



11th International Conference on Thermal Equipment, Renewable Energy and Rural Development

TE-RE-RD 2023

ORGANIZERS:

University "POLITEHNICA" of Bucharest
Faculty of Mechanical Engineering and Mechatronics
Faculty of Biotechnical Systems Engineering

**National Institute Of Research – Development For Machines And
Installations Designed To Agriculture And Food Industry – INMA**

Romanian Agricultural Mechanical Engineers Society – SIMAR

IEEE Romania Section

IEEE Romania Section PE Chapter

**Bucharest – Romania
08 June - 10 June 2023**

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Conference Program

Thursday, June 08

13:30-15.00

REGISTRATION OF PARTICIPANTS – Main Hall of F.B.S.E - First Floor

OPENING CEREMONY – Council Hall of F.B.S.E - First Floor

15.00-17.00

Welcome speeches:

Lucian MIHAESCU, Honorary Chair TE-RE-RD 2023

Gigel PARASCHIV, Secretary of State, Ministry of Education

Mihnea COSTOIU, Rector, U.P.B.

Tudor PRISECARU, President of the Senate, U.P.B.

Bogdan GRĂMESCU, Dean F.M.E.M. , U.P.B.

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Lucian TOMA, Chair IEEE Romania Section

PLENARY SESSION

Main Council Room (first floor)

15.30-17.30

Presentation No.	Paper ID	Title	Authors	Start hour
1	42	Design and Development of a Research Infrastructure for Thermographic Analysis of Photovoltaic Installations	Ventsislav Keseev, Nicolay Mihailov, Boris Evstatiev, Tsvetelina Mladenova, Vladislav Hinkov	15:30
2	33	The consumption of biomass and poultry manure for heating a hall module considering Romania's climate	Gheorghe Lazaroiu, Lucian Mihaescu, Rodica-Manuela Grigoriu, Iulia Simion, Gabriel Negreanu	16:00
3	53	Controlled Plant Growth in Vertical Farming Systems	Iuliana Găgeanu, Ana-Maria Tăbărașu, Gabriel Gheorghe, Mihaela Nițu, Augustina Pruteanu	16:30
4	62	Evaluation of the tribological behavior of a brake disc-pad friction pair using a fuzzy inference model based on an adaptive network (ANFIS)	George Ipate Andreea Cătălina Cristescu Constantin Daniel Cotici Neluș Evelin Gheorghită Daiana Ionescu Andrei Florin Hristache	17:00

Welcome Cocktail - Main Hall of F.B.S.E - First Floor

17:30-19:00

Friday, June 09

08:30-9:30
Registration of participants

Thermal Equipment
9:30-11.30

Moderators: Horațiu Pop
Alexandru-Cristian Racovitză

Main Council Room (first floor)

Presentation No.	Paper ID	Title	Authors	Start hour
1	6	The design of a new oxygenation system for water flowing through a tube	Mugurel Oprea, Nicolae Băran, Mihaela Constantin, Ana-Maria Nicolau, Cătălina Dobre, Beatrice Iborean	09:30
2	37	Energy and exergy analysis of the heat pump cycle using working agents with low environmental impact	Daniel Dima, Alexandru Dobrovicescu, Cătălina Dobre	09:45
3	11	Analysis of a rotary pump with two sectional impellers	Gabriel Fischer-Szava, Nicolae Băran, Mihaela Constantin, Ana-Maria Nicolau, Adil Abdul-Nabe Rana, Sevastiana Areta Ghioca, Georgiana Dăescu (Duiculete)	10.00
4	59	Some effects of nanoparticles addition on diesel fuel jet characteristics	Andrei Laurentiu Niculae, Alexandru Racovitză, Radu Chiriac	10.15
5	25	Optimization of the air separation process in single stage cryogenic units	Claudia Ioniță, Elena-Eugenia Vasilescu, Camelia Stanciu, Horațiu Pop, Lucreția Popa	10.30

Renewable Energy
9:30-11: 30

Moderators: Elena Pop
Boris Evstatiev

Room D-115 (first floor)

