroscopy of UHMWPE-Alginate Blends
- 10.00 **Mahitha Udayakumar, Gabriella Zsoldos, Mariann Kollár** University of Miskolc, Hungary
Study on Effect of Degradation of Poly(lactic acid) on its Properties
- 10.15 **Dániel Molnár, Csaba Majoros, László Varga** University of Miskolc, Hungary
Control Volume Simulation of Gravity Die Casting
- 10.30 *Break*
- 10.45 **Marianna Bubenkó, Mónika Tokár, György Fegyverneki** University of Miskolc, Hungary
Investigations to Reducing Inclusion Content in Melt Aluminium
- 11.00 **Viktória Dargai¹, László Varga²** Némek Linz (AT)¹, University of Miskolc², Hungary
The Examination of the Mechanical Properties of Inorganic Core Sands
- 11.15 **Laura Mádi, László Varga** University of Miskolc, Hungary
Examination of the Quality and Quantity of Emission from Resin Bonded Foundry Cores
- 11.30 **Henrietta Hudák, László Varga** University of Miskolc, Hungary
Effect of the Special Additives on the Quality of the Castings Surface
- 11.45 **Zoltán Kéri** University of Miskolc, Hungary
Effect of Chemical Compositions and Heat Treatment on High Pressure Die-Castings
- 12.00 *Summary*

LOGISTICS, INFORMATICS AND MECHATRONICS SYMPOSIUM

Chairman: Béla ILLÉS *professor*

C1: LOGISTICS

VENUE: Room 106, Bld. A/5 1st floor
Chairman: Béla ILLÉS *professor*
Secretary: Péter TELEK *assoc. professor*

Date: April 20, 2017

- 14.00 **Elke Glistau¹, Michael Schenk², Norge Isaias Coello Machado³** Otto-von-Guericke University, Germany¹, Fraunhofer Institute for Factory Operation and Automation IFF, Germany², Central University „Marta Abreu“ of Las Villas, Santa Clara, Cuba³
Full-Factorial Design of Experiments in Logistics Systems
- 14.20 **Béla Illés¹, György Sárközi², György Wagner¹** University of Miskolc¹, National Mobile Payment Plc.², Hungary
Logistic Solutions for the Demand Controlled Public Transport Based on Telematic at Hungary
- 14.40 **Alexander Ortner-Pichler, Christian Landschützer** Graz University of Technology, Austria
Improving Geometry Manipulation Capabilities of Knowledge-Based Engineering Applications by the Versatile Integration of 3D-CAD Systems
- 15.00 **David Weigert, Paul Aurich, Michael Schenk** Fraunhofer Institute for Factory Operation and Automation IFF, Germany
Implementation of an Automated Exchange System for Construction, Simulation, and Visualization Tools
- 15.20 *Break*
- 15.40 **Péter Telek** University of Miskolc, Hungary
Computer Method for the Determination of Materials Handling Relations
- 16.00 **Niels Schmidtke, Fabian Behrendt** Otto-von-Guericke University Magdeburg, Germany
Impact Analysis of Freight Transport Scenarios on the German Transport System – An indicator Based Approach
- 16.20 **David Weigert, Tobias Reggelin, Juri Tolujew** Fraunhofer Institute for Factory Operation and Automation IFF, Germany
Material Flow Simulation of Logistics Processes - An Approach of Online Analysis, Planning and Control of Logistics Processes of Supply Chains
- 16.40 **Péter Telek, Béla Illés** University of Miskolc, Hungary
Results of the UMI-TWINN Project During Months 1-15
- 17.00 *Summary*

