INTERNATIONAL CONFERENCE ON APPLIED SCIENCES

ICAS2019



PROGRAM

Hunedoara, May 9-111, 2019

Event organized by:





in cooperation with

Ministry for Scientific and Technological Development, Higher Education and Information Society of the Republic of Srpska Academy of Romanian Scientists

Academy of Sciences and Arts of the Republic of Srpska Academy of Technical Sciences of Romania - Timisoara Branch General Association of Romanian Engineers - Hunedoara Branch and Association Universitaria Hunedoara

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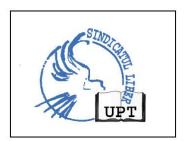












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	May 9, 2019
	<i>,</i> ,
15:00-19:00	Registration of participants (Hotel Rusca)
19:00-22:00	Welcome Dinner (Restaurant Rusca)
	May 10, 2019
8:00-9:00	Registration of participants (Faculty of Engineering)
9:00-9:30	OPENING CEREMONY (Room Aula Magna) Chairman: Imre KISS
	Members of Presidium:
	Mircea Flaviu BOBORA President of the Hunedoara County Council Caius P Ă NOIU
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	Yang XI S. C. Eurosport DHS S. A.
	Dayanada Rao PAWAR
	C.E.O. Arcelor Mittal S.A.
9:30-9:45	Group Photo
9:45-10:30	Coffee Break

	PLENARY SESSION (Room Aula Magna) Chairmen: Ilare BORDEASU and Valentina GOLUBOVIC BUGARSKI
10:30-11:00	Mohsen RAZZAGHI Mississippi State University Hybrid functions and fractional calculus in science and engineering
11:00-11:30	Branislav BOROVAC University of Novi Sad How to perform biped walking in unstructured environment
11:30-12:00	Sne ž ana ĆIRIĆ KOSTIĆ University of Kragujevac Fatigue behavior of steel parts produced by DMLS
12:00-12:30	Mircea Octavian POPOVICIU Academy of Romanian Scientists Technological drive from past to future
12:30-13:00	Ioan ILCA Academy of Technical Sciences of Romania Contributions to the ingots' heating study in industrial furnaces
13:00-15:00	Lunch (Restaurant Rusca)
15:00-17:00	PARALLEL SESSIONS
17:00-17:20	Coffee Break
17:20-19:00	PARALLEL SESSIONS
20:00-24:00	CONFERENCE DINNER (Restaurant Werk)

1. MATERIALS SCIENCE SESSION (Room F1-8) Chairmen: Erika ARDELEAN and Dragoslav DOBRAS

15.00 15.10	Speaker: CV Anghel Drugarin
13.00-13.10	Title: Mechanical characterization of synthesized coir fibre reinforced epoxy and nano-composites
	Authors: C V Anghel Drugarin, K M Syed, M Ayaz Ahmad, M J Mbunwe and N Sarikavakli
15.10 15.20	Speaker: M Vilotic
15:10-15:20	-
	Title: New severe plastic deformation method for 316L medical grade steel processing
15.20 15.20	Authors: M Vilotic, N Dacevic, M Milutinovic, D Movrin and L Sidjanin
15:20-15:30	Speaker: P Živković
	Title: Traffic and urban air quality
	Authors: P Živković, M Tomić, D D Jovanović, J Janevski, D Petković and M Dobrnjac
15:30-15:40	Speaker: M Flori
	Title: Analysis of wastewater sludge drying process in vacuum filters
	Authors: M Flori and L Vîlceanu
15:40-15:50	Speaker: M Flori
	Title: Influence of heating and moisture content on sludge drying process
	Authors: M Flori and D Miloștean
15:50-16:00	Speaker: I Bordeaşu
	Title: Volume treatments for modifying the mean durability of the bronze subjected to cavitation erosion
	Authors: I Lazar, I Bordeasu, M O Popoviciu, M Hluscu, L M Micu, C E
16001610	Podoleanu, S T Duma, G Malaimare, R Badarau, M Sava and L D Pirvulescu
16:00-16:10	Speaker: I Bordeasu
	Title: Contributions to increasing the durability CuZnPb brass to cavitation erosion
16.10 16.20	Authors: I Lazar, C L Salcianu, I Bordeasu, M O Popoviciu, M Hluscu and L D Pirvulescu
10:10-10:20	Speaker: F Bucur
	Title: Research on the hardness of cast iron
16.20 16.20	Authors: F Bucur, A Socalici, A Josan and V Putan Speaker: C Preda
10:20-10:30	1
	Title: Numerical and experimental analysis of dry contact in brake pad-disc assembly
16.20 16.40	Authors: C Pinca-Bretotean, C Preda and A Josan
10:30-10:40	Speaker: O Lupu
	Title: Capitalization possibilities of small ferrous and pulverous waste in the iron production industry
16.40 16.50	Authors: O Lupu, A Socalici, F Bucur and E Ardelean
10:40-10:50	Speaker: M Radu
	Title: Influence of steel vacuuming on the reduction of hydrogen content
16:50 17:00	Authors: M Radu, S Şerban, E Popa and T Hepuţ
10:30-17:00	Speaker: L Zgripcea Title: Passage has recognitive in success of instruct resistance forwarded structures have all original and the control of the control
	Title: Researches regarding increase of impact resistance for welded structures by weld micro-alloying
	Authors: L Zgripcea, T Heput, M Ardelean and V Putan

