



The 6th International Conference

INTER-ENG 2012

Interdisciplinarity in Engineering



CONFERENCE PROGRAM

**“Petru Maior” University of Tîrgu - Mureș
Faculty of Engineering**

www.inter-eng.upm.ro

4 - 5 October 2012
Tîrgu - Mureș, România

Committees

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Călin ENĂCHESCU

Rector of "Petru Maior" University of Tîrgu - Mureş, Romania

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President of Scientific Committee, Vice-rector of the "Petru Maior" University of Tîrgu -Mureş

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Local Organizing Committee

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Opening Ceremony

Thursday, October 4th; 10:00 – 10:45

Aula Magna

Welcome Addresses:

Prof.dr. Călin ENĂCHESCU – Rector of “Petru Maior” University of Tîrgu - Mureş

Prof.dr.ing. Liviu MOLDOVAN – Vice-rector of “Petru Maior” University of Tîrgu - Mureş

Conf.dr. Nicolae CHIRILĂ – Dean of the Faculty of Engineering

of the “Petru Maior” University of Tîrgu - Mureş

Plenary Session

Thursday, October 4th; 10:45 – 12:15

Aula Magna

S-phase for biomedical applications: An Interdisciplinary approach

dr. Joseph BUHAGIAR - University of Malta, Department of Metallurgy and Materials Engineering

Efficient correlation-based clustering of large vectors

dr. habil. László KOVÁCS, University of Miskolc, Department of Information Technology

Parallel Sessions

Thursday, October 4th; 14:00 – 16:30

Rooms: A307, A308, A310, A316

Parallel Sessions

Thursday, October 4th; 14:00 – 16:30

Rooms: A307, A308, A310, A316

Round-Table Workshop

Friday, October 5th; 10:30 – 12:00

Rooms: A412

Advanced Manufacturing Technologies
Room A308
Thursday, October 4th 2012; 14:00 – 16:30

Session chairs:

Liviu Moldovan – “Petru Maior” University of Tîrgu - Mureş
Máte Márton - Sapientia University, Tîrgu - Mureş

Method For Improoving Dinamic Properties of Large Moving CNC Machine Tool Components

Mihai Simon, Lucian Grama

Improoving Static Rigidity On Machine Tool Structure Using Concret Components

Mihai Simon, Lucian Grama, Macedon Ganea

Model Of A Single-Mass Vibrating Machine With Unidirectional Generating Force

Mircea Bogdan Tataru, Lucian Grama, Hadrian Marius Husar

Tensile Test Mechanical Identification of Composites Used In Car Building

Arina Modrea

Extracting Geometric Data From Catia Models

Ioan Mocian, Razvan Cazacu

Influence Of Heat Treatment On Quality of Milled Surface

Paul Sebastian Chetan, Vasile Bolos

Theoretical Modelization Of Ironing In A Multi-Layered Coated Steel

M.A. Selles, S. Sánchez-Caballero, E. Perez-Bernabeu

The Repartition Of The Cutting Speed By Shaving Using Axial Feed

Marton Mate, Denes Hollanda

Continuous Improvement Processes As A Tool For Performance / Process Performance Turnaround In Metallurgical Industry

Corneliu Gligor

New Learning Technology For Education In Engineering

Liviu Moldovan

Mobility Learning Methodology For Education Quality Improvement

Liviu Moldovan

Full Welded Wind Turbine-A New Way Of Thinking Wind Power

Adriana Marina

Advanced Manufacturing Techologies

Room A308

Thursday, October 4th 2012; 17:00 – 19:00

Session chairs:

Denes Hollanda - Sapientia University, Tîrgu - Mureş

Ligia Brezeanu – “Petru Maior” University of Tîrgu - Mureş

The Measurements And Alignment Of Fixture In A Cell Assembly For Car Body

Lucian Florin Mudura, Macedon Ganea

Principles To Align A Cell Assembly (Assembly Line) For Spot Welding Or Riveting Of Car Body

Lucian Florin Mudura, Macedon Ganea

A View Of Modern Design: Technical Solutions Applied To Consumer Goods.