LOGISTICS, INFORMATICS AND MECHATRONICS SYMPOSIUM

Chairman: Béla ILLÉS *professor*

C2: NATURAL SCIENCE

VENUE: Room 14, Bld. A/1 mezzanine

Chairman: Béla PARIPÁS *professor*

Secretary: Miklós BÉRES *engineer*

Date: April 20, 2017

- 15.00 **Izabella Júlia Benczik¹, György Károlyi²** Eszterházy Károly University¹, Budapest University of Technology and Economics², Hungary
Chaotic Models with Biological Relevance: Signatures of Chaos in the Blood Flow and Their Implications on Atherosclerotic Depositions
- 15.20 **Badraoui Nada** Budapest University of Technology and Economics, Hungary
Propagation Problems of Solitons in Fibers
- 15.40 **Béla Paripás, Béla Palásthy, Gábor Pszota** University of Miskolc, Hungary
Experimental Study on the Exchange Interference of Autoionizing States of He
- 16.00 **Miklós Béres, Béla Paripás** University of Miskolc, Hungary
Measurements of Drill Bit Vibration by Laser Doppler Method
- 16.20 **Izabella Júlia Benczik, József Vida, Gábor Zoller** Eszterházy Károly University, Hungary
Family Science Matinee - Series in the Magic Tower of Eger
- 16.40 **Attila Körei** University of Miskolc, Hungary
Using Formal Concept Analysis in Education
- 17.00 *Summary*

LOGISTICS, INFORMATICS AND MECHATRONICS SYMPOSIUM

Chairman: Béla ILLÉS *professor*

C3: INFORMATICS AND AUTOMATION

VENUE: Institute of Informatics, Library, 1st floor

Chairman: Szilveszter KOVÁCS *assoc. professor*

Secretary: Zsolt TÓTH *assist. professor*

Date: April 21, 2017

- 10.00 **Sakena Saied Alsadig Altahr** University of P.J.Šafárik in Košice, Slovakia
Vibration Signal Diagnostics Using Iterative Algorithms
- 10.20 **Itu Răzvan Bogdan, Ridz Mihai Carmelo, Kec W. Wilhelm, Itu Vilhelm** University of
Petrosani, Romania
Vibromechanical Diagnosis of the Winding Machine in the Old Shaft with Skip in Lonea Mine
- 10.40 **Adrián Mezei, Tibor Kovács** Budapest University of Technology and Economics, Hungary
Mesh Generation from a Scan of a Special 3D Scanner
- 11.00 **Balázs Nagy, Bence Kővári** Budapest University of Technology and Economics, Hungary
Off-line Signature Verification Using the Grasp Matching Algorithm
- 11.20 **Ádám Budai, Kristóf Csorba** Budapest University of Technology and Economics, Hungary
cv4sensorhub: Generic Framework for Industrial Image Processing
- 11.40 **Gábor Szabó** University of Miskolc, Hungary
Computational Models for Morphology
- 12.00 *Summary*

INNOVATIVE AUTOMOTIVE, MECHANICAL DESIGN AND TECHNOLOGY SYMPOSIUM

Chairman: Károly JÁRMAI *professor*

D1: FLUID AND HEAT ENGINEERING

VENUE: Room 201, Bld. A/3 2nd floor

Chairman: László BARANYI *professor*

Secretary: Dániel DOROGI *PhD student*

Date: April 20, 2017

- 14.00 Tom-Robin Teschner, László Könözsy, Karl W. Jenkins Cranfield University, United Kingdom
A Three-Stage Algorithm for Solving Incompressible Flow Problems
- 14.15 László Könözsy, Jamie F. Townsend, Karl W. Jenkins Cranfield University, United Kingdom
Numerical Investigation of a Stratified Turbulent Two-Phase Flow in a Horizontal Pipe in Conjunction with the Generalized Richardson Extrapolation
- 14.30 Barhm Mohamad, Gábor L. Szepesi, Betti Bolló University of Miskolc, Hungary
Combustion Optimization in Spark Ignition Engines
- 14.45 Andor Zsemeri, Zoltán Károly Siménfalvi, Árpád Bence Palotás University of Miskolc, Hungary
Presentation of Reactor Types for Thermo-Catalytic Thermal Cracking
- 15.00 Tom-Robin Teschner, Kori Smith, László Könözsy Cranfield University, United Kingdom
On Approximate Riemann Solvers within the Concept of the Unified Fractional-Step, Artificial Compressibility and Pressure Projection Method
- 15.15 László Könözsy Cranfield University, United Kingdom
A Pseudo-Transient Pressure-Momentum Coupling Method for Low-Speed Incompressible Flows
- 15.30 Máté Petrik, Gábor L. Szepesi, Károly Jármai University of Miskolc, Hungary
Optimal Design of Double-Pipe Heat Exchangers, Comparisons
- 15.45 Break