17:00-17:20 Coffee Break

17:20-17:30 Speaker: G Mihut
Title: Research on the improvement of the physical and mechanical characteristics of steels for conical gearing through nitrocarburation

17:30-17:40 Speaker: M E Filip
Title: Alternative ways for heating an electric vehicle
Authors: M E Filip, G Csaba and D Lelea

17:40-17:50 Speaker: M Ardelean
Title: Braking mechanism for profile rolling mill cooling bed. Analysis and operation
Authors: M Ardelean, E Ardelean, A Josan and V Socalici

17:50-18:00 Speaker: M L Benea
Title: The improvement of steel properties using Al2O3 coatings deposited by plasma spraying
Authors: M L Benea and L P Benea

18:00-18:10 Speaker: M L Benea
Title: Influence of the thickness of the Tungsten carbide coating on the corrosion resistance
Authors: M L Benea

2. MECHANICAL ENGINEERING SESSION (Room F1-10) Chairmen: Sorin RAŢIU and Mladen TODIC

15:00-15:10 Speaker: M Todić Title: Drawning force of the osmometric full profiles Authors: M Todić, V Golubović-Bugarski, T Latinović, O Miletić and G Globocku 15:10-15:20 Speaker: G R Gillich **Title:** Exact solution for the severity of transverse cracks in prismatic beams Authors: G R Gillich, C Tufisi, C O Hamat, I Biro and N Gillich 15:20-15:30 Speaker: G R Gillich **Title:** About the calculus of the relative frequency shifts for a beam with multiple cracks Authors: G R Gillich, D Nedelcu, M Abdel Wahab and C I Barbinta 15:30-15:40 Speaker: V Stoica Title: Numerical analysis concerning ICE exhaust heat recovery using helical coil heat exchanger Authors: V Stoica, A Borborean, M Ilie and D Lelea 15:40-15:50 Speaker: V Stoica Title: Experimental design investigation of through-transmission laser welding of dissimilar polymers Authors: M Ilie, V Stoica, E Cicala and J C Kneip 15:50-16:00 Speaker: I Zs Miklos Title: Piston crank mechanism simulation using finite element method Authors: I Zs Miklos, C C Miklos and C I Alic 16:00-16:10 Speaker: T Jojić Title: Impact analysis of zipline kinematic parameters Authors: J Vladić, T Jojić, R Đokić and A Gajić 16:10-16:20 Speaker: B Prochaska Title: Numerical research of thermal stress in a gas burner with a cylindrical mantle in relation to its construction Authors: B Prochaska. N Radić and P Gvero 16:20-16:30 Speaker: Y Kusyi Title: Investigation of the technological damageability of castings at the stage of design and technological preparation of the production Life Cycle of a machine Authors: Y Kusyi and A Kuk 16:30-16:40 Speaker: Y Kusyi Title: Analysis of the rational route of aluminium alloy castings mechanical treatment on the basis of the reliability criterion Authors: Y Kusyi and A Kuk 16:40-16:50 Speaker: O Onysko Title: Principles of the product lifecycle management system development for threaded connections based on the Python programming language Authors: V Kopey, O Onysko and V Panchuk 16:50-17:00 Speaker: O Onysko **Title:** Investigation of the contact stresses on the end faces of the drill pipe connection that include the tapered thread manufactured by the cutter lathe tool with the specially modified cutting edge

