

Program of IManEE 2019



INNOVATIVE
MANUFACTURING
ENGINEERING
& ENERGY
INTERNATIONAL
CONFERENCE

**The 23rd edition of
Innovative Manufacturing Engineering & Energy
International Conference**



**University of Pitești, Romania
22-24 May 2019**



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MANUFACTURING
ENGINEERING
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**The 23rd edition of
Innovative Manufacturing Engineering & Energy
International Conference**

***50 Years of Higher Technical Education
at the University of Pitesti***



University of Pitești



University of Pitești is a state multi-disciplinary university, founded in 1962. It now has over 9.000 students and approximately 400 teaching and administrative staff. It consists of 6 different faculties offering Bachelor, Master and Doctor Diplomas (www.upit.ro). The areas in which our university is active and delivers services are: education & training; scientific & applicative research; guidance & counselling; professional orientation; international cooperation in different fields; publishing activities.



Founded in 1969, the **Faculty of Mechanics and Technology** currently offers, within the Engineering Science fundamental study field, four Bachelor degree programs, six Master and Doctoral programs in four core areas of Doctoral Science. The Faculty has proven its competence in the professional training of many generations of specialists through the transfer of knowledge, the contribution to the enrichment of the knowledge heritage and to the development of the performance met by academic and research staff. The Faculty has a teaching staff consisting of 10 university professors, 10 assoc. professors and 17 lecturers.

In terms of study programs, the Faculty combines the Engineering profile with the Economic one, aiming at modular flexibility of study programs within the same field. Endowment with the necessary materials allows orientation towards scientific training and towards top research, aiming to develop academic Education through Master and Doctoral studies.



Manufacturing and Industrial Management Department is part of **Faculty of Mechanics and Technology** and was founded in 1969. Since then, it has been actively participating in the development of the Romanian technical higher education. Its prestige is owed to the 50-year-long teaching activity and scientific research of competent department staff who, together with its graduates, have managed to make the existence of such a department in University of Pitești. Currently, the activity of the Department Manufacturing and Industrial Management is conducted on all the three levels of academic training (Bachelor or Licence, Master and Doctorate).

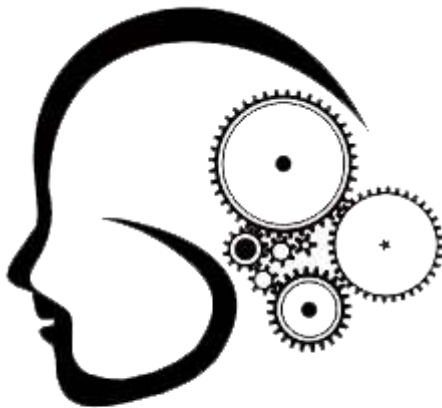
The primordial mission of the department is to offer high quality education with the purpose of developing the students' specific technical knowledge, intellectual capacities, and moral character, as essential premises for the creation of a professional elite. At the same time, the Department Manufacturing and Industrial Management takes the responsibility to conduct high-level scientific research in order to disseminate authentic engineering culture, as a condition for social and economic progress.

University of Pitești

www.upit.ro

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INNOVATIVE MANUFACTURING ENGINEERING AND ENERGY
INTERNATIONAL CONFERENCE

Innovative – incorporate new and/or different processes or ways of thinking.

Manufacturing engineering deals with different manufacturing practices, research and development of systems, processes, machines, tools and equipment that turn raw materials to a new product.

www.imane.ro

FOREWORD

The 23rd edition of Innovative Manufacturing Engineering & Energy International Conference (IManEE 2019) is the result of a collaboration between the Department of Manufacturing and Industrial Management of the University of Pitești (Romania) and the Department of Manufacturing Engineering of the “Gheorghe Asachi” Technical University of Iași (Romania).

The first conference was organized in May 1996 at Iași and, since 1999, the conferences have been organized alternately, in Iași and Chișinău, by the collaboration of the Machine Manufacturing Departments from the “Gheorghe Asachi” Technical University of Iași (Romania) and from the Technical University of Moldova from Chisinau (Republic of Moldova). By considering the new trends and requests valid in the field of manufacturing engineering from the entire world, starting from 2013, the name of the conference was changed in „Innovative Manufacturing Engineering” and later in „Innovative Manufacturing Engineering and Energy”. Over the last few years, other departments from universities in Romania (Brașov, București, Cluj, Galați and Pitești) or other countries (Serbia, Greece) have been involved in organizing the conference.

It is the first time this conference is hosted by University of Pitești, being for the fifth time when the Manufacturing and Industrial Management Department is involved in organizing this conference. This event takes place in the year when Faculty of Mechanics and Technology of the University of Pitești celebrate 50 years from its foundation, representing a recognition of her prestige. The prestige enjoyed by the Faculty of Mechanics and Technology is the result of the didactical and scientific research activities carried out by competent teachers who, together with the graduates, managed to make known on a national and international level the existence of a technical faculty in Pitești, closely related to the automotive industry.

