



# PROGRAM

Utorak/Tuesday 18.10.2012.	
10:00+12:00	Registracija učesnika /Registration of participants
SVEČANO OTVARANJE / OPENING CEREMONY	
12:00+13:00	<ul style="list-style-type: none"><li>- dr Goran Janevski, Dean of the Faculty of Mechanical Engineering in Niš</li><li>- dr Milan Radovanović, President of the Society of Thermal Engineers of Serbia</li><li>- dr Dragan Antić, Rector of the University of Niš Dragana Sotirovski, Niš City Mayor</li><li>- dr Mirjana Laković, President of the Organizing committee</li><li>- Dr Nebojša Randelović, državni sekretar MPNTR</li></ul> <p>Prateći program dečiji hor ČAROLIJA</p>
13:00-13:30 KOKTEL	
PLENARNA SESIJA /PLENARY SESSION I	
KONGRESNA SALA A – CONSTANTINE 2 / CONGRESS HALL A - CONSTANTINE 2	
13:30 + 15:00	<p><b>Ljubo Mačić</b>, Economics Institute, Belgrade, Energy Transition and the Current Energy Crisis</p> <p><b>Miomir Jakšić</b>, Economics Faculty, University of Belgrade The role of energy regulators in South Eastern Europe</p> <p><b>Anna Stoppato</b>, Università degli Studi di Padova Scuola di Ingegneria: Padova, Veneto, IT The role of thermal energy storage for increasing the integration among different energy systems</p>
15:00+16:00	LUNCH BREAK

ENERGY MANAGEMENT IN INDUSTRY AND BUILDINGS	
KONGRESNA SALA A – CONSTANTINE 2 / CONGRESS HALL A CONSTANTINE 2	
Predsedavajući/Chair <b>Miloš Milovančević, Milan Đorđević</b>	
16:00+17.30	<ol style="list-style-type: none"><li>1. Ružica BUDIM, Method For Selection Of The Optimal Solution For Deep Energy Renovation Of A Building</li><li>2. Jelena Stevanovic, Evaluation of Thermal Comfort Based on the Relation Between Thermal Comfort Metrics and Satisfaction Survey of Occupants</li><li>3. Milan Đorđević, Climate Responsive Building Design Strategies: Case Study of the City of Belgrade, Serbia</li><li>4. Miloš Milovančević, Neuro fuzzy sensing of thermal comfort based on heart rate variability indices</li></ol>



	5. Marina Nikolić Topalović, Evaluation of Applied Thermal Insulation Material in the Structure of the Thermal Envelope of Individual Residential Building from the Aspect of Embodied Carbon
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<b>Utorak/Tuesday 18.10.2022.</b>	
<b>KONGRESNA SALA A – CONSTANTINE 2 / CONGRESS HALL A CONSTANTINE 2</b>	
<b>ENVIRONMENTAL PROTECTION, WATER, AIR AND SOIL QUALITY MANAGEMENT</b>	
<b>Predsedavajući/Chair Predrag Rašković</b>	
<b>17:30+19:00</b>	<ol style="list-style-type: none"> <li>1. Monika Uler Zefik, General Overview of the Operation, Efficiency, and Emissions of Waste-to-Energy Technologies</li> <li>2. Dragoslav Pavlović, Study Of Waste Treatment Energy Efficiency</li> <li>3. Jasmina Pislevikj, Living Globally – Gaming as an Interactive Learning Methodology for Sustainable Living, Climate Change and CO2 Emissions</li> <li>4. John P. John, Potential of Kitulo Dairy Farm Animal Waste to Energy Generation</li> <li>5. Dragoslav Pavlović, Mathematical model for municipal waste management</li> </ol>
<b>Utorak/Tuesday 18.10.2022.</b>	
<b>POSTER SESSION</b>	
<b>16:00+17:30</b>	<ol style="list-style-type: none"> <li>1. Ugljesa Jovanovic, Energy Efficiency Indicators of Industrial Facilities Based on the Analysis of Electric Motor Effectiveness</li> <li>2. Amer Karabegovic, The Role and Position of the District Heating Systems (DHS) in the Energy System of the Future</li> <li>3. Ahmed Jado, Thermodynamic efficiency of Industrial Baking Ovens: Analysis and Improvement</li> <li>4. Biljana Vučićević, Impact of phase-change materials on thermal comfort</li> <li>5. Milena Mancic, Performance Assesment Of Solar Thermal Heat Storage</li> <li>6. Monika Lutovska, Comparison of Greenhouse Gas Emissions in North Macedonia over the last Three Decades</li> <li>7. Jelena Krneta Nikolić, Quality Control of Soil and Water in the Vicinity of Coal Fired Power Plants – Radiological Aspect</li> <li>8. Ivan Mijailović, Tobacco Stalks Biobriquettes Combustion Emissions – Environmental Impact And Energy Efficiency</li> <li>9. Milica Ivanovic, Composting system’s reliability in controlled conditions of the high-temperature waste treatment</li> <li>10. Zorana Kostic, The Economic Potential of the Urban Agriculture in Smart Cities</li> <li>11. Milić Erić, Review of Particulate Matter Emission Reduction at the TPP Nikola Tesla A after Reconstruction and Modernization all Six Units</li> <li>12. Milica Jovcevski, Comparative analysis of thermal pollution using mathematical and numerical methods</li> <li>13. Vladimir Sinyavski, Predicting a reduction in fuel consumption and carbon footprint of a diesel engine when shifting its configuration from V8 to L6</li> <li>14. Sasa Pavlovic, Dynamic analysis of a solar dish concentrating collector coupled to an organic Rankine cycle with reheating</li> </ol>



