

10. European Conference on Renewable Energy Systems (ECRES 2022) CONFERENCE PROGRAMME (ONLINE SECTION)

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2. DAY [8 MAY 2022 SUNDAY] - HALL A (ONLINE SESSIONS)

SESSION 7A - Energy & Environment		Session Chair: Dr. Shafi Ullah
09:00-10:30	4 Scenario Analysis of a Coal Reduction Share in the Power Generation in Bosnia and Herzegovina Until 2050	Azrudin Husika , Nurin Zecevic, Ilham Numic, Ejub Dzaferovic
	53 Towards Energy Efficiency by a Proposed Framework Using Big Data: A Proof of Concept	Petrin, Nilo S M , Néto, João Carlos
	77 Renewable Energy for Sustainable Development in India: Current Status and Future Prospects	Aditi , Nalin Bharti
	95 Socio-Economic Analysis of Renewable Energy Based on Community at Small Isolated Island in Indonesia	Zainal Arifin, Agung Iswadi, Arfa'a Wulanda Agnia
	106 The Characteristics of Efficient Oil and Gas Investments Projects	S. Yu. Zholkov (Jolkov)
	124 Energies, Environmental Attitudes and Society	Dejan Zemljak , Urška Martinc, Boris Aberšek
	80 Engineering structural, morphological and optical band gap of SnS2 doped Vanadium for photovoltaic application	Shafi Ullah , Hanif Ullah, Muhammad Aamir Shafi, Bernabé Marí
SESSION 8A - Special Session: Combined cooling, heat and power generation (CCHPG)		Special Session Chair: Prof. Dr. Mykola Radchenko
10:35-11:50	278 Research of exhaust gas boiler heat exchange surfaces with reduced corrosion when water-fuel emulsion combustion	Victoria Kornienko , Roman Radchenko, Andrii Radchenko, Anatoliy Pavlenko, Dmytro Konovalov
	279 Cooling potential of ship main engine intake air cooling and its realization on the route line	Roman Radchenko, Mykola Radchenko , Andrii Andreev, Victoria Kornienko, Hanna Koshlak
	280 Improving thermoacoustic low temperature heat recovery systems	Zongming Yang, Volodymyr Korobko , Mykola Radchenko, Oleksiy Korobko
	281 Increasing the efficiency of turbine inlet air cooling in subtropical conditions of central China	Zongming Yang, Mykola Radchenko , Andrii Radchenko, Eugeniy Trushliakov, Serhiy Kantor
	282 Investigation of the liquid injection influence on pressure losses in the thermopressor flow part	Zongming Yang, Dmytro Konovalov, Roman Radchenko, Halina Kobalava , Victoria Kornienko
	18 Preliminary analysis of vertical ground-coupled heat exchanger technology in Mauritius	Mahendra Gooroochurn , Devin Bhoodoo, Heman Shamachurn, B Y R Surnam, Santaram Venkannah
SESSION 9A - Special Session: Energy Efficiency in Fuels and Batteries		Session Chair: Dr. Jose Manuel Lopez-Guede
11:55-13:25	283 CFD and fuel consumption analysis and study of a bus	Zugatz Ansa Otxoa , Roberto Garcia Fernandez, Unai Fernandez Gamiz, Koldo Portal-Porras, Ekaitz Zulueta, Jose Manuel Lopez-
	284 Power consumption forecasting using recursive neural networks	Iratxe Bueno Domínguez, Asier Zulueta, Joseba Garcia-Ortega, Jose Manuel Lopez-Guede, Unai Fernandez-Gamiz, Ekaitz
	285 Two-dimensional PIV/PTV experimental investigation on the combined effect of iron fillings filtering techniques: A qualitative approach	Iker Villén Ordóñez , Daniel Teso Fernández de Betoño, Pablo Martínez-Filgueira, Unai Fernández-Gámiz, Gonzalo Márquez Pérez, Jose Manuel Lopez-Guede
	289 Energy Efficiency Research on Battery Management through Electric Vehicle Retrofit Laboratory	Felipe A. Núñez-Donoso, Jose Manuel Lopez-Guede, Ekaitz Zulueta, Unai Fernandez-Gamiz, Jose Antonio Ramos-Hernanz
	290 An ongoing review on tools for nZEB	Jose Maria Santos-Herrero , Jose Manuel Lopez-Guede, Ivan Flores, Unai Fernandez-Gamiz, Jose Antonio Ramos-Hernanz,
	292 Energy related building modeling and simulation	Jose Maria Santos-Herrero , Jose Manuel Lopez-Guede, Ivan Flores, Jose Antonio Ramos-Hernanz, Ekaitz Zulueta, Unai Fernandez-Gamiz
	6 Graphene-based important carbon structures and nanomaterials for energy storage applications as chemical capacitors: A Review	Ehsan Kianfar , Hasan Koten
	13 Enhancing the Air Conditioning Unit Performance via Phase Change Material as Thermal Energy Storage	M. Ismail , W.K. Zahra, Shinichi Ookawara, Hamdy Hassan
	29 The Start of Combustion Prediction for Methane Fueled HCCI Engines; Traditional vs. Machine Learning Methods	Mohammad Mostafa Namar , Omid Jahanian, Hasan Koten