Mircea Tero, Andrea Peterlicean

Novel Coatings For High Performance Cutting And Dry Machining

Gabriela Strnad, Paul Chetan

Corrosion Characteristics Of WC-Ni Cermet Brazing Coatings By Vacuum Sintering

Kang Yong Lee, Hyung Goun Joo, Da Quan Zhang

Improvement Of The Die Casting Molds Cavities By Ceramic Surface Treatment

Ferencz Peti, Lucian Grama, Ioan Solovăstru

D.M.A.I.C. And Six Sigma Tools Used In Conjunction With Metallurgical Conversion Process

Corneliu Gligor

The Medical Device Forming Study Based On Numerical Simulation Technologies

Alina Florentina Budai, Gheorghe Achimaş

Optimizing The Shape For Stamping of Short Parallelepiped Parts With Small Radiuses

Teodor Socaciu, Liviu Pop

Aspects Of Stamping Parallelepiped Parts With Big Radiuses In One Operation

Liviu Pop, Teodor Socaciu

Considerations Regarding The National And Regional Policies Which Are Relevant For Entrepreneurial Innovation SME's

Elena Rădulescu, Sorina Moica

Design, Analisis and Simulation of Gears and Transmissions

Room A307

Thursday, October 4th 2012; 14:00 – 16:30

Session chairs:

Kang Yong Lee -Dalian University of Technology, Liaoning

Vasile Boloş – “Petru Maior” University of Tîrgu - Mureş

The Studies of The Stress And Strains State of The Worm Face Gear With Reverse Tapered Pinion Generated In Operation, Using FEM Method: Part I - Worm Wheel Made Of BRONZE

Ligia Cristina Brezeanu, Bogdan Bucur

The Studies of The Stress And Strains State of The Worm Face Gear With Reverse Tapered Pinion Generated In Operation, Using FEM Method: Part II - Worm Wheel Made Of Cast Iron

Ligia Cristina Brezeanu, Bogdan Bucur

Researches Concerning Constructive and Technological Improvements of Automotive Gearbox Suspension Brackets

Ferencz Peti, Lucian Grama

The CAD-Analysis of The Contact By The Cylindrical Gears Having Archimedic Spiral Shaped Teeth

Ferenc Tolvaly-Roşca

Regarding On Generation Helical Cylindrical And Cone Surfaces With The Help of a Curve

Sorin Cristian Albu, Vasile Boloş

Aspects of Dual Lead Worm Face Gear Drive Kinematics

Ovidiu Ene, Vencel-Iosif Csibi, Doina Daniela Herciu, Ovidiu Ciucur, Mihai Sudrijan

Fields of Use For The Cylindrical Pinion-Face Gear Drive

Doina Daniela Herciu, Vencel-Iosif Csibi, Ovidiu Ciucur, Ovidiu Ene, Mihai Sudrijan

High Kinematic Precision Bevel Gears

Ovidiu Ciucur, Vencel-Iosif Csibi, Doina Daniela Herciu, Ovidiu Ene, Mihai Sudrijan

Research Concerning Influence of Worm Face Gear Finishing Process Upon Contact Pattern and Thermal Behavior

Ion Gavrilă, Vasile Boloş

Study On Behavior Of The Speed Reducer With Dual Worm Face Gear

Margareta Ciotea, Vasile Boloş

Bio and Ecological Techonologies

Room A307

Thursday, October 4th 2012; 17:00 – 19:00

Session chairs:

Nicolae Chirilă – “Petru Maior” University of Tîrgu - Mureş

Endre Ianos – “Politehnica” University of Timisoara

Studies And Research On The Characteristics Of Soils From Mures County With Different Content Of Heavy Metals

Florica Morar, Ioan Haşegan, Ildiko Baranyai

Study On Heavy Metal Content Of Drinking Water And Groundwater Polluted Industrial Areas