The process of submitting and reviewing of the conference papers has been managed using the EasyChair platform (<https://easychair.org>). The conference has benefited of support of 86 reviewers, from 10 countries, each paper being reviewed by two or three reviewers. Finally, over 140 papers were selected by the Scientific Committee of the over 210 papers proposed to be presented at the IManEE 2019 International Conference. The authors of the accepted papers come from Universities and Research Institutes from 14 countries such as Algeria, Bulgaria, France, Germany, Greece, Iraq, Israel, Moldova, Norway, Poland, Romania, Russia, Slovakia and Ukraine.

The IManEE 2019 International Conference is structured in ten sections which cover most of the manufacturing engineering domains, but also some areas specific to automobile and transport engineering and energy.

We hope the IManEE 2019 Conference will be a good opportunity to change information of mutual interest in the above-mentioned fields and for new collaborations among participants to develop that will lead to joint research projects for the benefit of all.

The organizing committee wishes all the participants to be successful and expresses conviction that we will have the opportunity to meet again at University of Pitești at other future IManE&E conference editions.



INNOVATIVE
MANUFACTURING
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INTERNATIONAL
CONFERENCE

Professor Eduard Laurențiu NIȚU,
Conference Chair,
Vice-rector for Scientific Research and Informatization
University of Pitești, Romania

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Interdisciplinary Doctoral School, *University of Pitești, Romania*
Department of Manufacturing Engineering, "*Gheorghe Asachi*" *Technical University of Iași, Romania*

Conference Chair:

Prof. Eduard Laurențiu **NIȚU**, PhD, Vice-rector for Scientific Research and Informatization of the U of Pitești, Romania

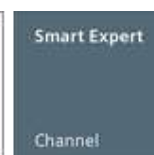
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PARTNERS



CONFERENCE PROGRAM at a GLANCE

WEDNESDAY, 22nd of May (University of Pitești, Restaurant Academica, str. Tg. din Vale nr. 1)

18h00 – 20h00 Welcome Cocktail & registration of participants

THURSDAY, 23th of May (University of Pitești, Central building – First Floor, str. Tg. din Vale nr. 1)

07h45 – 09h00: Registration

09h00 – 09h30: Opening Festivity and Welcome Speech (Festivities hall)

09h30 – 11h00: Plenary Session, 1st part (Festivities hall)

- **Elizabeth BAUER GROSSE**, Université de Lorraine, Institut Jean Lamour, France
Study on the diamond's role in manufacturing engineering and in energy
- **Alexandru SOVER**, Hochschule Ansbach, University of Applied Sciences, Germany
Paint Removal Technologies from Thermoplastic Materials
- **Birgit Kjærside STORM**, Embla/Aalborg University, Denmark
Recycling of Plastics – a case story about circular economy
- **Arik SADEH**, Technology Management Faculty - HIT Holon Institute of Technology, Israel
Optimal Dynamic Pricing of Quality Based Products under Stochastic Preferences

11h00 – 11h30: Photo session & Coffee Break

11h30 – 13h15: Plenary Session, 2nd part (Festivities hall)

- **Toufik BOUDOUH**, University Bourgogne Franche-Comté, UTBM, France
Reengineering of the design process: An industrial case
- **Gilles SCIBERRAS**, Director of vehicle production engineering Romania, Renault-Nissan-Mitsubishi, Romania
Digitization of production engineering
- **Liviu BIDIAN**, Manager Supply Chain Global Leoni WSD, Romania
Nowadays supply chaining
- **Céline MORIN**, ENSIAME - University of Valenciennes, France
Multi-physics and multi-scale characterization of a biomass micro-CHP unit

13h15 – 14h30: Lunch Break (Restaurant Academica)

14h30 – 16h00: Simultaneous activities

- Oral presentations on sections E, F, I and J
- Workshops (UPIT Library):
 - *NX Ideal Solution for CAD / CAM (ADA Computers)*
 - *Implementation of additive technologies in the manufacture of complex and overloaded components (PN-III-P1-1.2-PCCDI-2017-0224/77 PCDI/2018 within PNCDI III)*
 - *Trends in training of the students in manufacturing engineering*

16h00 – 16h30: Coffee Break

16h30 – 19h00: Simultaneous activities

- Oral presentations on all sections (A - J)

20h00: Dinner (Restaurant Hotel Victoria)

FRIDAY, 24th of May (University of Pitești, Central building – First Floor, str. Tg. din Vale nr. 1)

09h00 – 10h45: Simultaneous activities

- Oral presentations on sections A - E and G - I

10h45 – 11h00: Coffee Break

11h00 – 12h00: Final Discussions, Conclusions and Award Ceremony (Festivities hall)

12h00 – 13h00: Lunch Break (Restaurant Academica)

13h00 – 17h00: Simultaneous activities (based on inscriptions)