KEYNOTE SESSION		Session Chair: Prof. Dr. Erol Kurt
13:30-15:30	Prof. Dr. Birol Kilkış - Ostim Technical University, Ankara, Turkey CLIMATE EMERGENCY-FOCUSED ECONOMIC MODEL: Current Economic Rules Does Not Respond To Paris Agreement	
	Prof. Dr. Jose Manuel Lopez-Guede- University of the Basque Country, Spain A State-of-The-Art: DC-to-DC Converters for Fuel Cell Vehicular Power Train – Power Electronics in Fuel Cell Technology	
	Prof. Dr. A. Rakesh Kumar - National Institute of Technology Tiruchirappalli, India Energy Access and Off-Grid System: An Opportunity to Empower a Billion Lives!	
	Dr. Saeed Badshah - International Islamic University Islamabad, Pakistan Computational Modelling and Analysis of Tidal Current Turbines	
SESSION 10A Energy Policy and Future Estimation		Session Chair: Dr. Andreas Ensinger
15:35-17:05	36 Integration of hybrid microgrids in residential houses: A case study	Gracia María Cabello González , Sergio Jesús Navas Herrera, Francisco Javier Pino Lucena
	56 Influence of Adsorbent Shape on Adsorbed Gas Storage System	Georg Klepp
	57 FES Field Lab: An Integrated Pilot Plant for Energy Storage, Sector Coupling and PtX	Georg Klepp
	137 Partner with Nature: Renewable Energy Art and Design	Mihyun Kang , Phil Choo, Bruce Logan, Anjana Padmakumar Renuka, Paulo Soares
	142 Renewable Energy Art and Design (READ): A Framework for Solar Energy Education	Paulo Soares , Mihyun Kang, Phil Choo
	145 Selection of renewables for economic regions with diverse conditions: the case of Azerbaijan	Mahammad Nuriyev, Jeyhun Mammadov , Aziz Nuriyev, Joshgun Mammadov
	122 Using the microwave pre-treatment on drying technology of vegetables	Miansong Zhang, Sherzod Mamatov , Ulugbek Kadirov, Airong Jia, Changheng Liu
17 Existential threat to the business models of small and medium-sized energy companies	Andreas Ensinger , Daria Kern, Anna Nagl, Karlheinz Bozem, D	
SESSION 11A Advances in Energy Efficiency		Session Chair: Dr. Mahendra Goorochurn
17:10-18:40	253 The dynamics of the electricity consumption in Albania	Elmira Kushta , Miftar Ramosaço, Dode Prenga
	132 Renewable distributed generation: Urban planning using a heat map prepared in geographical information systems	Vladimir Jaramillo, Oscar Cabeza
	258 Solar energy for foam concrete production technology in modern conditions	Marzhan Nurbayeva, Lyazat Aruova , Temirkhan Tolkyimbaev, Akpan Kirgizbaev, Batyrkhan Tokmyrza, Zhanar Aukazhieva, Bolat Aruov, Zhanar Kalieva, Boris Gordienko
	254 Highlights of Legal Face of PVT Systems in European Countries	Mário Gomes , Paulo Coelho, Hasan Yıldızhan, Alper Bozkurt, Abolfazl Hayati, Diogo Cabral, Simon Furbo, Bengt Perers, Janne Dragsted, Sahand Hosouli, João Gomes, Evaldas Sapeliauskas, Remigijus Kaliasas
	75 A comprehensive data analysis method focuses on complex real-time temperature data of thermoelectric generator	Muhammad Nazri Rejab , Muhammad Akmal Johar
	126 Parametric modeling the effect of PWM frequency change on power transformer secondary voltage	Seda Kul , Selami Balci, Suleyman Sungur Tezcan
	161 Nash Bargaining based load control with information sharing on smart grid	Miaomiao Hu, Zoliekha Abdollahi Biron

