2022 8th INTERNATIONAL CONFERENCE ON ENERGY EFFICIENCY AND AGRICULTURAL ENGINEERING (EE&AE 2022)

30th June – 2nd July, 2022

Ruse, Bulgaria

CONFERENCE PROGRAM
EE&AE 2022 CONFERENCE PROGRAM

WELCOME ADDRESS ................................................................. 4
PROGRAM AT A GLANCE ............................................................. 6
COMMITTEES ........................................................................ 8
REVIEWERS ........................................................................... 11
EE&AE HISTORY .................................................................... 13
PLENARY SPEAKERS ................................................................. 14
PROGRAM IN DETAILS .............................................................. 18
VENUE .................................................................................. 37
INTERNATIONAL CONFERENCE ON ENERGY EFFICIENCY AND AGRICULTURAL ENGINEERING
30th of June – 2nd of July 2022
Ruse, Bulgaria

Organized by:

Association for Engineering and Research in Agriculture

IEEE Bulgaria Section

Supported by:

University of Ruse Angel Kanchev

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Technical University of Varna

Technical University of Gabrovo

Union of Electronics, Electrical Engineering and Telecommunications

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Federation of the Scientific Engineering Unions- Ruse
INTERNATIONAL CONFERENCE ON ENERGY EFFICIENCY AND AGRICULTURAL ENGINEERING
30\textsuperscript{th} of June – 2\textsuperscript{nd} of July 2022
Ruse, Bulgaria

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Dear colleagues,

The University of Ruse Angel Kanchev is once again the host of the traditional IEEE International Conference on Energy Efficiency & Agricultural Engineering. It is one of many scientific events which restore the normal rhythm of work in the academic circles after the global pandemic.

I am convinced that the results from the scientific research, which will be presented at the forum, are a solid foundation for discussion in the two most important European policies – energy and feeding the population. The 140 papers are a prerequisite for building joint teams in solving specific tasks in the field of renewable energy and precision agriculture. I believe that you will share experience about your work with students and PhD students for providing an efficient learning process of high quality, which is a priority for every university. Last but not least, I hope that this forum will contribute to the integration in internationalisation of our higher institutions. It is great that there are new participants in the Conference from Mexico, South Africa and Moldova.

Dear colleagues,

I am convinced that during the next few days, the hosts from the Organising Committee will do their best to help you get acquainted with our educational and research infrastructure, teaching resources and the University, so that the implementation of the above-mentioned ideas at a national, regional and international level can become a reality.

Once again, welcome and have a pleasant and useful participation in the 2022 8th International Conference on Energy Efficiency and Agricultural Engineering (EE&AE 2022)!

Rector,

Prof. DSc. Hristo Beloev, DHC mult.
Academician of Bulgarian Academy of Sciences
Dear colleagues and friends,

On starting the 2022 8th International Conference on Energy Efficiency & Agricultural Engineering (EE&AE2022), we provide once again indisputable evidence of our quest to overcome the challenges of the modern world, related to the environment and sustainable development of our society. Young scientists and doctoral students, representatives of industry and business will present and discuss original research findings and practical experience, related to Energy Efficiency, Smart Grid and Renewable Energy, Information and Communication Technologies, Big Data, Precision Agriculture, Education, Entrepreneurship and other relevant issues. The topics mentioned are directly oriented towards the European Green Package, which focuses on innovative technologies for clean energy and the education and training needed, which will guarantee prospective work places and knowledge, needed for the transition. The participation of many academics from leading Bulgarian universities is impressive. They are joined by our colleagues from Russia, Romania, Turkiye, the Slovak Republic, France, Kazakhstan, Mexico, South Africa, Moldova and others. That is why our conference is also a message to the world we want to live in – a world of peace without any brutal confrontation between the nations.

Dear colleagues and friends,

We have received some friendly support from IEEE. Once again we have received both financial and moral support by a number of sponsors, thanks to whom this scientific event will take off. I must emphasize the excellent interaction and understanding of the importance of the IEEE conference EE&AE2022 by the leadership of the University of Ruse.

I extend my deep and sincere gratitude to them on behalf of the event organisers!

And finally, I wish health and success to all participants! May you make good friendships, new scientific achievements and have wonderful experiences in our beautiful city!

Yours sincerely,

Prof. Dr. Nicolay Mihailov, DHC
PROGRAM AT A GLANCE

Thursday, June 30th 2022

10:00 – 16:00 Registration (University of Ruse, Building 2, Floor 1 Lobby)
10:00 – 17:15 Virtual Poster Session
11:00 – 11:30 Opening Ceremony (University of Ruse, Building 2, Hall 101)
11:30 – 13:00 Plenary Session 1 (University of Ruse, Building 2, Hall 101)
13:00 – 14:30 Lunch break
14:30 – 16:00 Oral Session 1 (University of Ruse, Building 2, Hall 204) Oral Session 2 (University of Ruse, Building 2, Hall 206)
16:00 – 16:15 Coffee Break (University of Ruse, Building 2, Hall 203)
16:15 – 17:15 Poster Session 1 (University of Ruse, Building 2, Floor 2 Lobby)
19:00 Welcome Cocktail (Grand Hotel Riga, White Saloon)

Friday, July 1st 2022

09:00 – 16:00 Registration (University of Ruse, Building 2, Floor 1 Lobby)
09:00 – 16:45 Virtual Poster Session
09:00 – 10:30 Oral Session 3 (University of Ruse, Building 2, Hall 204) Oral Session 4 (University of Ruse, Building 2, Hall 206) Oral Session 5 (University of Ruse, Building 2, Hall 101)
10:30 – 11:30 Coffee Break (University of Ruse, Building 2, Hall 203) University – Industry Dialogue Booths (University of Ruse, Building 2, Hall 203)
11:30 – 13:00 Plenary Session 2 (University of Ruse, Building 2, Hall 101)
13:00 – 14:30 Lunch Break
14:30 – 15:30 University – Industry Dialogue Session (University of Ruse, Building 2, Hall 101)
15:30 – 15:45 Coffee Break (University of Ruse, Building 2, Hall 203)
15:45 – 16:45 Poster Session 2 (University of Ruse, Building 2, Floor 2 Lobby)
20:00 Gala Dinner (Mehana Chiflika)
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>09:00 – 11:00</td>
<td>Registration (University of Ruse, Building 2, Floor 1 Lobby)</td>
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<td>09:00 – 11:45</td>
<td>Virtual Poster Session</td>
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<tr>
<td>09:00 – 10:30</td>
<td>Oral Session 6 (University of Ruse, Building 2, Hall 206)</td>
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<td>10:30 – 11:30</td>
<td>Poster Session 3 (University of Ruse, Building 2, Floor 2 Lobby)</td>
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<tr>
<td>11:30 – 11:45</td>
<td>Farewell Coffee. End of Conference (University of Ruse, Building 2, Floor 2 Lobby)</td>
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</tbody>
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COMMITTEES

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Svilen Kunev, University of Ruse Angel Kanchev, Bulgaria
EE&AE HISTORY

The EE&AE conference was organized by a group of researchers from University of Ruse Angel Kanchev, aiming to challenge several fundamental world problems – world hunger and energy poverty. The solutions to these problems are related to energy efficiency, renewable energy sources, precision agriculture, environmental protection and appropriate educational policies.