Technical visit: DACIA factory (Mioveni) (1 group, 30 persons)

or

Touristic programme: Visit to the Golesti Museum (<https://www.muzeulgolesti.ro/en/fr>)

www.imane.ro

CONFERENCE PROGRAM – Oral Presentations

THURSDAY, 23th of MAY

E. Design and Analysis, CAD/CAM/CAE/CAX Technologies, Flexible Manufacturing,
Automation and Robotics in Technological Processes

14h30 – 16h00, Room T 121

CHAIRPERSONS: Mirosław SZCZEPANIK and Doru-Nicolae STĂNESCU

IManEE 2019_006	Analysis and impact of different ambiguities in industrial technical product drawings <i>R Oezden, M S Popa, M Aclan and S Danho</i>
IManEE 2019_074	Analysis of shape deviations of technical polyamide workpieces in different defined time intervals <i>M Aclan, M S Popa, R Oezden and S Danho</i>
IManEE 2019_035	Survey on the kinematics of a 6RSS parallel robot based on manipulability indices <i>L Milica, A Năstase and G Andrei</i>
IManEE 2019_101	A comparative study about some application packages used in Photogrammetry <i>D Nedelcu, G-R Gillich and C Malin-Tatian</i>
IManEE 2019_185	A method of inserting symbol matrix on the workpiece sketch and assembling a device <i>A Babă and M Bâldea</i>
IManEE 2019_202	State machines simulator for distributed decision system <i>T Savu and B A Jugravu</i>

THURSDAY, 23th of MAY

F. Mechanical and Manufacturing Equipment, Devices and Instrumentation

14h30 – 16h00, Room T 105

CHAIRPERSONS: Stoyan SLAVOV and Radu IBĂNESCU

IManEE 2019_079	Increase of compliance of shock absorbers with cut shells <i>I Shatskyi and A Velychkovych</i>
IManEE 2019_080	Modelling and improvement of the design of hinged centralizer for casing <i>I Shatskyi, I Vytvytskyi, M Senyushkovych and A Velychkovych</i>
IManEE 2019_094	Methods for modernization of processing equipment <i>M D Iordache, A Costea, C Malea, E Nitu and A Rizea</i>
IManEE 2019_095	Vibrodynamic mechanism control automation in soil compacting machine <i>A F Tikhonov</i>
IManEE 2019_175	Experimental study of acoustic performances of reactive engine mufflers <i>C Bujoreanu, A Tufescu, M Benchea and G Ianuş</i>
IManEE 2019_178	Making a device for forced crystallization in magnetic and electric environment <i>L Mândrea, C Constantinescu and Z Marosy</i>

THURSDAY, 23th of MAY
I. Automotive and Transport Engineering

14h30 – 16h00, Room T 019

CHAIRPERSONS: Céline MORIN and Ștefan TABACU

IManEE 2019_004	Vertical bending vibration analysis of the car body of railway vehicle <i>M Dumitriu and D I Stănică</i>
IManEE 2019_005	Numerical study on the influence of primary suspension damping on the bogie vertical vibration <i>M Dumitriu and M A Gheți</i>
IManEE 2019_017	CFD study of aerodynamic sensitivity to air deviation angle for a hatchback vehicle <i>L Ilea, D Iozsa, C Stan and G Fratila</i>
IManEE 2019_040	The influence of multi-speed transmissions on electric vehicles energy consumption <i>C Rențea, M Oprean, M Bățăuș and G Frățilă</i>
IManEE 2019_042	Study of longitudinal dynamics in the case of a train which does not have all the vehicles with active brake <i>C I Crăciun, C Cruceanu and M A Spiroiu</i>
IManEE 2019_059	Study on setting the structural components of the front compartment of the car body <i>A M Manea, M D Iozsa, C Stan and V C David</i>

THURSDAY, 23th of MAY

J. Smart Grids, Energy Efficiency in Buildings, Energy systems and energy management, Energy policies, Environmental technologies and studies, Renewable energy technologies and energy saving materials

14h30 – 16h00, Room T 221

CHAIRPERSONS: Dariusz SUSZANOWICZ and Victorița RĂDULESCU

IManEE 2019_122	Technical potential of crop production wastes as energy resource for agricultural regions of Russia <i>A A Tulegenova, T I Andreenko and Y Rafikova</i>
IManEE 2019_136	Numerical investigation for high lifetime solar-powered airport signal unit development <i>A B Tarasenko and A A Fedotov</i>
IManEE 2019_170	Prediction of the atmospheric boundary layer in wind power plants by proper selection of the main air parameters <i>V Radulescu</i>
IManEE 2019_201	Influence of the masts perturbations and atmospheric parameters on wind turbines efficient functioning in power farms <i>B A Radulescu and V Radulescu</i>
IManEE 2019_205	Identification of the best location for an environmental friendly small hydropower plant <i>A Moldoveanu and D Popescu</i>