<b>Sreda/Wednesday 19.10.2022.</b>	
<b>KONGRESNA SALA A – CONSTANTINE 2 / CONGRESS HALL A CONSTANTINE 2</b>	
<b>PLENARY SESION II</b>	
<b>09:00+11:00</b>	<p style="text-align: center;"><b>Pieter Billen</b>, the University of Antwerp, Belgium Limits to the circularity of plastics: analysis through a statistical entropy framework</p> <p style="text-align: center;"><b>Koray KARABULUT</b>, Sivas Cumhuriyet University, Sivas/Turkey Heat Transfer Increment Study Taking into Consideration Fin Lengths for CuO-Water Nanofluid in Cross Flow–Impinging Jet Flow Channels</p> <p style="text-align: center;"><b>Oluwole Daniel Makinde</b>, Faculty of Military Science, Stellenbosch University, South Africa Analysis of Heat Transfer Enhancement in a Variable Viscosity Nanofluid Flow in a Microchannel</p> <p style="text-align: center;"><b>K. Krishna Reddy</b>, Dept of ME, BITS, Kurnool-518218, AP, India Experimental Study On The Effect Of Water Based Nanofluids Used As Htf In A Pcm Based Thermal Energy Storage System Integrated With Solar Flat Plate Collector For Sloar Heating Applications</p> <p style="text-align: center;"><b>Indra Permana</b>, National Chin-Yi University of Technology: Taichung, TW Performance Investigation of Thermal Management System on Battery Energy Storage Cabinet</p>
<b>11:00+11:30</b>	<b>Kafe pauza/Coffee break</b>
<b>Sreda/Wednesday 19.10.2019.</b>	
<b>KONGRESNA SALA A – CONSTANTINE 2 / CONGRESS HALL A CONSTANTINE 2</b>	
<b>ENERGY EFFICIENCY IN INDUSTRY, CIVIL ENGINEERING, COMMUNCAL SYSTEMS AND TRAFIC</b>	
<b>Predsedavajući/Chair Mirko Stojiljković</b>	
<b>11:30+14:00</b>	<ol style="list-style-type: none"><li>1. Blagoj Dimovski, Exergy analysis for thermoenergetic blocks adaptation with a combined gas cycle</li><li>2. Srecko Manasijevic, Flue Gas Heat Recovery in Wood Chip Boiler Used for Chip Drying</li><li>3. Valentina Turanjanin, Phase change materials use in building envelope for energy saving and thermal comfort</li><li>4. Jovan P. Šetrajčić, Simulation of Insulation Properties using Trombe Wall Modification</li><li>5. Predrag Živković, Clay Potential Use as Phase Change Material</li><li>6. Khaled Alayoubi, The potential of building integrated photovoltaic-thermal system in historic residential building retrofit: review article</li><li>7. Aleksandar Milojković, Improving Energy Efficiency for Adaptive Reuse of Historic Buildings: A case study – Štapska zgrada, Pančevo</li><li>8. Mirko Stojiljković, Application of Gradient Boosting Machines to Predict Operational Cost of Building Energy Supply</li></ol>
<b>14:00+15:00</b>	<b>LUNCH BREAK</b>
<b>IZLAGANJE STUDENSKIH RADOVA/STUDENT'S PAPERS</b>	
<b>KONGRESNA SALA A – CONSTANTINE 2 / CONGRESS HALL A CONSTANTINE 2</b>	
<b>PLENARY SESION IV</b>	
<b>15:00+17:00</b>	<ol style="list-style-type: none"><li>1. Milun Babić NOVI KONCEPTI ŠKOLOVANJA INŽENJERA ZA POTREBE ENERGETSKE TRANZICIJE SRBIJE</li><li>2. Branislava Lepotić Kovačević, Aleksandar Kovačević, ENERGY TRANSITION AND CURRENT ENERGY CRISIS</li></ol>
<b>STUDENSKA SESIJA</b>	