17:00-17:20 Coffee Break

Authors: O Onysko, I Medvid, V Kopey, V Panchuk and P Voitenko

17:20-17:30	Speaker: G V Ursu-Neamt
	Title: Dynamic circulation in curve with R = 300 m radius for C.F.R. 060 - EA 5100kW electric locomotive
	Authors: G V Ursu-Neamt
17:30-17:40	Speaker: G V Ursu-Neamt
	Title: Study about wear of wheel's bandage for C.F.R. 060 - EA 5100kW electric locomotive at circulation in
	curve with R = 300 m radius
	Authors: G V Ursu-Neamt
17:40-17:50	Speaker: Z I Korka
	Title: Analytical investigation of an inertial propulsion system using rotating masses
	Authors: A Gerocs, Z I Korka and V Cojocaru
17:50-18:00	Speaker: D Nedelcu
	Title: The kinematic and kinetostatic study of the shaker mechanism with SolidWorks Motion
	Authors: D Nedelcu, G R Gillich, A Bloju and I Pădurean
18:00-18:10	Speaker: D Nedelcu
	Title: A comparative study between Photogrammetry and Laser technology applied on model turbine blades
	Authors: D Nedelcu, G R Gillich, A Geröcs and I Pădurean
18:10-18:20	Speaker: N Dacevic
	Title: Determination of friction coefficient with conical tube upsetting test for cold forming process
	Authors: N Dacevic, M Vilotic, D Vilotic and P Skakun
18:20-18:30	Speaker: R Labudzki
	Title: Evaluation of deterioration of engine oil properties in the function of mileage
	Authors: N Wierzbicka, D Szadkowska, A Patalas, R Talar, R Labudzki and P
18:30-18:40	Speaker: R Labudzki
	Title: The construction of an automated bicycle parking
	Authors: R Labudzki, R Talar, A Patalas and A Giszter
18:40-18:50	Speaker: C Hatiegan
	Title: Case study of mode shapes and eigen frequencies for a U shaped plate structure
	Authors: C Hațiegan, I Virca, E Răduca, M Miloș, M D Stroia and M Molnar
18:50-19:00	Speaker: C Hatiegan
	Title: Case studies for automotive components using CAD and CAE techniques
	Authors: M Stroia, D Moșteanu, E Răduca, C Popescu and C Hațiegan
19:00-19:10	Speaker: S Ratiu
	Title: Study of temperature dependent viscosity of different types of engine used oils
	Authors: S Rațiu, V Alexa, V Cioată and A Josan

3. MECHATRONICS SESSION (Room F1-2) Chairmen: Ovidiu TIRIAN and Tihomir LATINOVIC

17:00-17:20	Coffee Break
17:20-17:30	Speaker: E M Ciortea
	Title: Cloud manufacturing, technology of the future Authors: E M Ciortea
17:30-17:40	Speaker: B A Tudor
	Title: New compact digital hydraulic cylinder model for industrial hydraulic drives Authors: B A Tudor, M A Hristea, Ş M Şefu and I Pavel
17:40-17:50	Speaker: C O Miclosina
	Title: Analysis of a 6-DOF parallel robot motion simulation
17:50-18:00	Authors: C O Miclosina, V Cojocaru and Z I Korka Speaker: C O Miclosina
17.50 10.00	Title: Aspects of using a numerical simulator for a robot position-orientation matrix determination
10.00.10.10	Authors: C O Miclosina and I Halalae
18:00-18:10	Speaker: O Tirian Title: PLC programming to optimize water flow in secondary cooling zone
	Authors: G O Tirian, C P Chioncel, R Holubek and K Cincar
18:10-18:20	Speaker: O Tirian
	Title: Fuzzy decision system with a single variable parameter used in the intelligent control of the processes Authors: G O Tirian, C P Chioncel, R Holubek and K Cincar
18:20-18:30	Speaker: C Barz
	Title: Applications of industrial photography in the field of prehensors
18:30-18:40	Authors: C Barz, C K Jalba, R Jung, Z Erdei, S L Hahn, B Ardelean, V Rodic and A A Berdie Speaker: V G Cioata
	Title: Study of the contact forces between workpiece and fixture using dynamic analysis
10.40.10.50	Authors: V G Cioată, I Kiss, V Alexa and S A Rațiu
18:40-18:50	Speaker: V Alexa Title: Testing the functionality of the safety belts of road vehicles in the production process phase
	Authors: V Alexa, V G Cioată, S A Rațiu and A A Dascăl
18:50-19:00	Speaker: V Alexa
	Title: Analysis of the rolling moment in the asymmetrical longitudinal rolling process Authors: V Alexa and I Kiss