THURSDAY, 23th of MAY

A. Advanced Machining and Surface Engineering

16h30 – 19h00, Room I 120

CHAIRPERSONS: Angelos P. MARKOPOULOS and Gabriel FRUMUȘANU

IManEE 2019_002	The quality of the machined surface of an aluminum alloy depending on the cutting depth variation <i>A M Țițu and A B Pop</i>
IManEE 2019_003	Influence of the feed per tooth variation on the surface roughness at end milling of an aluminum alloy <i>A B Pop and A M Țițu</i>
IManEE 2019_009	The influence of inclination of the axis of the toroidal tool on a flat surface roughness <i>A R Oșan, M Bănică and V Năsui</i>
IManEE 2019_019	Technological investigation of binderless nanocrystalline cubic boron nitride (BNNC) as cutting material for groove turning of hardened steels <i>A Hänel, M Hasterok, A Nestler, M Schwarz, A Brosius and E Kroke</i>
IManEE 2019_039	Algorithms for modeling the load of teeth from pinion cutter tool used at worms machining <i>M Bordeanu, G Frumusanu and N Oancea</i>
IManEE 2019_053	Investigation the influence of surface topography on scattering ability of aluminium reflectors from infrared quartz heater <i>S D Slavov, D M Dimitrov and P N Zlateva</i>
IManEE 2019_076	Research in order to decrease the time manufacturing unit using the combined tools <i>C I Indre, F S Blaga, C Miculaș, D C Negrau</i>
IManEE 2019_083	Examination of the influence of cutting conditions on nano-metric face milling using MD models <i>N E Karkalos and A P Markopoulos</i>

THURSDAY, 23th of MAY

B. Assembling Technologies, Forming Technologies, Additive Manufacturing

16h30 – 19h00, Room I 125

CHAIRPERSONS: Rodion CIUPERCĂ and Gheorghe NAGÎȚ

IManEE 2019_037	Studies on the influence of design parameters on the behaviour at shock of 3D-printed components fabricated by fused deposition modelling <i>D C Anghel, A D Rizea, D M Iordache, M L Beșliu-Gherghescu and A G Plăiașu</i>
IManEE 2019_088	Using of additive technologies in fabrication of casting models <i>D Besnea, C Rizescu, E Moraru, I Panait, D Rizescu and E Dinu</i>
IManEE 2019_135	Research on manufacturing of pyramidal frustum parts using single point incremental forming process <i>D Nasulea and G Oancea</i>

**IManEE
2019_191**

**Robust design application for optimizing ABS fused filament fabrication process:
A case study**
A Tsiolikas, T Mikrou, F Vakouftsi, K E Aslani and J Kechagias

**IManEE
2019_197**

**An internal combustion engine visualization physical prototype applying digital
manufacturing**
K Kitsakis, K E Aslani, N Vaxevanidis and J Kechagias

THURSDAY, 23th of MAY

C. Non-Conventional Technologies in Manufacturing, Welding Technologies

16h30 – 19h00, Room T 123

CHAIRPERSONS: Alexandru ȘOVER and Mihai BĂNICĂ

**IManEE
2019_065**

**Measuring the length of a spiral when evaluating the plastic processability by
injection molding**
A Hrituc, G Nagîț, O Dodun and L Slătineanu

**IManEE
2019_066**

Computational fluid dynamics in RTM method of the carbon composites molding
P Paździor and M Szczepanik

**IManEE
2019_073**

Research on the process of paint removal from thermoplastic materials by laser
A Sover

**IManEE
2019_103**

Numerical simulation of friction stir welding of pure copper plates
M A Constantin, A Boșneag, E Nitu, M Iordache and C Bădulescu

**IManEE
2019_133**

Continuously pulsed electric field treatment chamber modelling and design
I Shorstkii, M Sosnin and D Khudyakov

**IManEE
2019_134**

Numerical simulation of Friction Stir Welding of three dissimilar aluminium alloys
A Boșneag, M A Constantin, E L Nitu, M D Iordache and C Bădulescu

**IManEE
2019_141**

**Tensile properties of friction stir welding of three dissimilar aluminium alloy,
AA7075, AA2024 and AA6061 versus process parameters**
J C Grigore, A Boșneag and C Bădulescu

**IManEE
2019_181**

**Investigation of the abrasion resistance of stainless-steel composites with Al₂O₃
reinforcement phase produced by using the capillary forming method**
D Spasova

THURSDAY, 23th of MAY

D. Advanced Materials

16h30 – 19h00, Room I 134

CHAIRPERSONS: Elizabeth BAUER GROSSE and Gabriela STRNAD

**IManEE
2019_058**

Development and characterization of starch – based nanocomposite materials
M Zoumaki, D Tzetzis and G Mansour

**IManEE
2019_068**

Study on the diamond's role in manufacturing engineering and in energy
E Bauer Grosse

IManEE 2019_114	Surface modification to develop hierarchical micro/nano topography on titanium based medical implants <i>G Strnad, L Jakab-Farkas, R Cazacu, O Russu and C Petrovan</i>
IManEE 2019_118	Study of the opto – electronic coupling in some complementary metallic – dielectric metamaterials used as biosensors <i>D Ionescu and G Apreotesei</i>
IManEE 2019_182	Elaboration and characterization of TiO2 coatings produced by micro-arc oxidation process <i>M M Dicu, L I Neblea, P C Dicu and C Ducu</i>
IManEE 2019_207	Influence of thermal shocks at high temperatures on microstructure and hardness of RENE 41 alloy <i>E Ungureanu (Arva), D-C Anghel, A D Rizea, D Negrea, A G Plaiășu, V Rizea, M M Dicu, C M Ducu and M Abrudeanu</i>

