



University of Oradea

**Faculty of Managerial and
Technological Engineering**

Association for Integrated Engineering and
Industrial Management



**THE PROGRAM
of the
CONFERENCE
"IMT Oradea 2018"**

May 31st – June 01st
Felix SPA, Oradea
ROMÂNIA

THE PROGRAM of the CONFERENCE

Thursday, 31st May 2018

10:00-13:00 Registration

13:00-14:00 Lunch

15:00-20:00 Plenary Session

20:00-24:00 Friendly Dinner

Friday, 01st June 2018

9:00-14:00 Works on Sections

(11:00-11:20 Coffee Break)

14:00-15:00 Lunch

PLENUM

Thursday, May 31st, 2018

Hotel President, Room 1

Chairman *prof.dr.ing.habil. Tiberiu VESSELENYI*

15⁰⁰-15¹⁰

OPENING OF THE CONFERENCE

Alexandru-Viorel PELE

University of Oradea

15¹⁰-15²⁵

Doru BALDEAN, Dan MOLDOVANU and Adela-loana BORZAN

Technical University of Cluj-Napoca

**CONTRIBUTION TO EXPERIMENTAL RESEARCH OF ALTERNATE FUEL FUMIGATION
IN SINGLE CYLINDER RESEARCH DIESEL ENGINE**

15²⁵-15⁴⁰

Doru BALDEAN and Adela-loana BORZAN

Technical University of Cluj-Napoca

**CONTRIBUTIONS ON EXPERIMENTAL RESEARCH OF FUEL CONSUMPTION AND
MANAGEMENT SYSTEM IN K9K892 DIESEL ENGINE FROM DACIA-RENAULT**

15⁴⁰-15⁵⁵

Dan MOLDOVANU, Florin MARIAȘIU

Technical University of Cluj-Napoca

**NUMERICAL ANALYSIS OF THE INJECTION LAW INFLUENCE ON NOX EMISSIONS
FOR A COMPRESSION IGNITED ENGINE**

15⁵⁵-16¹⁰

Norbert BAGAMERI, Bogdan VARGA, Aron CSATO and Dan MOLDOVANU

Technical University of Cluj-Napoca

**COMPARATIVE ANALYSIS OF AUTOMATIC TRANSMISSION AND MANUAL TRANSMISSION
BEHAVIOUR ON THE WORLDWIDE HARMONIZED LIGHT DUTY TEST CYCLE**

16¹⁰-16²⁵

Norbert BAGAMERI, Bogdan VARGA, Aron CSATO and Dan MOLDOVANU

Technical University of Cluj-Napoca

**OPTIMIZATION OF SHIFTING STRATEGY FOR A DUAL CLUTCH TRANSMISSION
THROUGH MATHEMATICAL MODEL**

16²⁵-16⁴⁰

Dan MOLDOVANU, Florin MARIAȘIU, Norbert BAGAMERI

Technical University of Cluj-Napoca

**INFLUENCE OF SWIRL AND TUMBLE MOTION INSIDE THE COMBUSTION CHAMBER
OF A COMPRESSION IGNITED ENGINE ON VORTICES FORMATION**

16⁴⁰-16⁵⁵

SPONSOR TIME- HAHN KOLB ROMANIA SRL-

Eng. Radu Bothaza, Sales Representative: Bihor, Satu Mare,

16⁵⁵-17⁰⁰-

INTUITIVE METHODS IN TEACHING ROBOTICS - *Tiberiu VESSELENYI,*

Daniel PASCA

17⁰⁰-17²⁵

COFFEE BREAK

1725-1740

Judit T. KISS

University of Debrecen

EXAMINATION OF FISCAL EXPENDITURES ON EDUCATION AND RESEARCH AS HUMAN CAPITAL INVESTMENTS.