INNOVATIVE AUTOMOTIVE, MECHANICAL DESIGN AND TECHNOLOGY SYMPOSIUM

Chairman: Károly JÁRMAI *professor*

D1: FLUID AND HEAT ENGINEERING

VENUE: Room 201, Bld. A/3 2nd floor

Chairman: László KÖNÖZSY *lecturer*

Secretary: Dániel DOROGI *PhD student*

Date: April 20, 2017

- 16.00 **Wojciech Pospolita, Maciej Cholewiński, Krzysztof Jesionek** Wroclaw University of Science and Technology, Poland
The Concept of Autonomous Instalation for Methane Generation Coupled with Renewable Energy Sources
- 16.15 **Dániel Dorogi, László Baranyi** University of Miskolc, Hungary
Numerical Simulation of Flow and Heat Transfer for a Cylinder in Free Vibration
- 16.30 **Maciej Cholewinski, Wojciech Pospolita, Krzysztof Jesionek** Wroclaw University of Science and Technology, Poland
The Application of Grape Pomace as a Solid Biofuel in Combustion Technologies
- 16.45 **Dániel Koós, Péter Bencs** University of Miskolc, Hungary
Optical Measurement Method for Gas-Liquid Mass Transfer Investigation in Helically Coiled Pipe
- 17.00 **Florin Dumitru Popescu, Sorin M. Radu, Ildiko Branas Kertesz, Marioara Benea Vesa** University of Petrosani, Romania
New Methods for Process Reliability Analysis
- 17.15 **Dániel Dorogi, László Baranyi** University of Miskolc, Hungary
Elastically Supported Cylinder in Two-Degree-of-Freedom Motion: A Numerical Study
- 17.30 *Summary*

INNOVATIVE AUTOMOTIVE, MECHANICAL DESIGN AND TECHNOLOGY SYMPOSIUM

Chairman: Károly JÁRMAI *professor*

D2: MATERIAL PROCESSING TECHNOLOGIES

VENUE: Room 44, Bld. A/4 ground floor
Chairman: Miklós TISZA *professor*
Secretary: Andrea SZILÁGYI BÍRÓ *assist. lecturer*

Date: April 20, 2017

- 14.00 **Andrea Szilágyi Biró, Miklós Tisza** University of Miskolc, Hungary
Active Screen Plasma Nitriding of Case Hardening Steels
- 14.20 **Henri Tervo¹, Antti Kaijalainen², Kömi Jukka²** University of Miskolc, Hungary¹, University of
Oulu, Finland²
*Investigation on Inclusions and Their Effect on the Mechanical Properties and Bendability of
Ultra-High-Strength Steel*
- 14.40 **Adel Djahnit, Zsuzsanna Koncsik** University of Miskolc, Hungary
Analysing the HAZ Softening of S960M by Physical Simulation
- 15.00 **Miklós Tisza, Zsolt Lukács, Péter Zoltán Kovács, Dávid Budai** University of Miskolc,
Hungary
Investigation of Low Cost Manufacturing of Automotive Parts Made of Aluminium Alloy Sheets
- 15.20 **Andrea Szilágyi Biró** University of Miskolc, Hungary
Active Screen Plasma Nitriding of Medium Carbon Steels
- 15.40 *Break*
- 16.00 **Noémi László, Mária Maros Berkes** University of Miskolc, Hungary
*Determination of Optimal Wear Concept of Sheet Metal Forming Tools Using the Autoform
Dieadviser Modul*
- 16.20 **Alexandra Kitti Németh, Mária Maros Berkes** University of Miskolc, Hungary
*Wear Maps and Models in Tribological Damage Analysis of Si₃N₄ Ceramics with Special
Attention to Tribochemical Wear*
- 16.40 **Shiraz Ahmed Siddiqui, Maria Berkes Maros, Andrea Szilágyi Biró** University of
Miskolc, Hungary
Characterization of Duplex Surface Layer Produced on X42Cr12 Tool Steel
- 17.00 **Ákos József Lengyel, István Ecsedi** University of Miskolc, Hungary
Static Analysis of Two-Layered Piezoelectric Beams with Imperfect Shear Connection
- 17.20 *Summary*