THURSDAY, 23th of MAY

E. Design and Analysis, CAD/CAM/CAE/CAX Technologies, Flexible Manufacturing, Automation and Robotics in Technological Processes

16h30 – 19h00, Room T 121

CHAIRPERSONS: Mirosław SZCZEPANIK and Tom SAVU

IManEE 2019_025	Stress/Strain analysis in the bogie in linear motion <i>I Blanari and V Goanta</i>
IManEE 2019_043	Cost reduction of the motor beam design <i>M Kalinowski, M Szczepanik</i>
IManEE 2019_057	Path planning optimization for mechatronic systems with the use of genetic algorithm and ant colony <i>A Tsagaris, G Mansour</i>
IManEE 2019_072	Experimental approach and finite element analysis of the behavior of a steel bending tool <i>D C Negrău, C I Indre, G Grebenișan</i>
IManEE 2019_159	Software instrument used as interface in the design of technical installations <i>L Popa and V Popa</i>
IManEE 2019_194	Design and analysis of side dump bucket for wheel loader using CAD/CAE/CAM technologies <i>C Debeleac</i>
IManEE 2019_206	Influence of the cutting precision of the cams on the dynamic performances of the cam mechanisms <i>D Popa, C M Popa and N D Stănescu</i>
IManEE 2019_214	Determination of the load factor between screw and flange in screw connection realized with C-rail <i>M Kalinowski and M Szczepanik</i>

THURSDAY, 23th of MAY

F. Mechanical and Manufacturing Equipment, Devices and Instrumentation

16h30 – 19h00, Room T 105

CHAIRPERSONS: Stoyan SLAVOV and Gheorghe OANCEA

IManEE 2019_020	Determining the state of stress in the narrow section of Arcan test specimens, by the FEM method <i>N A Danila, I Blanari and P D Barsanescu</i>
IManEE 2019_022	Structural health monitoring of critical zones of small wind turbine blades for domestic users <i>A Savin, N Iftimie, S M Nastac and M D Stanciu</i>
IManEE 2019_026	Choice of truck for installation of concrete pump and distribution boom <i>Y V Koshkarev and M A Stepanov</i>
IManEE 2019_036	Personification of criterial resource validation and scientific and technical support for the life cycle of vertical transport <i>A Prusov, N Sevryugina and A Ovsienko</i>
IManEE 2019_063	Particular features of the load-bearing elements of rigging lifting systems <i>A Verschinskiy, P Gorokhov and A Shubin</i>
IManEE 2019_067	Stiffness design of machine tools structures by topology management optimization approach <i>D M Dimitrov, S D Slavov and K K Yordanov</i>
IManEE 2019_155	Analysis of the influence of the aspect ratio on the vertical axis wind rotor performance <i>I Rabei and M Guțu</i>
IManEE 2019_189	The error assessment in case of using two models for the displacement of a linear spring <i>R Ibanescu and M Ibanescu</i>
IManEE 2019_190	Adaptive drive and adaptive mechanisms of technological machines <i>M A Lemeshko, A V Kozhemiachenko and A G Iliev</i>

THURSDAY, 23th of MAY

G. Innovation, Creativity, Learning and Education in Engineering

16h30 – 19h00, Room T 103

CHAIRPERSONS: Adam GÓRNY and Oana DODUN

IManEE 2019_050	Study to increase the quality of the scientific research process <i>S S Ghimisi and D Nicula</i>
IManEE 2019_071	Analysis as the starting point for the development of scientific research <i>B Oroian, I Condrea, A Hrițuc, C Botezatu, M Ețcu, and L Slătineanu</i>
IManEE 2019_100	A neural network application for the estimation of the probability of leaving a working place <i>A Ene and C Stirbu</i>
IManEE 2019_125	Personal development in the knowledge-based economy <i>C Pirnau, L D Ghiculescu and N I Marinescu</i>

**IManEE
2019_168**

**The Role of Managers' Communication Skills on Success in Industrial Innovation
Process**

C Feniser, A Sadeh and F Lungu

**IManEE
2019_195**

**Use of structural design and analysis software for master degree education in
mechanical engineering fields**

C Debeleac

**IManEE
2019_204**

**A conceptual modelling study for a Learning Management System in doctoral
schools**

D Iliescu and O Dodun

THURSDAY, 23th of MAY

H. Industrial and Product Management, Quality and Evaluation

16h30 – 19h00, Room I 107

CHAIRPERSONS: Toufik BOUDOUH and Aurel Mihail TÎȚU

**IManEE
2019_010**

Application of the FMEA method for the assessment of technical safety levels

A Górný

**IManEE
2019_051**

**Ishikawa diagram applied to identify causes which determines bearings defects
from car wheels**

L Luca and T O Luca

**IManEE
2019_060**

**Analysis of information and information flow in technological processes. Method
of transmitting information unaltered**