<b>17:00+17:30</b>	<b>Coffe break</b>
<b>Sreda/Wednesday 19.10.2019.</b>	
<b>KONGRESNA SALA A – CONSTANTINE 2 / CONGRESS HALL A CONSTANTINE 2</b>	
<b>NEW AND RENEWABLE ENERGY SOURCES</b>	
<b>Predsedavajući/Chair Predrag Živković</b>	
<b>17:30+19:00</b>	<ol style="list-style-type: none"> <li>1. Milovan Medojević, Simulation based solar water heating system operation in residential environment</li> <li>2. Andirijana Stojanovic, Investigation on Utilization of Biogas in Novel Concept of Premixed Spark Ignition Engine</li> <li>3. Andirijana Stojanovic, Anaerobic Co-digestion: Current Status and Perspectives in Serbia</li> <li>4. Masa Milosevic, Mapping Agricultural Waste with a Fully Connected Convolutional Neural Network for biogas production</li> <li>5. Danijela Kardas, Theoretic photovoltaic cell/module temperature based on real weather data for continental climate</li> <li>6. Aleksandar Nešović, Numerical investigation of the insulation use possibility in the glass tube solar collector with a flat absorber plate</li> <li>7. Igor Lomovsky, The Effect of Mechanical Treatment on the Decomposition and Oxidation of Polyphenolic Compounds</li> <li>8. Milica B. Ljubenović, Impact Of Green Roofs On The Dynamic Characteristics Of The Building</li> </ol>
<b>Četvrtak/Thursday 20.10.2022.</b>	
<b>KONGRESNA SALA A – CONSTANTINE 2 / CONGRESS HALL A CONSTANTINE 2</b>	
<b>TECHNOLOGIES AND PLANTS</b>	
<b>Predsedavajući/Chair Vojin Grković, Saša Pavlović</b>	
<b>9:00+12:00</b>	<ol style="list-style-type: none"> <li>1. Vojin Grković, Integral Approach to Competitiveness Analysis of Electric Power Systems in Technological Transition and Post Transition</li> <li>2. Filip Mojsovski, Apple Drying in Convective Belt Dryer</li> <li>3. Marija Lazarevikj, Dynamic Loads on Guide Vanes of a Francis Turbine with Variable Speed</li> <li>4. Jelena Petrović, EMHD Flow and Heat Transfer of a Casson Nanofluid Fe<sub>3</sub>O<sub>4</sub>/Blood in a Porous Medium</li> <li>5. Radmila Koleva, System dynamics behavior based on the hyperparameters impact in hydropower plant control</li> <li>6. Robert Russo, Trigeneration Facility (Plant) in Boiler House Clinic Center in Nis</li> <li>7. Branislav Stojanović, Efficiency Of Combined Wood Dryers</li> <li>8. Dalibor Petkovic, Neuro-fuzzy selection of the influential factors for low heating value of coal based on infrared spectroscopy</li> <li>9. Valentino Stojkovski, Transient Conditions At The Pump Station With Combined Pumping Units</li> <li>10. Milica Mladenovic, Recommended actions aiming at DHS development and refurbishment</li> </ol>
<b>12:00+12:30</b>	<b>Coffee break</b>
<b>Četvrtak/Thursday 20.10.2022.</b>	