1740-1755

Dániel SALÁNKI, Kornél SARVAJ CZ

University of Debrecen

ANALYSIS OF GAIT RECOGNITION SYSTEM DEVELOPED IN NI LABVIEW

1755-1810

Gyula KORSOVECZKI, Géza HUSI and Timotei István ERDEI

University of Debrecen

THE MAINTENANCE, COMMISSIONING OF FANUC M-11A 0.5A TYPE SELECTING ROBOT AND IMPLEMENTATION OF IRVISION PICTURE-RECOGNIZING PROCEDURE

1810-1825

Tamás TEMPL OM¹, Timotei István ERDEI¹, Zsolt MOLNÁR^{1,*}, Edwin SHAW² and Géza HUSI¹

¹University of Debrecen,

DESIGNING A DELTA TRIPOD ROBOT BASED FUSED DEPOSITION MODELLING 3 DIMENSIONAL PRINTER USING AN OPEN-SOURCE ARDUINO DEVELOPMENT PLATFORM

1825-1840

Viktor VARGA, Timotei István ERDEI and Géza HUSI

University of Debrecen

REDESIGNING THE GRIPPING SYSTEM OF KUKA KR5 BY UTILIZING 3 DIMENSION PRINTING TECHNOLOGIES AND ARDUINO

1840-1855

István KOVÁCS, Kornél SARVAJ CZ

University of Debrecen

MODELLING AND SIMULATION OF A SERIES WOUND DIRECT CURRENT MOTOR USING ANSYS

1855-1910

Dávid DEZSŐ and Kornél SARVAJ CZ

University of Debrecen

MEASURING DRONE FLIGHT STABILITY USING COMPUTER VISION

1910-1925

Bence KOVÁCS, János TÓTH

University of Debrecen

HOMES OF THE FUTURE

1925-1940

Ahmet Mehmet KARADENIZ, Ammar ALSABBAGH and Geza HUSI

University of Debrecen

COMPARISON OF PROPORTIONAL, INTEGRAL, DERIVATIVE AND FUZZY LOGIC APPROACHES ON CONTROLLING QUARTER CAR SUSPENSION SYSTEM

1940-2000

Wadee KHOURY, Aram NASSER and Peter Tamas SZEMES

University of Debrecen

THREE PHASE INDUCTION MOTOR MODELING AND SPEED CONTROL USING VECTOR CONTROL IN LABVIEW

Wadee KHOURY and Peter Tamas SZEMES

University of Debrecen

ROBUST CONTROL SYSTEM DESIGN FOR A BRUSHED DC MOTOR USING LABVIEW SIMULATION LOOP

20⁰⁰-FRIENDLY DINNER

SECTION 1

MECHANICAL ENGINEERING AND AUTOMOTIVE

Friday, June 01th, 2018

Hotel President, Room 1

Chairman

Prof.dr.ing. Alexandru RUS

900-915

Cătălin ALEXANDRU

Transilvania University of Braşov

OPTIMIZING THE MECHANICAL DEVICE OF A MONO-AXIAL SUN TRACKING MECHANISM

915-930

Cătălin ALEXANDRU

Transilvania University of Braşov

OPTIMIZING THE CONTROL SYSTEM OF A SINGLE-AXIS SUN TRACKING MECHANISM

930-945

Dana LUCA MOTOC¹, Santiago Ferrándiz BOU² and Adrian Petru POP³

¹Transilvania University of Brasov

**THERMAL DEGRADATION AND STABILITY OF WOOD PARTICLE COMPOSITES
DEPLOYED AS DECORATIVE COMPONENTS**

945-1000

**Stelian ALACI¹, Florina-Carmen CIORNEI¹, Sorinel-Toderaş SIRETEAN¹,
Mariana-Cătălina CIORNEI² and Gabriel Andrei ŢIBU¹**

¹Stefan cel Mare University, Suceava

DYNAMICAL ANALYSIS OF A 2-DEGREES OF FREEDOM SPATIAL PENDULUM

1000-1015

**Jorge Segura ALCARAZ, José María Gadea BORRELL, Ernesto Juliá SANCHIS,
José Enrique Crespo AMORÓS, Isaac Montava BELDA, Sofia Rebagliato TORREGROSA**
Universitat Politècnica de València