4. ELECTRICAL ENGINEERING SESSION (Room FI-1) Chairmen: Sorin DEACONU and Blanusa BRANCO

15:00-15:10	Speaker: S I Deaconu
	Title: Hybrid system for critical consumers with Dual Stator Winding Induction Generator (DSWIG)
	Authors: S I Deaconu, M Topor, F Bu and L Gherman
15:10-15:20	Speaker: M Lolea
	Title: Using statistical-probabilistic methods to asses the level of electromagnetic pollution
	Authors: M Lolea, E Szabo, C Anghel-Drugarin and D Haica
15:20-15:30	Speaker: M Lolea
	Title: Using Fuzzy Logic to asses the level of electromagnetic pollution
	Authors: M Lolea, E Szabo, C Anghel-Drugarin and S Mortan
15:30-15:40	Speaker: E Szabo
	Title: The efficiency and optimization issues of RES connected through regional Power systems
	Authors: E Szabo, M Lolea, A Dragos and A A Minda
15:40-15:50	Speaker: E Szabo
	Title: Modeling the availability of the equipment and electric power from solar installations with interconnected
	photovoltaic panels
	Authors: E Szabo, M Lolea, G Ias and P Cret
15:50-16:00	Speaker: G Popa
	Title: On overload protection for three-phase low voltage induction motorsa
	Authors: G N Popa, C M Diniș, S I Deaconu and I Popa
16:00-16:10	Speaker: D Ciulica
	Title: Research on the transient regime of SF6 circuit breakers in MATLAB
	Authors: D Ciulica, M Panoiu and C Panoiu
16:10-16:20	Speaker: M Panoiu
	Title: Tuning proportional-derivative controller for a three-phase electric arc furnace
16 20 16 20	Authors: L Ghiormez, M Panoiu, C Panoiu and I Muscalagiu
16:20-16:30	Speaker: CD Cuntan
	Title: Power chopper with command accomplished with FPGA
16:20 16:40	Authors: I Baciu, C D Cunțan and L Gherman Speaker: O Gana
10.30-10.40	Title: Photovoltaic panels modeling and determination of the maximum power point (MPP)
	Authors: O Gana and M Babescu
16:40-16:50	Speaker: M Prša
10.70 10.90	Title: Measurement of temperature on surface of conductor with AC current and constant voltage increment
	Authors: K Kasaš-Lažetić, M Krstajić, K Haška, N Gazivoda and M Prša
16:50-17:00	Speaker: M Prša
	Title: Heating of conductor with DC current and constant voltage or constant current increment
	Authors: G Mijatović, K Kasaš-Lažetić, D Herceg, D Antić and M Prša

17:00-17:20 Coffee Break

17:20-17:30 Speaker: E Raduca Title: Testing of electrical parameters at direct start-up of a synchronous motor of 4650 kW/6 kV Authors: E Răduca, C Hatiegan, M Molnar, C Hamat, D Anghel and G Liuba 17:30-17:40 Speaker: E Raduca **Title:** Testing ingress in synchronous mode of a synchronous motor of 4650 kW / 6 kVAuthors: E Răduca, M Molnar, C Popescu, M D Stroia, C Hațiegan and D Anghel 17:40-17:50 Speaker: C Popescu Title: Study of the transitional regimes occurring when starting the electric motors related to their own services that are included in the configuration of the technological flow of a power group with a unit power of 330 MW Authors: C Popescu, C Hatiegan, E Răduca and C Racoceanu 17:50-18:00 Speaker: C Popescu Title: Study on operating regimes of single-phase transformers Authors: C Popescu and C Hatiegan 18:00-18:10 Speaker: C Barz Title: Monitoring the environmental application with PLC Authors: C Barz, P Zivkovic, T Latinovic, R Pop, D Dimitrijević Jovanović, A 18:10-18:20 Speaker: C V Anghel-Drugarin Title: Characterization of three phase solid state VAR compensation scheme in three phase pulse width modulation voltage source inverter Authors: M J Mbunwe, E E Ezema, A A Ngwu, C V Anghel Drugarin and M Ayaz Ahmad 18:20-18:30 Speaker: S Rusu-Anghel Title: Experimental researches on pantograph-catenary contact force control using Chaos Theory Authors: S Rusu-Anghel and I C Lihaciu 18:30-18:40 Speaker: A D Berdie Title: Development and implementation style for the same application in three different technologies on the SAP NetWeaver platform 18:40-18:50 Speaker: C P Chioncel Title: Optimal and stable energetic operation of wind power systems at variable wind speed Authors: C P Chioncel, C Murarescu and M Dudu