The first International Conference on Energy Efficiency and Agricultural Engineering was held back in the year 2002, with the support of International Commission of Agricultural and Biosystems Engineering (CIGR). It has attracted the attention of more than 102 researchers, academicians, engineers and students from 23 countries in Europe, Asia and Africa. Since then, a total of seven conferences were held in Ruse, which maintained the initial interest in the topics.

<table>
<thead>
<tr>
<th>№</th>
<th>Edition</th>
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<tr>
<td>1</td>
<td>EE&amp;AE 2002</td>
<td>102 papers</td>
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<tr>
<td>2</td>
<td>EE&amp;AE 2004</td>
<td>120 papers</td>
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<tr>
<td>3</td>
<td>EE&amp;AE 2006</td>
<td>138 papers</td>
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<td>EE&amp;AE 2009</td>
<td>123 papers</td>
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<td>EE&amp;AE 2013</td>
<td>85 papers</td>
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<td>EE&amp;AE 2015</td>
<td>107 papers</td>
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<td>7</td>
<td>EE&amp;AE 2020</td>
<td>146 papers</td>
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Traditionally, the EE&AE conference is supported by the University of Ruse Angel Kanchev, as well as by several national and international companies and since 2020 EE&AE is technically sponsored by IEEE. Their assistance provides the necessary technical infrastructure and organization of cultural activities creating beneficial conditions for the efficient organization and pleasant atmosphere of the events.
Nikolay Filev Djagarov, DSc.

Affiliation: Nikola Vaptsarov Naval Academy, Varna, Bulgaria

Position: Professor

E-mail: n.djagarov@nvna.eu, jagarov@ieee.bg

Presentation: Traction Motor Drive of Electrical Vehicle: Types, Performances and Control

Nikolay Djagarov is a full professor in the Nikola Vaptsarov Naval Academy, Varna. He received his MSc, PhD and DSc in the Saint Petersburg Electrotechnical University (LETI), Russia. During his professional career he has been the Head of Power Delivery and Electrical Equipment Department in the Technical University of Varna. His research interests include shore and autonomous power systems (modeling, control, power quality, electrical propulsion, PSS, FACTS), wind generators and distributed generations, modelling and control of electrical drives and SCADA systems. He has been a supervisor of tens of PhD students in the above fields. Prof. Djagarov has published more than 60 articles in indexed research journals and conference proceedings with hundreds of citations. He is Member of the editorial board of journals: WSEAS Transactions of Power Systems, ACEEEE International Journal on Control System and Instrumentation; Industrial energetics, Moscow, Russia; Electrical systems and complexes, Magnitogorsk, Russia. Active Reviewer in Wiley International Transactions on Electrical Energy Systems. Member of the Scientific Committee and Chairman of Session of over 50 conferences and symposia. In 2018 he received an individual Varna City Award on Technical Sciences "For outstanding scientific and pedagogical achievements in the field of electrical engineering, electric power and electrical equipment of ships".
Zuzana Palkova was born in Komarno, Slovakia. She graduated at the Faculty of Electrical Engineering and Informatics, Slovak Technical University in Bratislava. She is currently professor at the Slovak University of Agriculture in Nitra. Her research interests include digital technologies, modeling and simulation of processes in agriculture, development of innovative educational methodologies, application of digital technologies to education. Prof. Palkova is a member of The Council for Vocational Training, Consultancy and Projects’ Activity, The Centre of Agricultural Consultancy – expert for Agricultural Consulting, work group “Informatics, Vocational Education in the Agricultural area”, member of the Scientific Board of the Faculty of Engineering at Slovak University of Agriculture in Nitra; member of the Editorial board “Scientific Papers Series Management, Economic Engineering and Rural Development”, University of Agricultural Sciences and Veterinary Medicine, Bucharest, Romania; member of the Editorial board of „International Journal of Advanced Engineering Research and Applications“ (IJAERA), India; and member of the Editorial board Agris on-line Papers in Economics and Informatics. Prof. Palkova has participated in numerous EU projects funded under the programmes Horizon 2020, Erasmus+, Leonardo da Vinci, Visegrad Fund and European social fund.
Mircea Neagoe is full professor at Transilvania University of Brasov and member of the Renewable Energy Systems and Recycling R&D Center within the Faculty of Product Design and Environment. He has almost 30 years of experience on theoretical and experimental research of mechanical transmissions with a focus in the last decade on speed increasers for wind turbines, as well as on other complementary domains like solar tracking systems for PV & solar-collector applications, integrated product design, artificial intelligence, robotics, eco-innovation, e-learning. His current research activities focus on innovative development of mechanical speed increasers for traditional and counter-rotating wind turbines. Another research direction addresses design and optimization of PV tracking algorithms and systems implemented in the built environment, aiming at increasing the in-field electricity production during various meteorological conditions.
Suzanne Lesecq is Research Director at CEA-Leti where she is European Programme Manager in the System department in Leti. She has been student at Ecole Normale Supérieure de Cachan (ENS), France, where she passed the “Agrégation” in Electrical Engineering. She defended her PhD in Process Control from the Grenoble Institute of Technology, France, in 1997. She joined the University of Grenoble, France in 1998 where she has been appointed as Associate-Professor from 1998 to 2006 and full-time Professor from 2006 to 2009. She joined CEA-Leti in mid-2009 where she mainly works on collaborative programmes at national and EU levels. She has been coordinator of the H2020 INSPEX project for which she is recipient of the prize “les Etoiles de l’Europe” in 2020. She is currently coordinating the SARMENTI H2020 project (GA 825325). Her research interest is in data fusion, together with its robust implementation on computing devices, with a particular focus on the agri-food sector and environment perception.
PROGRAM IN DETAILS

Thursday, June 30th 2022

10:00 – 16:00    Registration (University of Ruse, Building 2, Floor 1 Lobby)

Thursday, June 30th 2022

11:00 – 11:30    Opening ceremony (University of Ruse, Building 2, Hall 101)

Prof. Dr. Nicolay Mihailov, University of Ruse Angel Kanchev, Conference Chair

Academician Prof. DSc. Hristo Beloev, Rector of University of Ruse Angel Kanchev

Prof. Dr. Valentina Markova, Chair of IEEE Bulgaria Section

Thursday, June 30th 2022

11:30 – 13:00    Plenary Session 1 (University of Ruse, Building 2, Hall 101)

Session chair: Boris EVSTATIEV, University of Ruse Angel Kanchev

PL1.1 Trends and Innovations in Wind Power Systems

Mircea Neagoe (Transilvania University of Brasov, Romania)

PL1.2 Would digitalisation support transition towards more sustainable agriculture to meet the Green Deal ambition?