**VIBROACOUSTICS AND PSYCHOACOUSTICS INVESTIGATION OF BIODEGRADABLE
COMPOSITES FOR MUSICAL INSTRUMENTS**

1015-1030

Géza LÁMER

University of Debrecen

CONTINUOUS AND DISCRETE MODELS IN THE MECHANICS OF DEFORMABLE SOLID BODIES

1030-1045

Ion BULAC

University of Pitești

**ALGORITHM FOR THE CALCULATION OF VIBRATION INHERENT FREQUENCIES BENDING
FROM TWO-SHAFTS TRANSMISSION WITH TECHNOLOGICAL DEVIATIONS**

1045-1100

Alexandru THIERHEIMER, Cătălin ALEXANDRU and Walter THIERHEIMER

Transilvania University of Braşov

**ASPECTS REGARDING THE EXPERIMENTAL RESEARCH OF THE STRESSORS OF THE
HUMAN PREGNANCY IN CASE OF ROAD EVENTS**

1100-1130

COFFEE BREAK

11³⁰-11⁴⁵

Ion BULAC

University of Pitesti

MATHEMATICAL MODEL FOR THE CALCULATION OF VIBRATION INHERENT FREQUENCIES AT BENDING FROM THREE-SHAFTS TRANSMISSION

11⁴⁵-12⁰⁰

Alexandru Ionut RADU¹, Corneliu COFARU¹, Bogdan TOLEA² and Dragoş DIMA¹

¹University "TRANSILVANIA" of Brasov

STUDY REGARDING THE INFLUENCE OF AIRBAG DEPLOYMENT TIME ON THE OCCUPANT INJURY LEVEL DURING A FRONTAL VEHICLE COLLISION

12⁰⁰-12¹⁵

Florina-Carmen CIORNEI¹, Stelian ALACI¹, Sorinel-Toderaş SIRETEAN¹ and Mariana-Cătălina CIORNEI²

¹Stefan cel Mare University, Suceava

AN IMPROVED MODEL FOR THE DAMPED IMPACT OF COMPOSITE MATERIALS APPLICABLE TO WIND TURBINE BLADES

12¹⁵-12³⁰

Florina-Carmen CIORNEI^{1,*}, Stelian ALACI¹, Sorinel-Toderaş SIRETEAN¹, Mariana-Cătălina CIORNEI², Ioan-Bogdan DRĂGOI¹ and Vlăduţ-Constantin LAZĂR¹

¹Stefan cel Mare University, Suceava

CONSIDERATIONS ON FINDING THE ROLLING AND SPINNING FRICTION COEFFICIENTS

12³⁰-12⁴⁵

Stelian ALACI¹, Florina-Carmen CIORNEI¹, Sorinel-Toderaş SIRETEAN¹ and Mariana-Cătălina CIORNEI²

¹Stefan cel Mare University, Suceava

GRAPHICAL-ANALYTICAL ANALYSIS OF THE MECHANISM WITH ROTATING CAM AND FLAT-FACE FOLLOWER

12⁴⁵-13⁰⁰

Lucian TARNU and Cristian DEAC

Lucian Blaga University of Sibiu

ANALYSIS OF THE EVOLUTION OF THE NUMBER OF FATAL ROAD ACCIDENTS IN ROMANIA

13⁰⁰-13¹⁵

Lucian TARNU and Cristian DEAC

Lucian Blaga University of Sibiu

CONSIDERATIONS ON THE RIGHT OF WAY AS CAUSE OF ROAD ACCIDENTS IN ROMANIA

13¹⁵-13³⁰

Corneliu COFARU, Mihaela Virginia POPESCU

Transilvania University of Brasov

RESEARCH ON COMBUSTION PROCESS OF GASOLINE HOMOGENOUS CHARGE COMPRESSION IGNITION ENGINE

13³⁰-13⁴⁵

Vlatko MARUŠIĆ, Predrag DAŠIĆ, Ivan OPAČAK

Mechanical Engineering Faculty in Slavonski Brod

THE POSSIBILITY OF EXTENDING WORK TIME OF TRIBOCOUPLE WELDING IMPROVED STAINLESS STEEL WITH IMPROVED CARBON STEEL

13⁴⁵-14⁰⁰

Raul TURMANIDZE, Predrag DAŠIĆ, and Giorgi POPKHADZE

Georgian Technical University

SELECTION CRITERIA OF OPTIMAL CHARACTERISTIC MATERIAL AND TECHNOLOGIES FOR PRECISION PROCESSING OF BASIC WORKING SURFACE OF HUMAN HIP-JOINT IMPLANT