Presentation No.	Paper ID	Title	Authors	Start hour
1	27	Comparative results between densified agricultural and woody biomass in fixed bed combustion	Dorel Stoica, Ionel Pișă, Elena Pop, Gabriel Negreanu, Adriana Elena Jarcu, Ion V. Ion	09:30
2	43	Theoretical and experimental analysis on the gasification of agricultural biomass with a pilot plant	Gheorghe Lăzăroiu, Lucian Mihăescu, Iulia Simion, Rodica Manuela Grigoriu	09:45
3	41	Design and Development of an Experimental Photovoltaic System	Ventsislav Keseev, Nicolay Mihailov, Boris Evstatiev, Tsvetelina Mladenova, Vladislav Hinkov, Nikolay Valov	10.00
4	52	Case studies about biomass district heating efficiency in Romania	Ioan Bitir-Istrate	10.15
5	49	Electricity produced using biogas obtained from the recovery of organic waste in ecological landfills – a case study	Nicoleta Sporea, Ion Durbacă, Anca-Madalina Dumitrescu, Gheorghita Tomescu	10.30
6	25	TLUD hot air generator with forced draft	Ionel Pavel, Gabriela Matache, Alina Iolanda Popescu, Kati Pavel	10:45

Coffee break - Main Hall of F.B.S.E - First Floor
11:30-12:00

Rural Development

12:00-13:30-

Moderators: Edmond Maican**Valentin Vlăduț****Main Council Room (first floor)**

Presentation No.	Paper ID	Title	Authors	Start hour
1	31	Technology of obtaining a fermented beverage from aronia and honey	Nicoleta Alexandra Vanghele Andreea Matache, Augustina Mirabela Pruteanu	12:00
2	32	Mechanised Harvesting of Safflower (<i>Carthamus tinctorius</i> L, fam. Asteraceae)	Adriana Muscalu, Cătălina Tudora, Cristian Sorică, Dragoș Anghelache	12.15
3	39	Mathematical models for the extraction of volatile oils and active principles from medicinal and aromatic plants. A review	Ana-Maria Tăbărașu, Dragoș Anghelache, Iuliana Găgeanu, Sorin-Ștefan Biriș, Ana-Maria Constantin, Florin Marin, Iulian Hâncu	12.30
4	50	Impact evaluation of using antibiotics in animal husbandry practices	Andreea Matache, Florin Nenciu, Nicoleta Alexandra Vanghele, Gabriel Nae	12.45
5	54	The impact of the Common Agricultural Policy in the livestock sector on the development of rural areas	Irina-Adriana Chiurciu, Ion Certan, Marius Mihai Micu, Valentina Tudor, Dragoș Smedescu	13:00
6	16	Monitoring honeybee (<i>Apis mellifera</i>) flight activity and within-day hive weight changes during rapeseed (<i>Brassica napus</i>) flowering	Atanas Z. Atanasov, Ivaylo S.Hristakov Kaloyan E.Stoyanov, Presiyan A.Zhelyazkov	13:15

Miscellaneous

12:00-13:45

Moderators: Emilia Cerna Mladin**Carmen Anca Safta****Room D-115 (first floor)**

Presentation No.	Paper ID	Title	Authors	Start hour
1	10	Traditional House Built at ZEB standard in Rural Area of Romania	Emilia-Cerna Mladin Madalina-Xenia Calbureanu-Popescu Constantin Oprescu	12:00
2	38	The influence of ventilation conditions of heat release rate variation over time	Alexandru-Florin Chiojdoiu Ion Anghel, Horațiu Dagne Andrei Dragomirescu, Carmen-Anca Safta	12.15
3	14	Radial Centrifugal Fan Redesign and New Technologies Using CFD Applications	Sanda Budea, Ion-Bogdan Iordan	12.30
4	7	Thermal Potential of a Twin-Screw Compressor as Source for Thermoelectric Energy Harvesting	Claudia Săvescu, Răzvan Cărlănescu, Valentin Petrescu, Mihaela Roman, Daniel Comeagă, Daniel Lale	12.45
5	12	Experimental analyses of twin screw compressors' energetic efficiency depending on the volume ratio	Valentin Petrescu, Claudia Săvescu, Teodor Stănescu, Cristian Nechifor, Mirela Vasile, Sorin Tomescu	13:00