5. FUNDAMENTAL SCIENCES AND IT SESSION (Room FI-2) Chairmen: Manuela PANOIU and Biljana VOIVODIC

15:00-15:10 Speaker: S Jitian Title: Elipsometric determination of the thickness and the refractive index of superficial films deposited on metal mirrors Authors: A Berdie and S Jitian 15:10-15:20 Speaker: R Bucevschi Title: Analysis of the fluid dynamic behavior through the air collector following the installation of pressure Authors: R Bucevschi, V Socalici, A Budiul Berghian and C Birtok Băneasă 15:20-15:30 Speaker: M Popa **Title:** The students' attitudinal and behavioral picture targeting the physical well-being Authors: M Popa and D M Stoica 15:30-15:40 Speaker: I Halalae Title: Randomness and cyclicity in cellular automata Authors: I Halalae 15:40-15:50 Speaker: D M Stoica Title: Admissibility and nonuniform mean-square stability for stochastic differential equations Authors: D M Stoica 15:50-16:00 Speaker: G Dinu Title: Neuromarketing techniques applied in consumer behaviour Authors: G Dinu and L Dinu 16:00-16:10 Speaker: M C Benea Title: Multinational corporations: capable and culpable Authors: M C Benea 16:10-16:20 Speaker: D Dimitrijevic Jovanovic Title: Green Living Roof policy as a key motivator for strategy implementation Authors: D Dimitrijević Jovanović, V Rodić, C Barz, V M Brezoczki, P Živković and J Janevski 16:20-16:30 Speaker: T Latinovic Title: Adaptive intelligence system for a predictive process for the Industry 4.0 in Tobacco factory Authors: T Latinovic, C Barz, A Pop Vadean and P Pop Paul 16:30-16:40 Speaker: T Latinovic **Title:** FMEA analysis as support to Industry 4.0 in Tobaco industry Authors: T Latinovic, C Barz, A Pop Vadean and P Pop Paul 16:40-16:50 Speaker: D P Drljaca Title: Using of IT audit to manage risks in the public administration information systems for increased organisational interoperability 16:50-17:00 Speaker: I Džakula **Title:** The importance of using artificial intelligence for configuring the air traffic routes Authors: I Džakula, B Latinović and D Drljača