Suzanne Lesecq (CEA-Leti, France); Gareth Keeley (CEA-Leti, France); Gabriela Dudnik (CSEM, Switzerland); Alan O’Riordan (Tyndall UCC, Ireland)

Thursday, June 30th 2022

13:00 – 14:30    Lunch break

Thursday, June 30th 2022

14:30 – 16:00    Oral Session 1 (University of Ruse, Building 2, Hall 204)

Session chair: Mircea NEAGOE, Transilvania University of Brasov

Session co-chair: Tsvetelina MLADENOVA, University of Ruse Angel Kanchev

O1.1 Solar-Thermal Collector Energy Optimisation Based on Optimum Input Temperature Model

Mugurel F Talpiga (Doctoral School of Technical University of Civil Engineering Bucharest)
O1.2 Using Solar Energy to Power an Agricultural Robot

Rosen Ivanov (University of Ruse Angel Kanchev); Georgi Komitov (Agricultural University-Plovdiv); Donka Ivanova (University of Ruse Angel Kanchev); Georgi Kadikyanov (University of Ruse Angel Kanchev); Gergana Staneva (University of Ruse Angel Kanchev)

O1.3 Efficiency Improvement of Electric and Hybrid Vehicles by Better Utilization of Inertia

Ventsislav P Keseev (University of Ruse Angel Kanchev)

O1.4 Electric Bicycle Battery Optimization for Lower Cost, Higher Safety, Affordability and Competitiveness

Ventsislav P Keseev (University of Ruse Angel Kanchev)

O1.5 New design developments of a steam generator with flame tubes derived from a hot water boiler burning agricultural biomass

Ionel Pisa (UP Bucuresti); Gabriel P Negreanu (University Politehnica of Bucharest); Lucian Mihaescu (University Politehnica of Bucharest); Viorel Berbece (University Politehnica of Bucharest); Gheorghe Lazaroiu (Politehnica University of Bucharest)

O1.6 An analysis of the efficiency of flue gases energy potential conversion through methanation

Lucian Mihaescu (University Politehnica of Bucharest); Gheorghe Lazaroiu (Politehnica University of Bucharest); Gabriel P Negreanu (University Politehnica of Bucharest); Manuela Grigoriu (University Politehnica of Bucharest); Mihai Dragne (University Politehnica of Bucharest); Laura Alexandra Stanescu (University Politehnica of Bucharest); Florin I Balcu (National Institute for Research and Development in Electrochemistry and Condens); Cornel Panait (University MARITIMA of Constanța)

O1.7 Evaluation of β-Carotene Content in Apricots During the Drying Process using Visual and Near-Infrared Spectroscopy

Martin Dejanov (University of Ruse Angel Kanchev)

Thursday, June 30th 2022

14:30 – 16:00 Oral Session 2 (University of Ruse, Building 2, Hall 206)

Session chair: Teodor ILIEV, University of Ruse Angel Kanchev

Session co-chair: Ivaylo STOYANOV, University of Ruse Angel Kanchev

O2.1 Presentation of a New Technology for Incineration of Municipal Solid Wast (MSW)

Dimitar Nikolaev Kolev (Institute of Chemical Engineering - Bulgarian Academy of Sciences)

O2.2 Production of Biochar from Wheat Straw with Muffle Furnace and Flow Reactor

Rositsa Velichkova (Technical University of Sofia)
O2.3  An Investigation of the Energy Efficiency of a Grid Connected Photovoltaic System
Konstantin G Koev (University of Ruse Angel Kanchev)

O2.4  Analysis of the Meteorological Factors Affecting the Efficient Use of Electricity in Water Supply Systems
Anka Krasteva (University of Ruse Angel Kanchev); Donka Ivanova (University of Ruse Angel Kanchev)

O2.5  Constant Losses in Induction Motors and Possible Solutions for their Reduction
Anka Krasteva (University of Ruse Angel Kanchev); Vyara Ruseva (University of Ruse Angel Kanchev); Miglena Hristova (University of Ruse Angel Kanchev)

O2.6  Possibilities for Reduction of Variable Losses in Induction Motors
Anka Krasteva (University of Ruse Angel Kanchev); Vyara Ruseva (University of Ruse Angel Kanchev); Miglena Hristova (University of Ruse Angel Kanchev)

Thursday, June 30th 2022

16:00 – 16:15  Coffee Break (University of Ruse, Building 2, Hall 203)

Thursday, June 30th 2022

16:15 – 17:15  Poster Session 1 (University of Ruse, Building 2, Floor 2 Lobby)

Session chair: Nadezhda EVSTATIEVA, University of Ruse Angel Kanchev
Session co-chair: Tzvetelin GUEORGUIEV, University of Ruse Angel Kanchev

P1.1  Indoor Air Measurements for Particle Pollution
Lelia Popescu (Technical University of Construction of Bucharest); Razvan Popescu (Technical University of Construction of Bucharest)

P1.2  Outdoor Air Measurements with Mobile Laboratory in Bucharest
Razvan Popescu (Technical University of Construction of Bucharest); Lelia Popescu (Technical University of Construction of Bucharest)

P1.3  Evapotranspiration, Development and Productivity of Wheat under Different Tillage Systems on Sloping Terrains
Gergana Slavova Kuncheva (Institute of Soil Science, Agro-Technology and Plant Protection “Nikola Pushkarov”); Petar Dimitrov (University of Ruse Angel Kanchev); Iliana Ivanova (Institute of Agriculture and Seed Science "Obraztsov Chiflik"); Evgeni Enchev (University of Ruse Angel Kanchev)

P1.4  Impact of Two Energy Conservation Measures on Reducing CO2 Emissions
Mila Ilieva (University of Mining and Geology “St. Ivan Rilski”); Ivan Prodanov (University of Mining and Geology “St. Ivan Rilski”)
P1.5  Optimal Power Factor of Synchronous Motors in Operating Conditions
Mehmed Hassan (University prof. dr. Asen Zlatarov)

P1.6  The Model of Maturity as a Factor for Sustainable Development of Organizations
Pavel Vitliemov (University of Ruse Angel Kanchev)

P1.7  An Approach to Design a Haptic and Autonomous Multi-Mission Incident Response Robot
Pavel Vitliemov (University of Ruse Angel Kanchev)

P1.8  Identification of Lighting Clouds Presented by Electric Dipole
Atanas Chervenkov (Technical University of Sofia)

P1.9  Good Practices in Implementing Energy Efficiency Measures in "Angel Kanchev" University of Ruse
Ivaylo Stoyanov (University of Ruse Angel Kanchev); Hristo Beloev (University of Ruse Angel Kanchev); Teodor B. Iliev (University of Ruse Angel Kanchev)

P1.10 Impact of the method of air suction on the energy efficiency of fan systems
Gencho Popov (University of Ruse Angel Kanchev); Kliment Klimentov (University of Ruse Angel Kanchev); Boris Kostov (University of Ruse Angel Kanchev)

P1.11 Design of a Smart System for Monitoring and Management of Pastures and Meadows: The Relational Database Approach
Tsvetelina Mladenova (University of Ruse Angel Kanchev); Irena Valova (University of Ruse Angel Kanchev); Nikolay Valov (University of Ruse Angel Kanchev)

P1.12 Water Erosion Hydrodynamical Impact on the Soil at Irrigation Processes
Roumen Gadjev (Institute of Soil Science, Agro-Technology and Plant Protection “Nikola Pushkarov”)

P1.13 Filtration Flows in a Ground Field and Contamination Transfer
Roumen Gadjev (Institute of Soil Science, Agro-Technology and Plant Protection “Nikola Pushkarov”)

P1.14 On the Laminar Flow Regime Forming in Pipelines for Drip Irrigation
Roumen Gadjev (Institute of Soil Science, Agro-Technology and Plant Protection “Nikola Pushkarov”)

P1.15 Design of a Distribution Smart Grid
Konstantin Raykov (Technical University of Sofia, EPF-Sliven); Joana Bakardjieva (SOT Sektron)