14⁰⁰-15⁰⁰

LUNCH

SECTION 2

MECHATRONICS and ROBOTICS

Friday, June 01st, 2018

Hotel President, Room 2

Chairman

Conf. dr. ing. Sorin PATER

9⁰⁰-9²⁰

Cornel Cătălin GAVRILĂ and Mihai -Tiberiu LATEȘ

Transilvania University of Brasov

SNOW FENCE LOAD ON A HOUSE ROOF WITH TILES

9²⁰-9⁴⁰

Lenard JURJ and Radu VELICU

Transilvania University of Brasov

ON THE BENCHMARKING OF FRICTION IN TIMING CHAINS

9⁴⁰-10⁰⁰

Lenard JURJ, Radu VELICU and Radu SĂULESCU

Transilvania University of Brasov

GEOMETRY OF SILENT CHAIN - INVOLUTE SPROCKET

10⁰⁰-10²⁰

Radu PAPUC, Mihai-Tiberiu LATEȘ

Transilvania University of Brasov

THE COMPARATIVE STUDY OF THE STATIC FRICTION COEFFICIENT BETWEEN CHAIN LINK AND DIFFERENT TYPES OF POLYAMIDES

10²⁰-10⁴⁰

Cornel Cătălin GAVRILĂ and Radu SĂULESCU

Transilvania University of Brasov

DETERMINING THE OPTIMAL OPERATING PARAMETERS OF A WIND SYSTEM

10⁴⁰-11⁰⁰

Mariana RAȚIU¹, Alexandru RUS¹ and Monica Loredana BALAȘ²

¹University of Oradea

MODELING IN ADAMS OF A 6R INDUSTRIAL ROBOT

11⁰⁰-11²⁰

COFFEE BREAK

11²⁰-11⁴⁰

Daniela Mariana BARBU

Transilvania University of Brasov

ANDROID APPLICATION FOR OCULAR TRAINING IN AMBLYOPIA

11⁴⁰-12⁰⁰

Vlad Horațiu SÎRBU, Daniela Mariana BARBU

Transilvania University of Brasov

DEVICE FOR PERSONS WITH LOW VISION

12⁰⁰-12⁴⁰

Dan Ioan ȚARCĂ¹, Radu Cătălin ȚARCĂ² and Ioan Constantin ȚARCĂ²

¹Țarcă Dan Ioan, PFA, Oradea

INTERNET OF THINGS AND MACHINE PARTS LABORATORY

12⁴⁰-13⁰⁰

Roxana ANDREIAȘ and Daniela Mariana BARBU

Transilvania University of Brasov

MECHATRONICAL SYSTEM USED FOR THE RECOVERY OF MOTOR FUNCTIONS

13⁰⁰-13¹⁵

Komal D/o Shoukat Ali KHUWAJA¹, Brohi Arif ALI², Vlad O. MIHALCA¹ and Radu Cătălin ȚARCĂ¹

¹University of Oradea, ²MUET Jamshoro, Pakistan

AUTOMATIC FUEL TANK MONITORING, TRACKING & THEFT DETECTION SYSTEM

14⁰⁰-15⁰⁰

LUNCH

SECTION 3

MACHINES ENGINEERING and TECHONOLOGIES

Friday, May 31st, 2018

Hotel President, Room 3

Chairman

Prof.dr.ing. Florin Sandu BLAGA

9⁰⁰-9²⁰

Andjelija MITROVIĆ¹, Pavel KOVAČ², Nenad KULUNDŽIĆ², Borislav SAVKOVIĆ², Ildiko MANKOVA³
Visoka Škola Tehničkih Strukovnih Studija Čačak, Serbia
3D END MILLING FINITE ELEMENT THERMAL ANALYSIS