N Anton and A Nedelcu

**IManEE
2019_062**

Quantitative measurement of the quality of a social economy project

D Marcu, M Costoiu, A Semenescu, A Ioana and D Tufeanu

**IManEE
2019_123**

Costs calculation of an work accident in a production hall for metallic confections

D Cojocar, Ghe Solomon and M C Dijmărescu

**IManEE
2019_130**

**The development of a methodology of learning to use simulation in the analysis of
production system performances**

A Gavriluță, C A Gavriluță, I Pascu, C Neacșu and G Răduțoiu

**IManEE
2019_131**

**Experimentation of a methodology to use modelling and simulation in the analysis
of performances of an automotive industry production system**

A Gavriluță, C A Gavriluță, C Neacșu, I Pascu and V Nicolae

THURSDAY, 23th of MAY

I. Automotive and Transport Engineering

16h30 – 19h00, Room T 019

CHAIRPERSONS: Céline MORIN and Ștefan TABACU

**IManEE
2019_082**

The influence of the roof frame on the stiffness of a bus structure

M D Iozsa, V C David and A M Manea

IManEE 2019_137	Hydrothermal liquefaction of microalgae for biofuel production: the recycling of nutrients from an aqueous solution after HTL <i>N I Chernova, S V Kiseleva, M S Vlaskin, A V Grigorenko and Y Y Rafikova</i>
IManEE 2019_139	Conical rubber suspension springs in the construction of railway vehicles <i>I Sebeşan, S Arsene and I Ţurcanu</i>
IManEE 2019_140	Considerations on the V-block type shape suspension springs at the rail vehicles <i>I Sebeşan, S Arsene and M R Sebeşan</i>
IManEE 2019_165	Telemetric system for Silesian Greenpower's vehicle <i>A Stalica, M Błachuta, A Baier, P Żur, A Kołodziej, P Konopka and M Komander</i>
IManEE 2019_179	Study on reduction of the fuel consumption and the pollution by using traffic management systems in urban areas <i>V Nicolae, M Istrate, M Bâldea and A Vîlcan</i>
IManEE 2019_180	The reduction of the fuel consumption and of the pollution through the city public transport <i>M Istrate, V Nicolae, M Bâldea and A Vîlcan</i>
IManEE 2019_200	Considerations on longitudinal dynamics of passenger trains with blocked wheelsets during braking <i>C Cruceanu and C Crăciun</i>
IManEE 2019_209	Mathematical modelling of the spatial efficiency of car parks <i>A Boroiu, E Neagu, A A Boroiu and I Vieru</i>
IManEE 2019_215	Mechanical and mathematical model used in the study of automobile oscillations <i>L Simniceanu</i>

THURSDAY, 23th of MAY

J. Smart Grids, Energy Efficiency in Buildings, Energy systems and energy management, Energy policies, Environmental technologies and studies, Renewable energy technologies and energy saving materials

16h30 – 19h00, Room T 221

CHAIRPERSONS: Dariusz SUSZANOWICZ and Victorița RĂDULESCU

IManEE 2019_001	Temperatures limitation of adsorptive solar powered ice maker using AC35-methanol pair <i>N Cherrad</i>
IManEE 2019_012	The potential of roofs in city centers to be used for photovoltaic micro-installations <i>D Suszanowicz, P Ratuszny and R Wróbel</i>
IManEE 2019_013	Energy efficiency improvement in hospital buildings, based on the example of a selected type of hospital facility in Poland <i>D Suszanowicz and P Ratuszny</i>
IManEE 2019_021	Radar pulses to image the subsurface using Ground Penetrating Radar (GPR) <i>N Iftimie, A Savin, N A Danila and G S Dobrescu</i>

IManEE 2019_027	Simulation of heat exchange between a digital instrument transformer and its environment for operation in emergency and unfavorable weather conditions <i>E E Gotovkina, V D Lebedev, G I Parfenov, N N Smirnov and V V Tyutikov</i>
IManEE 2019_028	Development of a thermal self-diagnostics system for a digital current and voltage instrument transformer <i>G I Parfenov, E E Gotovkina, V D Lebedev, N N Smirnov and V V Tyutikov</i>
IManEE 2019_030	Comparison of electric powers measured with digital devices relative to powers associated with distinctive physical phenomena <i>K Zajkowski and I Rusica</i>
IManEE 2019_031	The method of calculating LC parameters of balancing compensators in a three-phase four-wire circuit for an unbalanced linear receiver <i>K Zajkowski and I Rusica</i>
IManEE 2019_033	Hardware error estimation model of signal reception in the task of monitoring the tightness of gas engineering systems <i>A A Malysheva, O A Gnezdilova, A A Pavlova and A S Ovsienko</i>
IManEE 2019_169	A pilot station using renewable resources to rehabilitate the inefficient small-hydro power plants <i>V Radulescu</i>