INNOVATIVE AUTOMOTIVE, MECHANICAL DESIGN AND TECHNOLOGY SYMPOSIUM

Chairman: Károly JÁRMAI *professor*

D3: PRODUCTION ENGINEERING

VENUE: Room 1, Bld. C/1 ground floor
Chairman: Wojciech ZEBALA *professor*
Co-Chairman: Angelos P. MARKOPOULOS *PhD*
Secretary: Viktória FERENCSEK *PhD Student*

Date: April 20, 2017

- 14.00 **Balázs Mikó, István Czövek, Áron Horváth** Óbuda University, Hungary
Investigation of Accuracy of 3D Scanning
- 14.20 **Wojciech Zębala, G. Struzikiewicz, K. Rumian** Cracow University of Technology, Poland
Some Aspects of Clean Production During Super Alloys Machining
- 14.40 **Viktória Ferencsik, Gyula Varga** University of Miskolc, Hungary
Investigation of Residual Stress of Diamond Burnished Workpiece Surfaces
- 15.00 **Angelos P. Markopoulos, Nikolaos E. Karkalos** National Technical University of Athens, Greece
Prediction of Mechanical Properties of Aluminum Alloy 7017 Using Artificial Neural Networks
- 15.20 **Zoltán Bihari** University of Miskolc, Hungary
Preparation of Acoustic Investigations Knowledge of the Technical Parameters of Tested Devices
- 15.40 **István Sztankovics** University of Miskolc, Hungary
Surface Roughness in Rotational Turning of Outer Cylindrical Surfaces
- 16.00 *Break*

INNOVATIVE AUTOMOTIVE, MECHANICAL DESIGN AND TECHNOLOGY SYMPOSIUM

Chairman: Károly JÁRMAI *professor*

D3: PRODUCTION ENGINEERING

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

Chairman: Numan M. DURAKBASA *professor*

Co-Chairman: Gyula VARGA *assoc. professor*

Secretary: Viktória FERENCSEK *PhD Student*

Date: April 20, 2017

- | | |
|-------|---|
| 16.20 | Magdalena Machno Cracow University of Technology, Poland
<i>Selected Problems of Electrodischarge Drilling of High Aspect Ratio Holes</i> |
| 16.40 | Tamás Makkai, János Kundrák University of Miskolc, Hungary
<i>The Effect of Feed Rate on Cutting Force in Face Milling</i> |
| 17.00 | Zoltán Bihari University of Miskolc, Hungary
<i>The Difficulties and Compromises of Acoustic Investigations</i> |
| 17.20 | Miklós Gábor Várkuli University of Miskolc, Hungary
<i>Modular Firebox Design and Analysis</i> |
| 17.40 | Ksenia Rumian Cracow University of Technology, Poland
<i>Optimisation of Nickel Alloy Machining</i> |
| 18.00 | <i>Summary</i> |