P1.16 The Place of the Blockchain in the Recycling of Raw Materials
Teodora V Hristova (University of Mining and Geology "St. Ivan Rilski")
P1.17 Development of Optimization Model for Herd Distribution in Animal Husbandry
Kristina Pavlova (Institute of Information and Communication Technologies - Bulgarian Academy of Sciences); Stanislav Dimitrov (Institute of Information and Communication Technologies - Bulgarian Academy of Sciences)

P1.18 Neural Network a Way to Forecast the Generation of Electricity From a Wind Turbine
Ivelina Metodieva (Technical University of Sofia); Stoyan Bozhkov (Technical University of Sofia)

Thursday, June 30th 2022

19:00 Welcome Cocktail (Grand Hotel Riga, White Saloon)

From Thursday, June 30th 2022 to Saturday, July 2nd 2022

10:00 – 16:00 Virtual Poster Session (Available at the conference website)

Session chair: Nicolay MIHAIOLOV, University of Ruse Angel Kanchev

VP1 Use of Thermoelectric Cooler as Humidity Regulator
Kaloyan I Ivanov (University prof. dr. Asen Zlatarov); Ivaylo Belovski (University prof. dr. Asen Zlatarov); Anatoliy Alexandrov (Technical University of Gabrovo)

VP2 Simulation of Initial Characteristics of Thermoelectric Modules in Generation Mode Realized in MATLAB Environment
Kaloyan I Ivanov (University prof. dr. Asen Zlatarov); Ivaylo Belovski (University prof. dr. Asen Zlatarov); Anatoliy Alexandrov (Technical University of Gabrovo)

VP3 Salvia Sclarea Essential Oil: Antioxidant Capacity, Kinetic and Thermodynamic Investigation
Vanya D Gandova (University of Food Technologies); Nadezhda Traycheva Petkova (University of Food Technologies); Darina Georgieva (University of Food Technologies); Yana Koleva (University prof. dr. Asen Zlatarov); Albena Stoyanova (University of Food Technologies)

VP4 Evaluation of the Chemical Composition and Antimicrobial Activity of Summer Savory (Satureja Hortensis L.) Essential Oil
Vanya D Gandova (University of Food Technologies); Stanko Stankov (University of Food Technologies); Hafize Fidan (University of Food Technologies); Ivaila Dincheva (AgroBioInstitute, Agricultural Academy); Anton Lazarov (University of Food Technologies); Albena Stoyanova (University of Food Technologies)
VP5  Chemical Composition of Essential Oils from Different Mentha Ssp.
Vanya D Gandova (University of Food Technologies); Hafize Fidan (University of Food Technologies); Stanko Stankov (University of Food Technologies); Ivaila Dincheva (AgroBioInstitute, Agricultural Academy); Ivan Iliev (University of Food Technologies); Albena Stoyanova (University of Food Technologies)

VP6  Coupled Finite Element Analysis of Optical Ground Wire for Overhead Power Lines
Petar Milkov Uzunov (Technical University of Gabrovo)

VP7  Investigation of Emulsion Stability in Soybean Protein Isolates – Soybean Oil – Water System
Ivalina Petrova (Technical University-Plovdiv); Vanya D Gandova (University of Food Technologies)

VP8  Statistical Models for Observation the Uniformity of the Working Depth of Machine-Tractor Unit During Disking and Cultivation Depending on Soil Moisture
Petya Veleva (Trakia University); Galya Hristova (Trakian University)

VP9  A Study Related to the Influence of the Speed of a Machine-tractor Aggregate and Soil Moisture on Plowing Depth
Petya Veleva (Trakia University); Galya Hristova (Trakian University); Manol A Dallev (Agriculture University of Plovdiv)

VP10  Monitoring of Operation of Electric System by Radiocommunication Devices and Energy Consumption in Wastewater Treatment Plant
Lukáš Vacho (Slovak University of Agriculture in Nitra); Tomáš Mlinarcsik (Slovak University of Agriculture in Nitra); Stanislav Paulovič (Slovak University of Agriculture in Nitra)

VP11  Intuitionistic Fuzzy Estimations of Implementation of Port Knocking on Routeros
Ivelina M Vardeva (University prof. dr. Asen Zlatarov)

VP12  Comparative Analysis of Pulse Methods for DC Motor Control
Svetoslav Cv Ivanov (Technical University of Sofia, branch Plovdiv); Yanka T Ivanova (Technical University of Sofia, branch Plovdiv)

VP13  Mathematical Model of Operability of a Single-Phase Bridge Rectifier
Andrey V Puzakov (Orenburg state university); Andrey Arhirejskij (Orenburg State University)

VP14  Comparison of Seasonal Differences in Infrared Thermal Images Captured Through a Intelligent Pasture Monitoring System
Tsvetan I Valkovski (Technical University of Sofia); Iliyan Damyanov (Technical University of Sofia); Kalin L Dimitrov (TU-Sofia)

VP15  Chemical Characteristics of Soap with Using Plum Kernel Oil (Prunus Domestica L.)
Nikolaya Delinska (University of Food Technologies); Mariyana Perifanva (University of Food Technologies)
VP16  Physical Properties of Soaps Obtained with the Participation of Plum Kernel Oil (Prunus Domestica L.)
Nikolaya Delinska (University of Food Technologies)

VP17  Study of the Cattle Population with the Help of Remote Digital Photography and Videography
Tsvetan I Valkovski (Technical University of Sofia); Kalin L Dimitrov (Technical University of Sofia); Durhan Saliev (Technical University of Sofia); Georgi Mladenov (Technical University of Sofia)

VP18  Modelling and Analysis of the Electric Field in a Chamber for Pre-Sowing Electrical Treatment of Seeds of Field Crops
Kiril Sirakov (University of Ruse Angel Kanchev)

VP19  IoT Based Livestock Precision Feeding System using Machine Learning
Radosveta Sokullu (Ege University); Baran Yusuf Tanriverdi (Ege University); Rossitza Goleva (New Bulgarian University)

VP20  People/Animal Counting – Integrated Sensor Based and Wifi/Machine Learning Based System
Radosveta Sokullu (Ege University)

VP21  LoRa Based Smart Agriculture Network
Radosveta Sokullu (Ege University)

VP22  The Need for Artificial Intelligence for Energy-Efficiency Management: A Review
Lehlogonolo David Mashapu (University of Johannesburg); Patrick Eboule (University of Johannesburg); Jan-Harm C Pretorius (University of Johannesburg)

VP23  Tolerance Analysis of SEPIC DC-DC Converter
Nikolay Hinov (Technical University of Sofia); Tsveti H Hranov (Technical University of Sofia); Bogdan Gilev (Technical University of Sofia)

VP24  Study of the Possibilities for Optimization of Reactive Power According to the Criterion "Electric Power Quality" in the Power Supply System of a Port Complex
Neli Simeonova (University prof dr Asen Zlatarov); Mladen A Proykov (University prof dr Asen Zlatarov)

VP25  Opportunities for Rationalization the Electricity Consumption of a Port Complex
Neli Simeonova (University prof dr Asen Zlatarov); Ginko Georgiev (Burgas Free University); Rumen Kirov (Technical University of Varna); Venelin Ivanov (Navbul Port Burgas)

VP26  Novel Efficiency-Based Model for Road-Transport Energy Evaluation Using Gravitational Benchmark and Route-Profile Characteristics
Ognyan Dinolov (University of Ruse Angel Kanchev)