FRIDAY, 24th of MAY

A. Advanced Machining and Surface Engineering

09h00 – 10h45, Room I 120

CHAIRPERSONS: Angelos P. MARKOPOULOS and Gabriel FRUMUȘANU

IManEE 2019_093	Effect of cooling condition over surface quality in turning of aluminium alloy 6082-T6 <i>I Beșliu, L Slătineanu and I Tamașag</i>
IManEE 2019_097	Surface roughness at facing on a lathe <i>I Beșliu, A Cîcu, E Beșliu, C Agrigoroae and M Coteață</i>
IManEE 2019_120	Main aspects of establishing the machining parameters of the railway wheelset's rolling surfaces <i>I G Ghionea, A L Ghionea, N Predinca and E Balazs</i>
IManEE 2019_126	Experimental research of tool axis inclination angle influence upon surface roughness in ball-nose end milling of polyetheretherketones (Tecapeek natural)- Part I <i>I Pașca, M Lobonțiu, M Bănică and I Tămaș</i>
IManEE 2019_129	Accounting casual character of the cutting tool life at the optimization of the cutting regimes <i>A Mikhailov, T Ivchenko and I Petryaeva</i>

FRIDAY, 24th of MAY

B. Assembling Technologies, Forming Technologies, Additive Manufacturing

09h00 – 10h45, Room I 125

CHAIRPERSONS: Rodion CIUPERCĂ and Gheorghe NAGÎȚ

IManEE 2019_061	The in-plane compression performance of hierarchical honeycomb additive manufactured structures <i>M T Mansour, K Tsongas, D Tzetzis and A Antoniadis</i>
IManEE 2019_113	Additive manufacturing of a stretch forming die using 3D printing technology <i>C Grigoraș, B Chiriță and G Brabie</i>
IManEE 2019_124	Numerical simulation of material failure in single point incremental forming process <i>G P Rusu, M O Popp, M Oleksik and C Rodean</i>
IManEE 2019_174	Quality reinforcement, exploratory research and tendencies in sintering process manufacturing <i>A G Dzetziț, G Nagit and M M Cucos</i>
IManEE 2019_213	Simulated 3-axis versus 5-axis Processing Toolpaths for Single Point Incremental Forming <i>G S Racz, R E Breaz, V S Oleksik, O C Bologa and P D Brîndașu</i>

FRIDAY, 24th of May

C. Non-Conventional Technologies in Manufacturing, Welding Technologies

09h00 – 10h45, Room T 123

CHAIRPERSONS: Alexandru ȘOVER and Mihai BĂNICĂ

IManEE 2019_007	Selection of effective equipment for shotcrete <i>M A Stepanov and B A Kaitukov</i>
IManEE 2019_070	The decision of problem of reducing the temperature of cement during its grinding <i>R R Sharapov</i>
IManEE 2019_089	Theoretical and numerical researches on the electrochemical polishing of dental prostheses realized by selective laser melting <i>E Moraru, O Dontu, D Besnea, C Rizescu, D Rizescu and V Constantin</i>
IManEE 2019_091	Studies and Research on the Stress – Strain Analyses of the Polyethylene Pipe-Fitting Assemblies Accidentally Subjected to an External Force <i>E Avrigean and S M Filip</i>

FRIDAY, 24th of MAY
D. Advanced Materials

09h00 – 10h45, Room I 134

CHAIRPERSONS: Elizabeth BAUER GROSSE and Gabriela STRNAD

IManEE 2019_024	Numerical and experimental investigation of metamaterial structures used in non-destructive dielectric material testing <i>D Faktorová, A Savin, R Steigmann, M D Stanciu and G Špániková</i>
IManEE 2019_132	Microwave absorption and reflection properties of a composite dielectric absorber <i>I Shorstkii and M Sosnin</i>
IManEE 2019_198	SEM, EDS and XPS studies of AC & DC PEO coatings obtained on titanium substrate <i>K Rokosz, T Hryniewicz, Ł Dudek, K Pietrzak, S Raaen, W Malorny and R Ciuperca</i>
IManEE 2019_199	Porous coatings obtained on titanium after IMPULSE – PEO processes <i>K Rokosz, T Hryniewicz, Ł Dudek, K Pietrzak, S Raaen, W Malorny and R Ciuperca</i>
IManEE 2019_203	Comparative analysis of the morphology of doped zinc and copper oxide nanopowders <i>E M Modan, C M Ducu, S G Moga, A D Negrea and A G Plăiașu</i>

FRIDAY, 24th of MAY

E. Design and Analysis, CAD/CAM/CAE/CAX Technologies, Flexible Manufacturing, Automation and Robotics in Technological Processes