Florica Morar, Ioan Haşegan, Izabela Grama, Roxana Molnar

Integrated Waste Management - Contribution To Sustainable Development In Chemical Industry

Hansotto Drotloff

Industrial Design's Contribution To The Expansion Of The Garbage Collection Site At The Edge Of The City

Andrea Peterlicean, Mircea Tero

Multiresidue Analysis Of 70 Pesticides From Soil By Gas Chromatography–Time-Of-Flight Mass Spectrometry GC TOF -MS

Adela Meghesan–Breja, Florica Morar

Management Of Registration For Environmental Impact

Cosmin Petra

Methods Of Reducing Corrosion Potential Of Demineralized Water

Nicolae Chirila

Research Regarding The Water Quality, Potential Drinkable, From Mures County

Nicolae Chirila

Electronic Labeling For Home Appliances

Viorica Klein, Marius Sebastian Rusu

Safety Aspects Of The Water Treatment Systems For Medical Utilization

Endre Ianosi

Psyllium-Based Hybrid Nanomaterials Containing TiO₂ Nanoparticles for Drug Delivery of Aspirin

Marcela-Corina Roșu, Ioan Bratu

Risk Assessment Of Driving Adaptations For Disabled People

S. Sanchez-Caballero, M.A. Selles, A.V. Martínez Sanz, M.J. Olcina

The Contradictions Between Energy Efficiency And Sustainability

Dumitru Soaita

Risk Minimization Systems And Methods In The Supliance Of Renal Function

Endre Ianosi

The Green Energy - A Way Of Reconciliation Between Economic Growth And Environmental Protection

Dumitru Soaita

Innovative Concepts for Human Development and Professional Development in an Eco-Entrepreneurial University

Avram Tripon, Petruța Blaga

Control systems technology

Room A310

Thursday, October 4th 2012; 14:00 – 16,30

Session chairs:

Mircea Dulău – “Petru Maior” University of Tîrgu - Mureş

Katalin György – Sapientia University, Tîrgu - Mureş

Modeling And Simulation Of Static Var Compensator Fuzzy Control For Power System Enhancement

Stelian-Emilian Oltean, Mircea Dulau, Adrian-Vasile Duka

Adaptive Control Of Static Var Compensator

Stelian-Emilian Oltean

Control Strategies For Level Processes

Mircea Dulau, Stelian-Emilian Oltean, Adrian-Vasile Duka

Mobile Robot Control System

Marius Sebastian Rusu

Applying The Extended And Unscented Kalman Filters For Nonlinear State Estimation

Sándor Papp, Katalin György, András Kelemen, László Jakab-Farkas

Robust Control Of A Heat Exchanger Using A Smith Predictor

Adrian-Vasile Duka, Mircea Dulau, Stelian-Emilian Oltean

Inductive And Radiative Temperature Gradient Analysis For A Living Space

Alexandru-Gabriel Gurgu, Nicolae Vasile

Modeling Of Dynamic And Partial Pressures In Reactive Sputtering Processes

Albert-Zsombor Fekete, Sándor Papp

Fault-Tolerant Safety Concept For Human Robot Interaction

Akos Csiszar, Cornel Brisan

Steady-State Analysis Of Voltage Stability By Reactive Participation Factor

Dorin Bica

Optimal Design Of A Photovoltaic Rural Road Lighting System

Dumitru Cristian-Dragos, Gligor Adrian

Control systems technology

Room A310

Thursday, October 4th 2012; 17:00 – 19:00

Session chairs:

Katalin Agoston – “Petru Maior” University of Tîrgu - Mureş

Stelian-Emilian Oltean – “Petru Maior” University of Tîrgu - Mureş

Subband Filtering In Ecg Signal Denoising

Zoltan German-Sallo

Accelerometer Characteristics, Errors And Signal Conditioning

Katalin Agoston

Economical, Nonintrusive Ventilation

László Molnár, Győző Nemes

Indoor Thermal Comfort And Energy Consumption In A Romanian Apartament

Vlad Muresan, Radu Balan, Nicolae Matis, Radu Donca

Management Issues Power Quality In Distribution System

Daniel Bălan

Cmac Automatic Halogen Daylight Control System With Inverse Process Neural Modeling