VP27  A New Method for Testing Peltier Modules
Radostin Kasarov (University prof dr Asen Zlatarov)
VP28  Temperature Dependence of Surface Tension in Three Essential Oils with Application as Adjuvants in Agriculture
Ivalina Petrova (Technical University-Plovdiv); Vanya D Gandova (University of Food Technologies); Zdravko Gandov (Aqua Systems Ltd); Sabahin Karaibryam (Oregano BG Ltd)

VP29  3D Model of T-Shaped Inductor for Induction Brazing
Dragomir Grozdanov (Technical University of Sofia); Philip Vasilev (Technical University of Sofia); Nikolay Hinov (Technical University of Sofia)

VP30  Main Trends in the Organization of the Postgraduate Research and Education Process in the Context of Digitalization of Higher Education
Valeeva Yulia Sergeevna (Kazan State Power Engineering University); Sargu Stefan Lilia (University of European Studies of Moldova); Valeeva Svetlana Nikolaevna (Kazan State Power Engineering University); Ergashov Yokub Suvonovich (National university of Uzbekistan named after M.Ulugbek)

VP31  Peculiarities and Trends of National Environmental Policies of Countries
Julia Sergeevna Valeeva (Kazan State Power Engineering University); Olga Dyudina (Kazan State Power Engineering University); Ilgiz Nurtdinov (Kazan State Medical University)

VP32  Identification, Vulnerability Research and Cybersecurity of Raspberry Pi Devices
Nikolay Hinov (Technical University of Sofia); Filip Krastev (Technical University of Sofia)

VP33  A Multidimensional Comparative Analysis of Inverters Used in Wireless Power Transfer
Vlad P Mocanu (Mircea cel Bătrân Naval Academy); Vasile Dobref (Naval Academy Mircea cel Batran); Deliu Florențiu (Mircea cel Bătrân Naval Academy); Popa Nicolae-Silviu (Mircea cel Bătrân Naval Academy)

VP34  Optimization of the Design of a Chamber for Pre-Sowing Electric Treatment of Field Crop Seeds
Kiril Sirakov (University of Ruse Angel Kanchev)

VP35  Influence of Pre-Sowing Electromagnetic and Chemical Treatment on Sowing Qualities of Maize Seeds
Kiril Sirakov (University of Ruse Angel Kanchev); Miroslav Mihaylov (University of Ruse Angel Kanchev)

VP36  Ultrasonic Investigation of Thin Ceramic Plates by Means of Delay Line Contact Mode
Radostin Kasarov (University prof dr Asen Zlatarov)

VP37  Power Electronic Drive Circuit for DC Motor with Addition of Energy
Svetoslav Cv Ivanov (Technical University of Sofia, branch Plovdiv)
VP38  Measures to Stimulate the Development of Electric Transport as a Tool for the Development of the Territory
Tatsiana G. Zoryna (Institute of Power Engineering of NAS of Belarus); Siarhei A. Aliaksandrovich (Institute of Power Engineering of NAS of Belarus); Yulia S. Valeeva (Kazan State Power Engineering University); Marina V. Kalinina (Kazan State Power Engineering University); Lilia E. Ilikova (Kazan Federal University); Ergashov Yokub Suvonovich (National university of Uzbekistan named after M. Ulugbek)

VP39  Online Education: Modern Management in University System
Elmira Ildarovna Nazmieva (Kazan Federal University); Guzel Raisovna Chumarina (Kazan National Technical University named after A.N. Tupolev); Lilia S. Valeeva (Kazan State Power Engineering University)

VP40  Structural–Functional Model of the Students’ Adaptation Process to the European Credit Transfer System
Eremeeva Guzel Rinatovna (Kazan Federal University Kazan); Fakhruddinova Anastasiia Viktorovna (Kazan Federal University); Kondrateva Irina Germanovna (Kazan Federal University); Sabirova Diana Rustamovna (Kazan Federal University); Lilia E. Ilikova (Kazan Federal University)

VP41  Numerical Modelling Biogas Combustion in the Novel Burner
Abay Dostiyarov (Almaty University of Power Engineering and Telecommunications named after Gumarbek Dauekeyev); Hristo Beloev (University of Ruse Angel Kanchev); Maskat Anarbekov (Kazakh Agrotechnical University named after S. Seifullin); Iliya Iliev (University of Ruse Angel Kanchev)

VP42  Performance Analysis of a Stand-Alone PV System in Yemeni Rural Areas
Musaab A. Mohsen Al-Maidan (Mugla Sitki Kocman University); Katerina Gabrovskaja-Evstatieva (University of Ruse Angel Kanchev); Nicolay Mihailov (University of Ruse Angel Kanchev)

VP43  Bioconversion of Lemna sp and Nejayote into Biogas as a Starting Point for Agrowaste
Pabel Cervantes-Avilés (Tecnologico de Monterrey); Valeria Sánchez-Velázquez (Tecnologico de Monterrey); Janet Gutiérrez-UrIBE (Tecnologico de Monterrey); German Cuevas-Rodríguez (Universidad de Guanajuato)

VP44  Drone Surveillance in the Modern Agriculture
Tsviatko Bikov (University of Telecommunications and Post); Grigor Mihaylov (University of Telecommunications and Post); Teodor B. Iliev (University of Ruse Angel Kanchev); Ivaylo Stoyanov (University of Ruse Angel Kanchev)

VP45  Optimizing the operation of the LiDAR sensor
Constantin Daniel Oancea (University Politehnic of Bucharest)

VP46  Numerical Analysis of Thermal Pollution Caused by Coal-Fired Power Plant
Mirjana Lakovic (University of Nis); Milica Jovcevski (University of Nis); Marko Mančić (University of Nis); Filip Stojkovski (Iskra Impuls)
Friday, July 1st 2022

09:00 – 16:00   Registration (University of Ruse, Building 2, Floor 1 Lobby)

Friday, July 1st 2022

09:00 - 10:30   Oral Session 3 (University of Ruse, Building 2, Hall 204)

Session chair: Gilles NOTTON, University of Corsica

Session co-chair: Gabriel NEGREANU, University Politehnica of Bucharest

O3.1 Determining the Integral Law of Fuel Supply and Heat Dissipation Characteristics of Low Speed Marine Diesel Engines

Yuliyan Moskov (Nikola Vaptsarov Naval Academy)

O3.2 Adequacy Analysis and Adaptation of the Mathematical Model for SSDE Management

Yuliyan Moskov (Nikola Vaptsarov Naval Academy)

O3.3 Energy Management Improvement in a PV/Battery Smart-grid by Integration of Solar Resource Forecasting

Gilles Notton (University of Corsica); Ghjuvan Faggianelli (University of Corsica); Jean Laurent Duchaud (University of Corsica); Cyril Voyant (University of Corsica); Sarah Ouedraogo (University of Corsica); Fabien Bouisset (University of Corsica)

O3.4 Applications of the Ultrafiltration Membranes in the Industrial Effluents Treatment Processes. A Short Review

Andrei Zaharia (Vasile Alecsandri University of Bacau); Valentin Nedeff (Vasile Alecsandri University of Bacau); Mihaela Culea (Vasile Alecsandri University of Bacau); Narcis Barsan (Vasile Alecsandri University of Bacau)

O3.5 Investigation of Processes in the Ship’s Power System Containing a Rectifier Under Different Control