09h00 – 10h45, Room T 121

CHAIRPERSONS: Mirosław SZCZEPANIK and Tom SAVU

IManEE 2019_106	Using CAM software to improve productivity <i>A But and S Scaticailov</i>
IManEE 2019_107	Design for manufacturing using TEBIS CAM software for milling processing <i>A But</i>
IManEE 2019_128	Determination of the shape of a beam obtained by fused deposition material with general loads <i>N D Stănescu, M L Beșliu–Gherghescu, A Rizea and D Anghel</i>
IManEE 2019_157	Analyses and redesign of a technological device for automated assembly, using Design for Manufacturing and Assembly Approach <i>I M Pișta, G Nagîț, V Merticaru, M I Rîpanu and M Cucos</i>
IManEE 2019_208	The generation of the worm and wheel gears in a CAD soft <i>D Popa, C M Popa and N D Stănescu</i>

FRIDAY, 24th of MAY

G. Innovation, Creativity, Learning and Education in Engineering

09h00 – 10h45, Room T 103

CHAIRPERSONS: Adam GÓRNY and Oana DODUN

IManEE 2019_038	Innovative technical implementation of the Schumann resonances and its influence on organisms and biological cells <i>S Danho, W Schoellhorn, R Oezden and M Aclan</i>
IManEE 2019_044	Mapping of industrial innovations of the fifth technological mode within the framework of industrial park structures of the Sverdlovsk region <i>A E Plakhin, I N Tkachenko, M V Kompaneets and P V Mihajlovski</i>
IManEE 2019_046	Dynamics of employers' costs for the implementation of the dual model in industrial sectors <i>E S Ogorodnikova, A Yu Kokovikhin, L G Creciun and T V Kochergina</i>
IManEE 2019_069	Development of a digital learning platform for the planning of manufacturing processes <i>M Hartmann, A Nestler, D Wohlrabe, F Arnold, J Hoffmann and E Wenkler</i>
IManEE 2019_154	Implementation of tool-technical base of agile manufacturing in Russian industry <i>E A Gromova</i>
IManEE 2019_172	Energetic marketing education first step being more qualified and leader in less time <i>B A Radulescu and V Radulescu</i>

FRIDAY, 24th of May

H. Industrial and Product Management, Quality and Evaluation

09h00 – 10h45, Room I 107

CHAIRPERSONS: Toufik BOUDOUEH and Aurel Mihail TÎȚU

IManEE 2019_045	Development of the production system through lean management tools <i>A E Plakhin, S M M Al-Ogaili, I I Semenets, T V Kochergina and P V Mihajlovskij</i>
IManEE 2019_087	Industrial processes efficiency and lower energy consumption initiatives through advanced retrofitting in the wood industry <i>R D Păltan, C Biriş and L A M Rădulescu</i>
IManEE 2019_098	A graphical software application for the ergonomic design of a working place <i>A Ene and D-C Anghel</i>
IManEE 2019_116	How to establish in the bus industry QMS Statistical Process Control according to IATF 16949 <i>E L Stirbu and C Stirbu</i>
IManEE 2019_143	Risk-cost model for FMEA approach through Genetic algorithms – A case study in automotive industry <i>N Belu, L M Ionescu and N Rachieru</i>
IManEE 2019_211	Reengineering of the design process: An industrial case <i>T Boudouh</i>

FRIDAY, 24th of May
I. Automotive and Transport Engineering

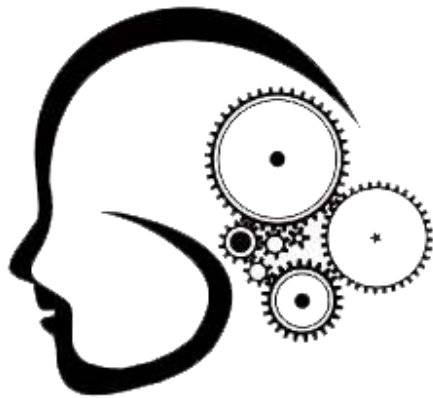
09h00 – 10h45, Room T 019

CHAIRPERSONS: Céline MORIN and Ștefan TABACU

IManEE 2019_048	Strategic directions of transport and logistics to ensure the implementation of new industrialization processes <i>E S Ogorodnikova, A M Sidorenko, I I Semenets and A G Morkonosov</i>
IManEE 2019_144	Analysis of the action of the aerodynamic resistances on an electric multiple unit train type <i>S Arsene and I Sebeșan</i>
IManEE 2019_145	An analysis of the required energy consumption to tow a classical passenger train with an electric locomotive <i>S Arsene and G Popa</i>
IManEE 2019_162	A model of the determination of the public transport lines in the public transport system <i>V Bratu and A Boroiu</i>
IManEE 2019_164	Dynamic analysis of a mechanism of an engine with variable compression ratio <i>B Mănescu and N D Stănescu</i>
IManEE 2019_166	Designing and verifying the concept of Silesian Greenpower electric bolide structure <i>A Baier, M Komander, A Nowak¹, P Konopka, A Kołodziej and P Żur</i>
IManEE 2019_212	An overview on the Miller-Atkinson over-expansion thermodynamic cycle <i>M Niculae, A Clenci, V Iorga-Simăn and R Niculescu</i>



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