9²⁰-9⁴⁰

Florin BLAGA and Iulian STĂNĂȘEL
University of Oradea
STUDY OF FUNCTIONAL PARAMETERS OF A CONVEYOR BY MODELING AND SIMULATION

9⁴⁰-10⁰⁰

Iaroslav Francisc PIȘEC and Alin POP
University of Oradea
**CONTRIBUTION FOR INCREASING THE MANUFACTURING COMPANIES PRODUCTIVITY
USING A TRACKING AND PLANNING PRODUCTION PROGRAM**

10⁰⁰-10²⁰

Eugen PĂMÎNȚĂȘ and Felicia Veronica BANCIU
Politehnica University of Timișoara
A BRIEF OVERVIEW OF THE EVOLUTION AND TRENDS IN MAINTENANCE

10²⁰-10⁴⁰

Iulian STĂNĂȘEL, Florin BLAGA, Traian BUIDOȘ and Dan CRĂCIUN
University of Oradea
**REVERSE ENGINEERING AND CAD-CAM APPROACH FOR MANUFACTURING OF SPARE PARTS.
CASE STUDY**

10⁴⁰-11⁰⁰

Alina Maria GLIGOR and Valentin PETRESCU
Lucian Blaga University of Sibiu
**CONSIDERATIONS ON DETERMINING THE EXPLOSION RISK AND THE AREAS WITH EXPLOSION
HAZARD IN A NATURAL GAS COMPRESSOR STATION**

11⁰⁰-11²⁰

COFFEE BREAK

11²⁰-11⁴⁰

Alina Maria GLIGOR
"Lucian Blaga" University of Sibiu
CONSIDERATIONS ON THE AUTOMATION OF A NATURAL GAS COMPRESSOR STATION

11⁴⁰-12⁰⁰

Gavril GREBENISAN, Nazzal Salem, Sanda Bogdan
University of Oradea
LUBRICANTS PARAMETERS MONITORING AND DATA COLLECTING

12⁰⁰-12²⁰

Gavril GREBENISAN, Nazzal Salem, Sanda Bogdan

University of Oradea

AN APPROACH OF CLASSIFICATION AND PARAMETERS ESTIMATION, USING NEURAL NETWORK, FOR LUBRICANT DEGRADATION DIAGNOSIS

14⁰⁰-15⁰⁰

LUNCH

SECTION 4

MANAGEMENT and ECONOMICS in ENGINEERING

Friday, June 01st, 2018

Hotel President, Room 4

Chairman

Prof.dr.ing. Mircea Teodor POP

9⁰⁰-9¹⁵

Dan SĂVESCU

Transilvania University of Braşov

ASPECTS OF HUMAN BEHAVIOUR IN NEGOTIATION PROCESS

9¹⁵-9³⁰

Adriana BUJOR and Silvia AVASILCĂI

"Gheorghe Asachi" Technical University of Iasi

INNOVATIVE ARCHITECTURAL DESIGN DEVELOPMENT: THE ARCBAZAR CREATIVE CROWDSOURCING CONTESTS PERSPECTIVE.

9³⁰-9⁴⁵

Carmen-Elena STOENOIU

Technical University of Cluj-Napoca

SENSITIVITY OF INDICATORS USED IN COST-VOLUME-PROFIT ANALYSIS

9⁴⁵-10⁰⁰

Carmen-Elena STOENOIU, Ciprian CRISTEA

Technical University of Cluj-Napoca

COMPARATIVE ANALYSIS FOR ESTIMATING PRODUCTION COSTS

10⁰⁰-10¹⁵

Mariana RATIU¹ and Ioan-Florin OARGA²

¹University of Oradea

EDUCATION AND TRAINING IN ROMANIA ON OCCUPATIONAL SAFETY AND HEALTH IN THE OFFSHORE INDUSTRY

10¹⁵-10³⁰

Maria CRISTEA, Radu Adrian TÎRNOVAN, Ciprian CRISTEA, Constantin Sorin PICĂ and Cristian FĂGĂRĂŞAN