Nikolay Djagarov (Nikola Vaptsarov Naval Academy); Dimitar Tsvetanov (Nikola Vaptsarov Naval Academy); Zhivko Grozdev (Nikola Vaptsarov Naval Academy); Julia Djagarova (Technical University of Varna)

O3.6 Harmonic Compensation in Ship Power System Using p-q Theory Control Based Shunt Active Power Filter

Dimitar Tsvetanov (Nikola Vaptsarov Naval Academy); Nikolay Djagarov (Nikola Vaptsarov Naval Academy); Zhivko Grozdev (Nikola Vaptsarov Naval Academy); Julia Djagarova (Technical University of Varna)

O3.7 Bi-Level Optimization of Ship Transportation by Collision Avoidance and Fuel Consumption

Blagovest Belev (Nikola Vaptsarov Naval Academy)
Friday, July 1st 2022

09:00 - 10:30 Oral Session 4 (University of Ruse, Building 2, Hall 206)

Session chair: Ludmil STOYANOV, Technical University of Sofia

Session co-chair: Stanislav PENCHEV, University of Ruse Angel Kanchev

O4.1 Inventory Planning in Livestock Management
Todor Stoilov (Institute of Information and Communication Technologies - Bulgarian Academy Of Sciences); Krasimira Stoilova (Institute of Information and Communication Technologies - Bulgarian Academy of Sciences); Elisaveta Trichkova-Kashamova (Institute of Information and Communication Technologies)

O4.2 Cleaning Sunflower Oil With the Use of the Ultrasonic Field
Yuriy I. Enakiev (Institute of Soil Science, Agro-Technology and Plant Protection “Nikola Pushkarov”); Petr Osadchuk (Odesa National Technological University); Dmitry Domuschi (Odesa State Agrarian University); Blagoy Elenov (Institute of Soil Science, Agro-Technology and Plant Protection “Nikola Pushkarov”)

O4.3 Influence of Non-Traditional Organic Fertilizers on Spring Wheat Harvest and Carbon Dioxide Emission from Soil
Yuriy I. Enakiev (Institute of Soil Science, Agro-technology and Plant Protection “Nikola Pushkarov”); Vsevolod Lapushkin (Russian State Agrarian University – Moscow Timiryazev Agricultural Academy); Anastasia Lapushkina (Russian State Agrarian University – Moscow Timiryazev Agricultural Academy); Stepan Smirnov (Russian State Agrarian University – Moscow Timiryazev Agricultural Academy)

O4.4 Assessment of Urban Traffic Control by Application of bi-Level Optimization Model
Krasimira Stoilova (Institute of Information and Communication Technologies - Bulgarian Academy of Sciences ); Todor Stoilov (Institute of information and communication technologies - Bulgarian Academy of Sciences); Stanislav Dimitrov (Institute of information and communication technologies - Bulgarian Academy of Sciences)

O4.5 Study of the Main Parameters of Composting Agricultural Waste in Bulgaria
Yuriy I. Enakiev (Institute of Soil Science, Agro-Technology and Plant Protection “Nikola Pushkarov”); Ivan Mortev (Institute of Soil Science, Agro-technology and Plant Protection “Nikola Pushkarov”); Aliya Bakhitova (Russian State Agrarian University – Moscow Timiryazev Agricultural Academy); Kiril Stefanov (University of Forestry)

O4.6 Problems of Ensuring Data Security in Digital Management of Processes in Animal Husbandry
Ivan Blagoev (Institute of Information and Communication Technologies-Bulgarian Academy of Sciences); Tatiana Atanasova (Institute of Information and Communication Technologies-Bulgarian Academy of Sciences)
O4.7 Smart Dairy Farm - Digitalization and Innovation
Nikolay Markov (Research Institute of Mountain Stockbreeding and Agriculture); Svetoslava Stoycheva (Research Institute of Mountain Stockbreeding and Agriculture); Tatiana Atanasova (Institute of Information and Communication Technologies-Bulgarian Academy of Sciences); Ivan Blagoev (Institute of Information and Communication Technologies-Bulgarian Academy of Sciences); Plamen Petrov (Institute of Information and Communication Technologies-Bulgarian Academy of Sciences); Irena Valova (University of Ruse Angel Kanchev); Nikolay Valov (University of Ruse Angel Kanchev); Tsvetelina Mladenova (University of Ruse Angel Kanchev); Miroslav Hristov (Research Institute of Mountain Stockbreeding and Agriculture); Lora Mondeshka (Research Institute of Mountain Stockbreeding and Agriculture)

Friday, July 1st 2022

09:00 - 10:30 Oral Session 5 (University of Ruse, Building 2, Hall 101)

Session chair: Pavel VITLIEMOV, University of Ruse Angel Kanchev

Session co-chair: Teodora HRISTOVA, University of Mining and Geology "St. Ivan Rilski"

O5.1 Design and Implementation of a Remote Lab for Investigation of DC Motors
Teodor Nenov (University of Ruse Angel Kanchev); Boris I Evstatiev (University of Ruse Angel Kanchev); Seher Kadirova (University of Ruse Angel Kanchev)

O5.2 The Influence of Catalyst (p-TSA) Weight Percentage (as One of the Main Factors) on Reaction Rate During Oleic Acid Esterification Process with Trimethylol propane (TMP)
Stanislav Bayryamov (University of Ruse Angel Kanchev); Vasil Kopchev (University of Ruse Angel Kanchev)

O5.3 The Influence of Temperature (as One of the Main Factors) on Reaction Rate During Oleic Acid Esterification Process with Trimethylolpropane (TMP)
Vasil Kopchev (University of Ruse Angel Kanchev); Stanislav Bayryamov (University of Ruse Angel Kanchev)

O5.4 Research of the Need for Training Financial Literacy under Economic Uncertainty in the Framework of the Educational Process at Schools
Sargu Lilia Sargu (University of European Studies of Moldova); Julya Sergeevna Valeeva (Kazan State Power Engineering University); Gatina Elvira Arslanovna (Russian University of Cooperation); Yelesin Evgeniy Yurievich (Russian University of Cooperation)

O5.5 Quantifying the Values of Selected KPIs of on-Farm Using Statistical Methods of Analysis
Elisaveta Trichkova-Kashamova (Institute of Information and Communication Technologies-Bulgarian Academy of Sciences)

O5.6 Model for the Frequency of Extreme Natural Events Algorithm
Donika V Dimanova (Konstantin Preslavsky University of Shumen); Zdravko Y Kuzmanov (Konstantin Preslavsky University of Shumen)
O5.7  Modelling the Probability of Intense Rainfall Events
Donika V Dimanova (Konstantin Preslavsky University of Shumen); Zdravko Y Kuzmanov (Konstantin Preslavsky University of Shumen)

Friday, July 1st 2022

10:30 - 11:30     Coffee Break (University of Ruse, Building 2, Hall 203)

Friday, July 1st 2022

10:30 - 11:30     University – Industry Dialogue Booths (University of Ruse, Building 2, Hall 203)

Friday, July 1st 2022

11:30 – 13:00     Plenary Session 2 (University of Ruse, Building 2, Hall 101)

Session chair: Irena VALOVA, University of Ruse Angel Kanchev

PL2.1  Traction Motor Drive of Electrical Vehicle: Types, Performances and Control
Nikolay Djagarov (Nikola Vaptsarov Naval Academy)