Horatiu-Stefan Grif

Adaptive Neural Control System

Horatiu-Stefan Grif

Scada Application For Solar Energy Conversion Efficiency Used In Water Heating Application

Dumitru Cristian-Dragos, Gligor Adrian

One Channel Microstepping Motor Driver Board

Alexandru Morar, Zsolt-Albert Barabas

Five Phase Stepping Motor Drive Vith Dedicated Ic

Zsolt Albert Barabas, Alexandru Morar

Modelling, Simulation And Robust Analysis Of The Temperature Process Control

Mircea Dulău, Adrian Gligor, Horatiu-Stefan Grif

IT&C Advanced Technologies

Room A316

Thursday, October 4th 2012; 14:00 – 16,30

Session chairs:

Piroska Haller – “Petru Maior” University of Tîrgu - Mureş

Sándor Tihamér Brassai – Sapientia University, Tîrgu - Mureş

PLC Implementation Of A Fuzzy System

Adrian-Vasile Duka

FPGA Based Image Preprocessing

Ferenc-Emil Mozes, Zoltan German-Sallo

Intelligence In Mobile Robot Navigation

Sándor Tihamér Brassai, Lajos Losonczi, László Ferenc Márton, László Bakó, Barna Iantovics, Călin Enăchescu

FPGA Based Implementation Of Wavelet Convolution

Sándor Tihamér Brassai, László Bakó, László Ferenc Márton, Zoltán Germán-Salló, Lajos Losonczi

Technical Signal Processing With Application In EEG Channels Correlation

László-Ferenc Márton, Sándor-Tihamér Brassai, Zoltán Germán-Salló, László Bakó, Lajo Losonczi

Middleware For Heterogeneous Subsystems Integration In Health Care Services

Piroska Haller, Andrei Bica, Ioan-Cosmin Szanto

Cyber-Physical Attacks: The Role Of Network Parameters

Bela Genge, Christos Siaterlis

Hilbert-Huang Transform Used For EEG Signal Analysis

Lajos Losonczi, László Bakó, Sándor-Tihamér Brassai, László-Ferenc Márton

Neural Network Parallelization On FPGA Platform For Eeg Signal Classification

Laszlo Bako, Ervin Gyorgy-Mozes, Sandor-Tihamer Brassai, Lajos Losonczi, Laszlo-Ferenc Marton

Complex Data System For Monitoring Oral Complications In Children

Cristina Bica, Dorin Bica

Some Aspects Of Computer Aided Engineering Techniques In Orthodontic Treatment

Claudia Şoaita, Sorin Popşor

IT&C Advanced Technologies

Room A316

Thursday, October 4th 2012; 17:00 – 19:00

Session chairs:

Adrian-Vasile Duka – “Petru Maior” University of Tîrgu - Mureş

Diana Mărginean-Petrovai – “Petru Maior” University of Tîrgu - Mureş

Positive Measures And Outer Measures On A Σ -Algebra Of Sets

Diana Marginean Petrovai

The Most Important Examples Of Outer Measures

Diana Marginean Petrovai

Monitoring Of Cold Water Meters In The Blocks Of Flats In Oradea

Aurel Cristian Botis, Ioan Mihaila

Adapted Delphi Consultation To Elaborate A Questionnaire For Measuring The Usage Of Different Telecommunication Services

László Molnár, Iuliu Székely

Application For Archiving The Documents Of A Budget Execution

Ioan Mocian, Razvan Cazacu

The Algorithm For Delay Differential Equation

Nicola Oprea

Adapting Filtering Of EEG Signals

Janos Szalai

Extrapolation Methods

Nicola Oprea

Round-Table Workshop
Room A412
Thursday, October 5th 2012; 10:30 – 12:00

Report on plagiarism and counterfeiting

prof. dr. ing. Tudor Inclănzan - "Politehnica" University of Timisoara