Conference Gala Lunch - Main Hall of F.B.S.E - First Floor**14:00-15:30**

Online Session Track 1
15.30-18.00

Moderators: Ionel Pișă
Dorel Stoica

(Connection link will be provided to the participants)

Presentation No.	Paper ID	Title	Authors	Start hour
1	4	Comparative analysis of sorption materials for a hybrid power plant with a SOFC	Hristo Ivanov Beloev Antonina Andreevna Filimonova Alena Yurievna Vlasova Ruzina Farsilovna Kamaliev Artem Sergeevich Vinogradov Iliya Krastev Iliev	15:30
2	5	Utilization of hydrogen containing gas waste from deep oil refining at a hybrid power plant with a solid oxide fuel cell	Hristo Ivanov Beloev Antonina Andreevna Filimonova Andrey Alexandrovich Chichirov Natalia Dmitrivna Chichirova Artem Sergeevich Vinogradov Iliya Krastev Iliev	15:50
3	47	Modeling of fault detection and isolation in pitch control of wind energy conversion systems via digital twins	César Tadeu Nasser Medeiros Branco Jonny Carlos da Silva	16.10
4	17	The contributions regarding to the reliability and maintainability of wind turbines	Paula-Gabriela Panait, Mariana Panaitescu, Alexandru-Andrei Scupi, Fanel-Viorel Panaitescu	16.30
5	45	A simulation study of the heat transfer intensity at forced convection of preheated air in a steel pipe	Zhivko Dimitrov Kolev Seher Yusnieva Kadirova Daniel Atanasov Lyubenov Georgi Penchev Kadikyanov Bartosz Wieczorek, Łukasz Warguła	16.50
6	57	Immersed photovoltaic panels experiment for offshore maritime application	Tudorel Ivan, Ovidiu Cristea, Mihai Octavian Popescu	17.10
7	58	Photovoltaic panel's angle optimization for a better reflected irradiation collection using empiric data and Matlab functions approximation	Tudorel Ivan, Ovidiu Cristea	17:30

Online Session Track 2
15.30-18.10

Moderators: Cristian-Gabriel Alionte
Ionut Cristian Scurtu

(Connection link will be provided to the participants)

Presentation No.	Paper ID	Title	Authors	Start hour
1	8	Photovoltaic panels efficiency on the ships	Ciprian Popa, Mihai-Octavian Popescu, Mircea Târhoacă, Nicolae-Silviu Popa	15:30
2	9	Producing electricity on board a ship in motion or stationary using photovoltaic panels	Nicolae-Silviu Popa, Mihai-Octavian Popescu, Vlad Mocanu, Mircea Târhoacă Ciprian Popa	15:50
3	19	Agricultural biomass feedstock for biofuels production in Ukraine	Oleksandra Tryboi, Tetiana Zheliezna Semen Drahnev	16.10
4	55	Analysis of the Final Energy Consumption by Sector in City of Vidin	Daniela Kostova-Ivanova	16.30
5	21	Numerical investigation on the performance analysis of thermophotovoltaic by using COMSOL	Amjad H. Hamzaw, Qahtan A Abed	16.50
6	46	Life Cycle Assessment For Packaging Of An One Bottle Of Wine	Gamze Ozcakir	17.10
7	36	Energy of Rural Spaces – Technical, Economic and Social Analysis of Renewable Energy in Isolated Communities	Gabriela Larisa Maravela, Teodora Vatuiu	17:30
8	51	Analysis of the introduction of energy efficiency measures in hospital buildings in Bulgaria	Penka Zlateva, Angel Terziev, Martin Ivanov, Ivan Beloev	17:50

Saturday, June 09

10:00-12:00

ROUND TABLE:

ACHIEVING CLIMATE NEUTRALITY BY REDUCING CO2 FROM COMBUSTION GASES EMITTED IN INDUSTRY AND TRANSPORT

ROOM FA 103

Moderator: Gabriel Negreanu