<b>KONGRESNA SALA A – CONSTANTINE 2 / CONGRESS HALL A CONSTANTINE 2</b>	
<b>ENERGY SOURCES AND POTENTIALS</b>	
<b>Predsedavajući/Chair Dejan Ivezić, Vladimir Mijakovski</b>	
<b>12:30+14:30</b>	<ol style="list-style-type: none"><li>1. Vladimir Mijakovski, Energy transition in North Macedonia in the wake of the European Energy Crisis</li><li>2. Ana Momčilović, Urban Energy Mapping: Best Practices and Perspectives of Implementation and Application in Serbia</li><li>3. Dejan Ivezić, Challenges in using wastewater heat pumps in district heating systems</li><li>4. Lidija Joleska Bureska, The Limiting Factors For Achieving Full Boiler Load With Poor Coal Quality</li><li>5. Vahe Davtyan, Electricity System Integration in the EAEU: Challenges of Liberalization of National Markets</li><li>6. Marko Dimitrijevic, Distributed Energy Resource System Validation According to the IEEE 1547-2018 Standard Current Distortion Limits</li><li>7. Andirijana Stojanovic, The Optimal Uses of Biomass for Electricity and Fuel Production</li><li>8. Chao LUO, The Effect Of Heat And Cooling Temperature On Power System Performance For Huangshadong Geothermal Field, China</li><li>9. Blagoj Dimovski, Variants for Calculating the Annual Thermal Energy Consumption for Buildings</li></ol>
<b>14:30+15:30</b>	<b>LUNCH BREAK</b>
<b>Četvrtak/Thursday 20.10.2022.</b>	
<b>KONGRESNA SALA A – CONSTANTINE 2 / CONGRESS HALL A CONSTANTINE 2</b>	
<b>Flow, Heat and Mass Transfer, Combustion</b>	
<b>Predsedavajući/Chair Aleksandar Boričić</b>	
<b>15:30+17:00</b>	<ol style="list-style-type: none"><li>1. Miloš Kocić, Nano and Micropolar MHD Fluid Flow and Heat transfer in Inclined Channel</li><li>2. Jasmina Bogdanović Jovanović, Performance and acoustic characteristics of centrifugal fan operating with different air temperature</li><li>3. Nenad Crnomarkovic, Influence of the Turbulence-Radiation Interaction on Radiative Heat Exchange in a Pulverized Coal-Fired Furnace</li><li>4. Filip Stojkovski, Multiphase Flow Modeling to Predict Hydrodynamic Forces and Outflow Conditions of a Dam Bottom Outlet Regulation Gate</li><li>5. Ugljesa Jovanovic, Impact of Ambient Temperature on a Temperature Distribution within a Human Head When Exposed to Electromagnetic Radiation</li><li>6. Marija Kojić, Thermal and adsorption study of the spent mushroom substrate and its hydrochar</li><li>7. Aleksandar Boričić, New Method for Calculating Heat Transfer in Unsteady MHD Mixed Boundary Layers with Radiative and Generation Heat over a Cylinder</li><li>8. Hafiz Muhammad Ali, Advancement on heat condensation heat transfer on horizontal tubes</li><li>9. Dragan Ružić, Experimental Research of Microclimate Conditions in a Cabin of a School Midibus</li></ol>