PL2.2  Perspective of Education in Agriculture 4.0 in Selected Countries in European Union and Palestine
Zuzana Palkova (Slovak University of Agriculture); Marta Harnicarova (Institute of Technology and Business in České Budějovice); Jan Valicek (Institute of Technology and Business in České Budějovice); Vojtěch Stehel (Institute of Technology and Business in České Budějovice); Nicolay Mihailov (University of Ruse Angel Kanchev); Maria Fragkaki (University of Patras); Walid Khalilia (Al-Istiqlal University); Aziz SALAMEH (Al-Quds Open University)

Friday, July 1st 2022

13:00 - 14:30     Launch Break

Friday, July 1st 2022

14:30 – 15:30     University – Industry Dialogue Session (University of Ruse, Building 2, Hall 101)

Session chair: Tzvetelin GUEORGUIEV, University of Ruse Angel Kanchev

UI1  Presentation of Schrack Technik - Bulgaria
UI2  Presentation of Solar MD – South Africa
UI3  Presentation of the Open Access Journal Energies

UI4  Presentation of the Project Boosting Innovation in Education and Research of Precision Agriculture in Palestine (BENEFIT)

Friday, July 1st 2022

15:30 - 15:45  Coffee Break (University of Ruse, Building 2, Hall 203)

Friday, July 1st 2022

15:45 – 16:45  Poster Session 2 (University of Ruse, Building 2, Floor 2 Lobby)

Session chair: Stanislav PENCHEV, University of Ruse Angel Kanchev

Session co-chair: Seher KADIROVA, University of Ruse Angel Kanchev

P2.1  Concentration for monitoring of air pollutants of domestic and industrial nature
Aneliya Manukova-Marinova (University of Ruse Angel Kanchev); Kamen Krastev (SIVIKO LTD); Iordan Stoev (University of Ruse Angel Kanchev)

P2.2  Innovative Approach in the Implementation of an Electronic System for Monitoring and Control of Production Processes
Aneliya Manukova-Marinova (University of Ruse Angel Kanchev); Kamen Krastev (SIVIKO LTD)

P2.3  Methods for Automated Remote Sensing and Counting of Animals
Yordan Kalmukov (University of Ruse Angel Kanchev); Boris I Evstatiev (University of Ruse Angel Kanchev)

P2.4  Analysis of the Key Factors Influencing the Outdoor Animal Recognition and Counting Accuracy
Boris I Evstatiev (University of Ruse Angel Kanchev); Yordan Kalmukov (University of Ruse Angel Kanchev)

P2.5  Determining the Planned Error of a Measurement Transducer with a Pointer
Danko Tonev (University of Ruse Angel Kanchev); Tzvetelin Gueorguiev (University of Ruse Angel Kanchev)

P2.6  Study of PV Technology Influence on the Battery Sizing in PV-based Irrigation System
Ludmil S Stoyanov (Technical University of Sofia); Ivan Bachev (Technical University of Sofia); Zahari Zarkov (Technical University of Sofia); Vladimir Lazarov (Technical University of Sofia)
P2.7  Portable on-Site Testing System for Hydrokinetic Turbines
Rareș A Chihaia (ICPE-CA); Gabriela Circiumaru (INCDIE ICPE-CA); Nicolae Tanase (INCDIE ICPE-CA); Andreea Voina (National Institute for Research and Development in Electrical Engineering ICPE-CA Bucharest); Andreea El-Leathey (ICPE-CA); Constantin Dumitru (INCDIE ICPE-CA)

P2.8  Bio Mix Diesel for Significant Lowering of CO2,NOx Emissions and FSN from CI Engine
Radostin D Dimitrov (Technical University of Varna); Veselin Mihaylov (Technical University of Varna)

P2.9  Investigation Of Braking Deceleration In Vehicle
Veselin Mihaylov (Technical University of Varna); Radostin D Dimitrov (Technical University of Varna); Zdravko Ivanov (Technical University of Varna)

P2.10  Evaluation Of Errors At Measuring Of Braking Process In Vehicles
Veselin Mihaylov (Technical University of Varna); Radostin D Dimitrov (Technical University of Varna); Zdravko Ivanov (Technical University of Varna)

P2.11  About the Methodology for Working a Robot to Destroy Weeds
Georgi Komitov (Agricultural University-Plovdiv); Vladimir Kotev (Institute of mechanics); Ivan Ivanov (Institute of mechanics); Ivan Mitkov (Agricultural University-Plovdiv)

P2.12  An alternative methodology for distance monitoring of the micro-climate in field tomato production
Atanas Sevov (Agricultural University-Plovdiv); Georgi Komitov (Agricultural University-Plovdiv); Ivan Mitkov (Agricultural University-Plovdiv)

P2.13  Artificial Intelligence Systems for Warehouses Stocks Control
Vladimir Dimitrov Hristov (Technical University of Sofia); Danail Slavov (Technical University of Sofia); Durhan Saliev (Technical University of Sofia)

P2.14  Machine learning for automation of warehouse activities
Vladimir Dimitrov Hristov (Technical University of Sofia); Danail Slavov (Technical University of Sofia); Georgi Mladenov (Technical University of Sofia); Iliyan Damyanov (Technical University of Sofia)

P2.15  Studies and Research on the Possibilities of Implementing Ergonomic Principles in Increasing Labor Productivity
Iosif Ioja (Vasile Alecsandri University of Bacau); Claudia C Tomozei (Vasile Alecsandri University of Bacau); Valentin Nedeff (Vasile Alecsandri University of Bacau); Emilian Mosnegutu (Vasile Alecsandri University of Bacau); Mirela Panainte Lehadus (Vasile Alecsandri University of Bacau); Oana Irimia (Vasile Alecsandri University of Bacau); Narcis Barsan (Vasile Alecsandri University of Bacau)
P2.16 Applications of the GIS and Remote Sensing Methods in the Land Use and Cover Maps. Case Study: Roman City and the Surroundings of the Northern Side Area

Petruț-Liviu BOGDAN (Vasile Alecsandri University of Bacau), Valentin NEDEFF (Vasile Alecsandri University of Bacau), Narcis BARSAN (Vasile Alecsandri University of Bacau), Mirela PANAINTE-LEHADUȘ (Vasile Alecsandri University of Bacau), Dana CHITIMUS (Vasile Alecsandri University of Bacau), Florin NEDEFF (Vasile Alecsandri University of Bacau), Claudia TOMOZEI (Vasile Alecsandri University of Bacau)

P2.17 The Effect of a Special Form of the Piston Skirt Profile on Power Friction Losses in Internal Combustion Engines

Simeon P Iliev (University of Ruse Angel Kanchev); Sergey G Belchev (Technical University of Varna); Trifon Uzuntonev (Technical University of Varna); Rosen Hristov (Technical University of Varna); Sergey Kirov (Technical University of Varna); Dimitar Kovachev (Technical University of Varna)

P2.18 Influence of Dynamically Changing Operating Conditions on the Content of Nitrogen Oxide in Old and New Diesel Vehicles

Simeon P Iliev (University of Ruse Angel Kanchev); Trifon Uzuntonev (Technical University of Varna); Sergey G Belchev (Technical University of Varna); Krassimir Ts Bogdanov (Technical University of Varna); Preslav Dimitrov (Technical University of Varna); Sergey Kirov (Technical University of Varna)