Technical University of Cluj-Napoca

A MULTI-CRITERIA DECISION MAKING APPROACH FOR PUBLIC LIGHTING SYSTEM SELECTION

10³⁰-10⁴⁵

Maria CRISTEA, Radu Adrian TÎRNOVAN, Ciprian CRISTEA and Constantin Sorin PICĂ

Technical University of Cluj-Napoca

A MULTI-CRITERIA DECISION MAKING APPROACH IN LIGHTING TECHNOLOGY SELECTION FOR A PRODUCTION HALL

10⁴⁵-11⁰⁰

Ciprian Cristea, Maria Cristea

Technical University of Cluj-Napoca

THE INFLUENCE OF DIVIDEND POLICY ON THE VOLATILITY OF SHARES IN THE ROMANIAN EQUITY CAPITAL MARKET

11⁰⁰-11¹⁵

COFFEE BREAK

11¹⁵-11³⁰

Lidia ALEXA and Silvia AVASILCĂI
"Gheorghe Asachi" Technical University of Iasi
THE REQUIREMENT ELICITATION PROCESS OF DESIGNING A COLLABORATIVE ENVIRONMENT – THE CRE@TIVE.BIZ CASE

11³⁰-11⁴⁵

Elena GĂLĂȚEANU (AVRAM) and Silvia AVASILCĂI
"Gheorghe Asachi" Technical University of Iasi
VALUE CO – CREATION THROUGH CROWDSOURCING: THE CASE OF SQUADHELP COMPETITION PLATFORM

11⁴⁵-12⁰⁰

Ioan-Florin OARGA¹, Mariana RAȚIU² and Ioan-Tudor OARGA¹
¹Technical University of Cluj-Napoca
OCCUPATIONAL HEALTH AND SAFETY RISK MANAGEMENT

12⁰⁰-12¹⁵

Felicia Veronica BANCIU, Eugen PĂMÎNȚAȘ
Politehnica University Timisoara
CHALLENGES IN ROMANIAN TECHNICAL HIGHER EDUCATION FROM THE PERSPECTIVE OF THE EUROPEAN REQUIREMENTS FOR ITS MODERNIZATION

12¹⁵-12³⁰

Gina-Maria MORARU and Daniela POPA
Lucian Blaga University of Sibiu
ABSORPTION OF MANAGEMENT KNOWLEDGE IN ROMANIAN SMALL AND MEDIUM-SIZED ENTERPRISES

12³⁰-12⁴⁵

Gina-Maria MORARU and Daniela POPA
Lucian Blaga University of Sibiu
STRATEGIC MANAGEMENT PROBLEMS IN ROMANIAN SMALL AND MEDIUM-SIZED ENTERPRISES

12⁴⁵-13⁰⁰

Olga BUCOVETCHI¹, Dorel BADEA² and Radu D. STANCIU¹
¹University "Politehnica of Bucharest"
BLOCKCHAIN TECHNOLOGY – A NEW APPROACH IN BUSINESS ENVIRONMENT

13⁰⁰-13¹⁵

Răzvan Mihai DOBRESCU, Cristina Petronela SIMION, Iuliana GRECU and Cristian Aurelian POPESCU
Politehnica University of Bucharest
STUDY ON THE DEGREE OF USE AND KNOWLEDGE OF DIGITAL MARKETING ELEMENTS IN ROMANIAN SMALL AND MEDIUM ENTERPRISES

13¹⁵-13³⁰

Delia Marcela POP, Mircea Teodor POP
University of Oradea
MEASURING THE INNOVATION OF ECONOMY THROUGH GLOBAL AND EUROPEAN TOOLS

13³⁰-13⁴⁵

Constantin BUNGĂU, Ion Cosmin GHERGHEA
University of Oradea
ANALYSIS OF SUPPORTING INDICATORS FOR INNOVATION IN ROMANIA COMPARED TO NEIGHBORING EU COUNTRIES

13⁴⁵-14⁰⁰

Mihai Victor ZERBES, and Liliana Georgeta POPESCU
Lucian Blaga University of Sibiu
STUDY ON IMPROVING SILICONE LOSSES IN THE PROCESS OF MIXING COMPONENTS OF SOLDERING MACHINES

14⁰⁰-15⁰⁰

LUNCH