<b>Četvrtak/Thursday 20.10.2022.</b>	
<b>KONGRESNA SALA A – CONSTANTINE 2 / CONGRESS HALL A CONSTANTINE 2</b>	
<b>EXPERIMENTAL INVESTIGATION OF PROCESSES, AUTOMATICS AND CONTROL OF PROCESSES, EXPERT SYSTEMS</b>	
<b>Predsedavajući/Chair Saša Nikolić</b>	
<b>17:00+18:30</b>	<ol style="list-style-type: none"> <li>1. Predrag Živković, Experimental and Numerical Study of Rayleigh-Bénard Convection in a Rectangular Tank</li> <li>2. Sasa Nikolic, Simulation analysis of feedforward-feedback control of winding device using 2-DOF control structure and control structure in state space</li> <li>3. Jozsef Nyers, Energy Optimum of the Coldwater Loop of Heat Pump Heating System</li> <li>4. Natalija Ivković, Automation of the Production Process of Behaton Boards Using Programmable Logic Controllers</li> <li>5. Jovan P. Šetrajić, Improvement of Superconducting Properties of the Ultrathin Crystalline Films Using Phonon Engineering</li> <li>6. Dragoslav Mrdja, Effect of Carbon Nanotubes and Nanofibers Addition on the Thermal Properties of Coconut Oil PCM</li> <li>7. Oleh Onysko, The Compact Cycloidal Reducer Model for Ultra Light Legged Robot</li> <li>8. Strohan O.I., Search of floating mines by unmanned aerial vehicles</li> </ol>
<b>Četvrtak/Thursday 20.10.2022.</b>	
<b>POSTER SESSION</b>	
<b>15:30+18:30</b>	<ol style="list-style-type: none"> <li>1. Aleksandar Pantić, ANN Model of mc-Si Solar Cell</li> <li>2. Sasa Nikolic, Torque Regulation of the Output Pulling Device of the Cable Line for Insulation</li> <li>3. Ahmed Jado, Experimental Investigation on the Performance and Emission Characteristics of a Diesel Engine Fuelled with Jatropa Biodiesel</li> <li>4. Milan Đorđević, Experimental Characterization of Heat Transfer in Coiled Corrugated Tube</li> <li>5. Milica Nikodijević, Nanofluid Flow and Heat Transfer in a Porous Medium in the Channel with a Moving Wall</li> <li>6. Dragana Dimitrijević Jovanović, Integration of Building Information Modeling (BIM) and Building Energy Modeling (BEM): School Building Case Study</li> <li>7. Predrag Rašković, Energy Use and Potential Energy Saving Opportunities in Crude Oil Refineries</li> <li>8. Lana Pantic, Investigation of the Effect of PV Panel Passive Cooling by Aluminum Heat Sinks and ANSYS FLUENT Simulation</li> <li>9. Veljko Begovic, Improving the Ejector's Performance Using CFD</li> <li>10. Milan Grozdanovic, Review of Medium and High Temperature Solar Receivers in Focal Point Solar Collectors</li> <li>11. Pavle Stepanic, Application of Machine Learning Techniques in the Prediction of Global Solar Radiation Intensity</li> <li>12. Branka Radovanović, Application of different types of numerical mesh for heat transfer problems</li> </ol>
<b>20:00</b>	<b>CONFERENCE DINNER</b>
<b>Petak/Friday 21.10.2022.</b>	
<b>KONGRESNA SALA A – CONSTANTINE 2 / CONGRESS HALL A CONSTANTINE 2</b>	
<b>MATHEMATICAL MODELING AND NUMERICAL SIMULATION</b>	
<b>Predsedavajući/Chair Miloš Jovanović</b>	



The 20<sup>th</sup> International Conference on  
Thermal Science and Engineering of Serbia  
**SimTerm2022**

Niš, Serbia, Oct 18-21 2022



<b>09:00+11:00</b>	<ol style="list-style-type: none"><li>1. Duško SALEMOVIĆ (DEDIC), MODELING OF DRYING PROCESS OF SYNTETIC RUBBER ON CONVEYOR-BELT DRYER</li><li>2. Milos Jovanovic, Temperature spatial modulation of an inclined viscous fluid flow</li><li>3. Predrag Rajkovic, Monte Carlo method "Tour du wino" for parabolic partial differential equations</li><li>4. Ahmed Jado, Numerical study of Simultaneous Heat and Mass Transfer in Bread Baking Process</li><li>5. Daniyar Bossinov, Non-Isothermal Steady Laminar Waxy Oil Flow Simulation</li><li>6. Dušan Ćirić, Design of the Steam Heating Plates for the Vulcanization Production Process using FE Tools</li><li>7. Milica Ivanovic, Development of a mathematical model of a drum steam boiler by using the automatic control system – first step</li></ol>
<b>11:00+12:00</b>	Coffee break
<b>Petak/Friday 21.10.2022.</b>	
<b>KONGRESNA SALA A – CONSTANTINE 2 / CONGRESS HALL A CONSTANTINE 2</b>	
<b>PANEL TOPLANE SRBIJE –POČETAK GREJNE SEZONE 2022/2023</b>	
<b>Moderator Mirjana Laković</b>	
<b>12:00 -14:00</b>	Učesnici panela:  Ivana Kalanja – Izvršni direktor za proizvodnju toplotne energije JKP „Beogradske elektrane“  Dušan Macura – rukovodilac sektora za proizvodnju i distribuciju toplotne energije JKP „Novosadska Toplana“  Predrag Milačić – direktor JKP „Gradska Toplana Niš“  Andreja Ilić – direktor „Energetika" doo Kragujevac  Dejan Stojanović – direktor PU „Toplane Srbije“
<b>14:00 -15:00</b>	<b>ZATVARANJE KONFERENCIJE/CLOSING OF THE CONFERENCE</b>