P2.19 Analysis of the Main Factors Behind the Origination and Propagation of Cracks in Aluminium Cylinder Heads

Simeon P Iliev (University of Ruse Angel Kanchev); Sergey Kirov (Technical University of Varna); Plamen Petrov (Technical University of Varna); Trifon Uzuntonev (Technical University of Varna); Sergey G Belchev (Technical University of Varna); Krassimir Ts Bogdanov (Technical University of Varna)

Friday, July 1st 2022

20:00 Gala Dinner (Mehana Chiflika)
Saturday, July 2nd 2022

09:00 – 11:00  **Registration** (University of Ruse, Building 2, Floor 1 Lobby)

Saturday, July 2nd 2022

09:00 – 10:30  **Oral Session 6** (University of Ruse, Building 2, Hall 206)

**Session chair:** Tsvetozar GEORGIEV, University of Ruse Angel Kanchev

**Session co-chair:** Yordan KALMUKOV, University of Ruse Angel Kanchev

**O6.1 Insulation Materials and Energy Efficiency**
Tatyana Stoyanova Stoyanova (Varna Free University "Chernorizets Hrabar")

**O6.2 Design, Fabrication, and Testing of a High-Load, Low-Cost Thermal Chamber**
Philip Gh Coanda (University Politehnica of Bucharest)

**O6.3 Specific Security Issues in the Integration between Sensor Network and Cloud Structure**
Filip A. Tsvetanov (South-West University "Neofit Rilski"); Martin Pandurski (South-West University "Neofit Rilski")

**O6.4 A Study of Measurement Systems Analysis by Attributes**
Tzvetelin Gueorguiev (University of Ruse Angel Kanchev); Danko Tonev (University of Ruse Angel Kanchev); Svetlin Parvanov (University of Ruse Angel Kanchev)

**O6.5 Investigation of the Processes in a Ship 's Bow Thruster with Synchronous Reluctance Motor**
Hristo Milushev (Nikola Vaptsarov Naval Academy); Nikolay Djagarov (Nikola Vaptsarov Naval Academy); Milen Bonev (Nikola Vaptsarov Naval Academy); Julia Djagarova (Technical University of Varna)

Saturday, July 2nd 2022

10:30 – 11:30  **Poster Session 3** (University of Ruse, Building 2, Floor 2 Lobby)

**Session chair:** Yordan KALMUKOV, University of Ruse Angel Kanchev

**Session co-chair:** Seher KADIROVA, University of Ruse Angel Kanchev

**P3.1 Equipment and Methodology for State of Charge Determination in Lithium - ion Batteries at Different Operating Modes**
Petko H Mashkov (University of Ruse Angel Kanchev); Viktor Mashkov (Technical University of Varna)
Saturday, July 2\textsuperscript{nd} 2022

P3.2 M-Learning - Before and During COVID-19
Tsчетozar S Georgiev (University of Ruse Angel Kanchev)

P3.3 Selection of an Appropriate Method for Automatic Deposition of Weld Coatings in the Rebuilding of Worn out Agricultural Machinery Parts
Daniel Atanasov Lyubenov (University of Ruse Angel Kanchev); Seher Kadirova (University of Ruse Angel Kanchev); Zhivko Kolev (University of Ruse Angel Kanchev); Georgi Kadikyanov (University of Ruse Angel Kanchev)

P3.4 The Role of Intergenerational Family Businesses for the Transition to Green Economy
Daniel Y Pavlov (University of Ruse Angel Kanchev)

P3.5 Web-Based Platform - a Defining Factor for Career Orientation Under the Conditions of a Pandemic
Ivan Evstatiev (University of Ruse Angel Kanchev); Georgi Georgiev (University of Ruse Angel Kanchev)

P3.6 Electronic System for Control of a Submersible Water Pump
Nadezhda Evstatieva (University of Ruse Angel Kanchev); Boris I Evstatiev (University of Ruse Angel Kanchev); Norocel Codreanu (Politehnica University of Bucharest, Center for Technological Electronics and Interconnection Techniques)

P3.7 Concept of an Electronic System for Energy Monitoring of Industrial Plants
Nadezhda Evstatieva (University of Ruse Angel Kanchev); Boris I Evstatiev (University of Ruse Angel Kanchev)

P3.8 A Conceptual Model for Remote and Virtual Investigation of Photovoltaic Modules
Todor Yordanov (University of Ruse Angel Kanchev); Nicolay Mihailov (University of Ruse Angel Kanchev); Boris I Evstatiev (University of Ruse Angel Kanchev)

P3.9 The Relationships Between Different Vegetation indices and Chlorophyll Content Index Values (CCI) in Strawberry Leaves
Petya Veleva (Trakia University); Stanislava Atanasova (Trakia University); Tsvetelina Georgieva (University of Ruse Angel Kanchev); Stefka Atanasova (Trakia University)

P3.10 Research of the Color Features for Strawberry Leaves Sorting and Chlorophyll Assessment
Tsvetelina Georgieva (University of Ruse Angel Kanchev); Stanislav Penchev (University of Ruse Angel Kanchev); Petya Veleva (Trakia University); Stefka Atanasova (Trakia University); Plamen Daskalov (University of Ruse Angel Kanchev)

P3.11 Analysis of the possibilities for using computer vision and spectral analysis to assess the wheat crops condition
Tsvetelina Georgieva (University of Ruse Angel Kanchev); Stanislav Penchev (University of...
Saturday, July 2\textsuperscript{nd} 2022

Ruse Angel Kanchev; Plamen Daskalov (University of Ruse Angel Kanchev)

P3.12 Performance Analysis of a Grid-Connected PV Park in Ruse, Bulgaria
Viktor Mihov (University of Ruse Angel Kanchev); Katerina Gabrovska-Evstatieva (University of Ruse Angel Kanchev); Dimitar Trifonov (University of Ruse Angel Kanchev); Nicolay Mihailov (University of Ruse Angel Kanchev)

P3.13 Analysis of a PV Installation with a Battery Storage and BMS at a Residential Building
Kamen Simeonov (University of Ruse Angel Kanchev); Nicolay Mihailov (University of Ruse Angel Kanchev); Nikolay Valov (University of Ruse Angel Kanchev); Katerina Gabrovska-Evstatieva (University of Ruse Angel Kanchev)

P3.14 Solar Irradiance Measurements Using Smart Device
Vladislav Hinkov (University of Ruse Angel Kanchev); Tsvetelina Mladenova (University of Ruse Angel Kanchev); Nicolay Mihailov (University of Ruse Angel Kanchev)

P3.15 A Critical Overview of the Normative, Regulatory and International Standard Requirements for Healthy and Safe Public Facilities
Emil H Yankov (University of Ruse Angel Kanchev); Tzvetelin Gueorguiev (University of Ruse Angel Kanchev)

Saturday, July 2\textsuperscript{nd} 2022

11:30-11:45 Farewell Coffee, End of Conference (University of Ruse, Building 2, Floor 2 Lobby)
**VENUE**

The EE&AE 2022 conference will take place in the University of Ruse Angel Kanchev, 8 Studentska str., 7017 Ruse, Bulgaria.

For further directions use the GPS coordinates: 43.8546277, 25.9701036.

**CONTACT INFORMATION:**
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**WIFI INFORMATION:**
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