LEGAL SCIENCES SYMPOSIUM

Chairman: Csilla CSÁK *assoc. professor*

E1: LEGAL SCIENCES

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

Chairman: Csilla CSÁK *assoc. professor*

Secretary: Tímea BARZÓ *assoc. professor*

Date: April 20, 2017

- 14.00 **Tímea Barzó** University of Miskolc, Hungary
Special Provisions on the Property for Business Purposes in Family Law
- 14.15 **Erika Váradi-Csema** University of Miskolc, Hungary
Action or Addiction?
- 14.30 **Ágnes Juhász** University of Miskolc, Hungary
The Borders of the Duty to Disclose Information in a Contractual Relationship
- 14.45 **Ágnes Váradi** Hungarian Academy of Sciences Centre for Social Sciences Institute for Legal Studies, Hungary
Environmental Matters in the ECJ Case-Law (Interpretation of the Aarhus Convention in EU Law)
- 15.00 **Réka Pusztahelyi** University of Miskolc, Hungary
The Legal Nature of the Highly Dangerous Activities
- 15.15 **Zoltán Nagy** University of Miskolc, Hungary
Raising the Question in Connection with the Sustainable Public Task Supply
- 15.30 **Andrea Szöllős** University of Miskolc, Hungary
The European Administrative Space - in the Mirror of Administrative Law Principles
- 15.45 **Andrea Szöllős** University of Miskolc, Hungary
Civil Service Reforms in the European Union - Basic Characteristics and Future Prospects -
- 16.00 *Break*

LEGAL SCIENCES SYMPOSIUM

Chairman: Csilla CSÁK *assoc. professor*

E1: LEGAL SCIENCES

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

Chairman: Csilla CSÁK *assoc. professor*

Secretary: Tímea BARZÓ *assoc. professor*

Date: April 20, 2017

- 16.15 **Adrienn Nagy** University of Miskolc, Hungary
The Rules of Taking of Evidence in the New Civil Procedure Code
- 16.30 **Zoltán Rác** University of Miskolc, Hungary
The Employer's Liability for Damages in the Atypical Employment
- 16.45 **Hilda Tóth** University of Miskolc, Hungary
Questions of Termination of Employees' Representatives: Now and in the Past
- 17.00 **Zoltán Polgár, Tamás Szádeczky** National University of Public Service, Hungary
Challenges of Condominium Management, Especially Protection of Personal Data
- 17.15 **Gábor Mélypataki** University of Miskolc, Hungary
The State as an Employer—Does It Personalize a Public Authority or an Owner?
- 17.30 **Tivadar Dezsé** University of Miskolc, Hungary
Further Development of the State Pension System - Situation and Directions
- 17.45 **Judit Jacsó** University of Miskolc, Hungary
Tax Fraud Regulation Models in Europe
- 18.00 *Summary*

LEGAL SCIENCES SYMPOSIUM

Chairman: Csilla CSÁK *assoc. professor*

E2: LEGAL SCIENCES

VENUE: Faculty of Law, Sample Court Room, Bld. C/2 1st floor

Chairman: Zoltán VARGA *assoc. professor*

Secretary: Beáta GERGELY *PhD Student*

Date: April 20, 2017

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|-------|--|
| 14.00 | Edit Sápi University of Miskolc, Hungary
<i>Aleatoric Nature of Dramatic Works</i> |
| 14.15 | Bianka Maksó University of Miskolc, Hungary
<i>Concepts and Rules in the General Data Protection Regulation</i> |
| 14.30 | Edit Kriston University of Miskolc, Hungary
<i>Current Questions of Property Relations Between Civil Partners</i> |
| 14.45 | Beáta Gergely University of Miskolc, Hungary
<i>Financial Consumer Protection Cases in the United States' Case-Law</i> |
| 15.00 | Bernadett Szekeres University of Miskolc, Hungary
<i>Legal Consequences of the Employee-Like Status in Germany</i> |
| 15.15 | Sándor Kovács University of Miskolc, Hungary
<i>Political Necessity</i> |
| 15.30 | Mário Čertický University of Miskolc, Hungary
<i>Rules of the Non Pecuniary Damages in Civil Law of Slovak Republic and Compare with Hungarian Restitution</i> |
| 15.45 | Klaudia Murányi University of Miskolc, Hungary
<i>Some Question about the Prudential Operation</i> |
| 16.00 | <i>Break</i> |