17:00-17:20 Cofee Break

6. VIDEO-CONFERENCE SESSION (Room F0-1) Chairmen: Ionel MUSCALAGIU and Bojan KNEZEVIC

15:00-15:10 Speaker: M Ayaz Ahmad Title: Simulations in high energy heavy ion collisions Authors: C V Anghel Drugarin, J Hasan Baker, M Ayaz Ahmad, M J Mbunwe and V V Lyashenko 15:10-15:20 Speaker: M Ayaz Ahmad Title: Some operations of circuit breakers: data and analysis Authors: V C Madueme, M J Mbunwe, T C Madueme, C V Anghel Drugarin and M Ayaz Ahmad 15:20-15:30 Speaker: G Tica Title: Renewable energy sources in Bosnia and Herzegovina Authors: G Tica 15:30-15:40 Speaker: S Aluvihara Title: The elementary attributes and denotations of the corrosion in petroleum refining event Authors: S Aluvihara and J K Premachandra 15:40-15:50 Speaker: I C Romanu **Title:** Indetermination versus incompatibility in dynamic systems with dry friction Authors: S Alaci, F C Ciornei, R D Pentiuc, M C Ciornei and I C Romanu 15:50-16:00 Speaker: I C Romanu Title: Upon the efficiency of gear transmissions Authors: S Alaci, F C Ciornei, R D Pentiuc, M C Ciornei and I C Romanu 16:00-16:10 Speaker: W Kruszelnicka **Title:** Control and monitoring of multi-disc comminution process Authors: W Kruszelnicka, A Tomporowski, J Flizikowski and R Kasner 16:10-16:20 Speaker: W Kruszelnicka Title: Control system of multi-disc mill with a new structural solution Authors: W Kruszelnicka, R Kasner, J Flizikowski and A Tomporowski 16:20-16:30 Speaker: A Tomporowski Title: Researching and modeling of unbalanced regimes in systems of household electric power consumers Authors: O Miroshnyk, S Kovalyshyn, P Bałdowska-Witos, W Kruszelnicka and A Tomporowski 16:30-16:40 Speaker: A Tomporowski **Title:** The research of the influence of the specifications of the elements of range of exciters voltage inverters on their spectral characteristics Authors: O Miroshnyk, R M Lysychenko, S Kovalyshyn, W Kruszelnicka, P Bałdowska-Witos and A Tomporowski 16:40-16:50 Speaker: P Bałdowska-Witos Title: Life cycle assessment beverage bottles Authors: P Bałdowska-Witos, W Kruszelnicka and A Tomporowski 16:50-17:00 Speaker: P Bałdowska-Witos **Title**: Research of probability characteristics of current and voltage unbalance based on using graphs of load for the duration at the substation Authors: Annn O Miroshnyk, S Kovalyshyn, A Tomporowski, W Kruszelnicka and P Bałdowska-Witos

17:00-17:20 Coffee break

17:20-17:30	Speaker: A A Sorescu
	Title: Antioxidant activity of environmentally-friendly noble metallic nanoparticles
	Authors: A A Sorescu, M Grigore, E R Andrei, G I Radu and L Iancu
17:30-17:40	Speaker: A A Sorescu
	Title: Ziziphus jujube-mediated phytosynthesis of silver and gold nanoparticles
	Authors: A A Sorescu, A Nuta, R M Ion, L Iancu and C L Nistor
17:40-17:50	Speaker: J Orwat
	Title: Causes analysis of occurrence of the terrain surface discontinuous deformations of a linear type
	Authors: J Orwat
17:50-18:00	Speaker: J Orwat
	Title: Mining exploitation forecasted effects caused by a hard coal extraction from a thick seam
	Authors: J Orwat
18:00-18:10	Speaker: J Hamzabegovic
	Title: Using WPF technology in developing mental maps software
	Authors: J Hamzabegovic
18:10-18:20	Speaker: B Popa
	Title: Influence of meteorological factors on modeling the thermal regime of a river
10.20 10.20	Authors: A Neagoe, E I Tica, K Ahmad-Rashid and B Popa
18:20-18:30	Speaker: B Popa
	Title: Impact of the ecological flow of some small hydropower plants on their energy production in Romania
18:30-18:40	Authors: F Popa, G E Dumitran, L I Vuta, E I Tica, B Popa and A Neagoe Speaker: C E Dragna
10.50-10.40	Title: Management and economic analysis elements applicable to scientific research projects
	Authors: A Ioana, D Tufeanu, N Constantin, C E Dragna and A Semenescu
18:40-18:50	Speaker: A Kaouka
	Title: Electrochemical boriding of titanium alloy Ti-64Al
	Authors: A Kaouka and K Benarous
18:50-19:00	Speaker: A Kaouka
	Title: A different kind of techniques for measuring the layer thickness; boride layers on the surface of substrate
	Authors: A Kaouka and K Benarous

May 11, 2019

9:00-10:00

ROUND TABLE (Room F0-1)
Chairmen: Ludovic Dan LEMLE and Tihomir LATINOVIC

Title:

How to increase the level of international cooperation?

10:00-16:00 EXCURSION

END OF THE CONFERENCE ICAS2019

Next conference

ICAS2020 Hunedoara, Romania, May 6-8, 2020

Dedicated to $50^{\rm th}$ anniversary of the Engineering Faculty of Hunedoara and $100^{\rm th}$ anniversary of University Politehnica Timisoara