LEGAL SCIENCES SYMPOSIUM

Chairman: Csilla CSÁK *assoc. professor*

E2: LEGAL SCIENCES

VENUE: Faculty of Law, Sample Court Room, Bld. C/2 1st floor

Chairman: Zoltán VARGA *assoc. professor*

Secretary: Beáta GERGELY *PhD Student*

Date: April 20, 2017

- 16.15 **Nóra Béres** University of Miskolc, Hungary
Substantial Aspects of the Cooperation Between the International Criminal Court and States Parties of the Rome Statute
- 16.30 **Tünde Majoros** University of Miskolc, Hungary
Tax Law Rules for the Executive Officers' Liability
- 16.45 **Alexandra Nagy** University of Miskolc, Hungary
The Criminal Uniformity Decision No.2/2016 BJE of Curia about the Perpetration Questions of Sexual Violence Against a Person Not Having Attained the Age of 12 Years
- 17.00 **Bence Udvarhelyi** University of Miskolc, Hungary
The Protection of the Financial Interests of the European Union – The Past, the Present and the Future
- 17.15 **Eszter Kiss-Kondás** University of Miskolc, Hungary
Thoughts About Demurrer of Enforcement in the Mirror of Hungarian Regulations
- 17.30 **Zoltán Varga** University of Miskolc, Hungary
Hungarian Pension Case before the European Court of Human Rights in 2011
- 17.45 *Summary*

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

Chairman: Roland SZILÁGYI *assoc. professor*

F: ECONOMIC CHALLENGES IN THE 21st CENTURY

VENUE: Institute Library, Bld. A/4 4th floor, 422/b.

Chairman: Beatrix VARGA *assoc. professor*

Secretary: Zoltán MUSINSZKI *assoc. professor*

Date: 20 April, 2017

- 14.00 **Fabian Schenk¹**, **György Kocziszky²** Fraunhofer Institute for Factory Operation and Automation IFF, Germany¹, University of Miskolc, Hungary²
Work and Effects of Research and Technology Organisations on Regional Development - Approach of a New Measuring and Describing Method
- 14.20 **Máté Pap** MOL Group, Hungary
How To Measure Country Risk: Market Indicators Versus Country Risk Ratings
- 14.40 **Orsolya Tóth** University of Miskolc, Hungary
Museum Marketing – Correlation Between the Visitor-Oriented Approach and the Determinants of Visiting a Museum
- 15.00 **Zoltán Musinszki, Anita Demény** University of Miskolc, Hungary
Financial Reports or Sustainability Reports?
- 15.20 **Zoltán Musinszki, Vivien Jakkel** University of Miskolc, Hungary
The Impact of Globalization on the Education of Accounting in Hungary
- 15.40 *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

Chairman: Ágnes MAGNUCZNÉ GODÓ *assoc. professor*

Co-Chairman: Judit SZABÓNÉ PAPP *assoc. professor*

Secretary: Viktória KOPASZNÉ LÁNG *research assistant*

Date: April 20, 2017

- 14.00 **Evelyn Fischer, David Weigert** Fraunhofer Institute of Factory Operation and Automation IFF
Magdeburg, Germany
*Concept of a Hybrid Experiment and Learning Environment for a Technology-Oriented
Employee Qualification*
- 14.20 **Mirjana Hladika, Gulin Danimir** Faculty of Economics and Business, University of Zagreb,
Croatia
Information Capacity of Cash Flow Statements - Do We Use it Enough?
- 14.40 **Marina Mićin, Perčević Hrvoje** Faculty of Economics and Business, University of Zagreb, Croatia
*Is There a Connection Between Investment Funds' Net Assets and Stock Indices? – Evidence
from the Croatian Capital Market*
- 15.00 **Eszter Bucher** University of Pécs, Hungary
Social Initiatives for the Creation and Keeping of Jobs
- 15.20 **Krisztina Varga** University of Miskolc, Hungary
Measuring Social Innovation and Competitiveness
- 15.40 *Break*
- 16.00 **Arzu Jabrayilzade** Corvinus University, Hungary
Turkish and Hungarian Political and Economic Relations in the Post Cold War Period
- 16.20 **Andrea Kovácsné Duró** University of Miskolc, Hungary
A Typical Method of the Assessment
- 16.40 **Tünde Bajzát** University of Miskolc, Hungary
International Students' Preconceptions of Hungarian Culture
- 17.00 **Ágnes Magnuczné Godó** University of Miskolc, Hungary
*Linguistic Rights, Language Policy Issues and Pedagogical Considerations in Relation to
English as a LinguaFranca: Introducing an Innovative Digital Course for English Majors*
- 17.20 **Erika Kegyes, Renáta Kriston, Róbert Skapinyecz** University of Miskolc, Hungary
The Role of Teaching Terminology in the Language of Logistics
- 17.40 **Judit Szabóné Papp** University of Miskolc, Hungary
How to Make a Digital ELT Course Material for Primary School Students Dyslexic-Friendly?
- 18.00 **Viktória Kopaszné Láng** University of Miskolc, Hungary
Political Scandals in American History
- 18.20 *Summary*

HEALTH AND MEDICAL SCIENCES SYMPOSIUM

Chairman: Géza NAGY *professor*

H: HEALTH AND MEDICAL SCIENCES

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

Chairman: Géza NAGY *professor*

Secretary: Éva DOJCSÁKNÉ KISS-TÓTH *research assistant*

Date: April 20, 2017

- 14.00 **Cristian Tinca, Marin Silviu Nan, Ioan Gigel Stanciu** University of Petrosani, Romania
Technical Research on Legal Approach of Collective Work Accidents in Jiu Valley Mining Exploitations
- 14.20 **Olga Kolomietc¹, Petruskina Nadezdha¹, Andrea Rucska², Emőke Kiss-Tóth², Judit Plachy²**
The Ural State University of Physical Culture, Russia¹, University of Miskolc, Hungary²
Tenage Pregnancy Medical and Biological Problems in Russian Federation
- 14.40 **Veronika Rajki, Mária Csóka** Semmelweis University, Hungary
Possibility of Objective Knowledge Level Measurement in Health Sciences Higher Education
- 15.00 **Andrea Rucska, Rita Garancz, Emőke Kiss-Tóth** University of Miskolc, Hungary
Aggression! Self-Assessment! Health?
- 15.20 *Break*
- 15.40 **Éva Dojcsákné Kiss-Tóth, Adrienn Juhászné Szalai, Bertalan Fodor** University of Miskolc, Hungary
Development of Lipid Base Nanoparticles as a Possibility of the Personalized therapy
- 16.00 **Annamária Mató-Juhász** University of Miskolc, Hungary
Individual Responsibilities for Health
- 16.20 **Éva Dojcsákné Kiss-Tóth, Márta Kerékgyártó, Emőke Kiss-Tóth, Bertalan Fodor**
University of Miskolc, Hungary
Liposomal Vitamin C as an Effective Tool for Saving Our Health
- 16.40 *Summary*

OPTIONAL PROGRAMME

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

Gala Dinner

19.00, 20 April 2017

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

Programme

19⁰⁰ - 19¹⁰	<i>Opening address by the Rector of the University of Miskolc</i>
19¹⁰ - 19²⁵	<i>Musical and visual block #1</i>
19²⁵ - 19³⁵	<i>Inauguration of the new honorary citizens of the conference</i>
19³⁵ - 19⁴⁵	<i>Musical and visual block #2</i>
19⁴⁵ - 21⁰⁰	<i>Dinner</i>
21⁰⁰ - 21¹⁰	<i>Musical and visual block #3</i>
21¹⁰ -	<i>Networking</i>