2. DAY [8 MAY 2022 SUNDAY] - HALL B (ONLINE SESSIONS)

SESSION 7B Advances in Bio-energy		Session Chair: Dr. Funmilayo Nihinlola Osuolale
09:00-10:30	227 Reactivity and kinetics of Raw and Torrefied Palm Kernel Shell	Funmilayo Nihinlola Osuolale , Kevin J. Whitty
	233 Biomass potential as a renewable energy source in Colombia	Claudia Patricia Pérez-Rodríguez, Fernando Cardeño López, Carmen Sofía Duarte Gonzalez, Andres Montaña , Catalina García Marroquín
	266 Influence of HRT for hydrogen production by dark fermentation of cheese whey	Elza Mikheeva , Inna Katraeva, Dmitriy Vorozhtcov, Ekaterina Gorshkova
	114 Optimization of biogas production process parameters and modelling to enhance methane quality yield from an industrial biogas	Opeoluwa R. Dada , Opeyeolu Timothy Laseinde
	129 Effect of Biodiesel 20% on Locomotive Engine Performance and Reliability of Coal Railroad Trains	Suryantoro, M.T. , Rekswardojo, I.K., Nugroho, R. C., Sumartono, H., Wibowo, C.S., Makruf, M., Adisukra, K.F., Khudin, M.
	23 A Review on the Geothermal Energy Sector in Mexico	Yashar Aryanfar , Jorge Luis García Alcaraz, Hasan Köten, Mohamed M. Awad
	210 Enhanced production of biohydrogen through a combined strategy in microalgae cultivation	Dolores Hidalgo , Jesús M. Martín-Marroquín
SESSION 8B Energy Harvesters and Their Applications		Session Chair: Dr. Zoliekha Abdollahi Biron
10:35-11:50	76 A design of thermal energy harvesting system with bipolar dwi-level voltage	Muhammad Nazri Rejab , Muhammad Akmal Johar
	113 Design and Analyses of the Novel Circular Fractal UWB Antenna	Kayhan Çelik , Hasan Hüseyin Ak, Erol Kurt
	201 Basic Research on Thermal Stratification of Stone Heat Storage System	Weichen Zhang , Susumu Ozaki, Hideharu Takahashi, Yutaka Tamaura, Hiroshige Kikura
	217 Circular Patch antenna operating 5.8 GHz for Energy Harvesting Systems	Oguzhan Ertas , Murat Yuce!l
	229 Boosting the Performance of Cesium Lead Bromide Perovskites doped with Bismuth for Solar Cell Applications	Julia Marí-Guaita, Amal Bouich, Bernabé Marí Soucase
	3 Enhancement of Wave Energy Conversion System Performance by Using Equilibrium Optimizer Technique	Omar M. Saber , Abdallah El-Marhoumy, Mariam A. Sameh, M
	242 Solar power generation forecasting using Attention mechanism for Long-Short Term Memory	Dhruv Singh Kushwaha , Zoliekha Abdollahi Biron
SESSION 9B Theoretical studies on energy systems		Session Chair: Lynda Chenini
11:55-13:25	156 Quantum Well Structure Enhancement for Optoelectronic Applications	Abdelkader Aissat , Rachid Amraoui, Jean Pierre Vilcot
	157 Intersubband Absorption Coefficient of Conduction Band in InGaNSb/GaAs Quantum Well Structures	Lynda Chenini , Abdelkader Aissat, Jean Pierre Vilcot
	89 Thermodynamic Analysis of Kalina Cycle with Property Analysis of Ammonia Water Mixture as a Working Fluid	Al Shadab Ahmad , Tasmeem Ahmad Khan
	170 Indonesia Solar Market Projection for 2021-2030	Zainal Arifin, Nugroho Adi Triyono
	178 Design of Outer Rotor Brushless DC Motor and Investigation of Motor Axial Length to Pole Pitch Ratio	Öztürk Tosun , Necibe Füsün Oyman Serteller
	20- Tissues segmentation with Numerical methods: Anova2 way and Gram Schmidt of approximation orthogonal polynomial	Grainet Youcef, El Kourd Kaouther
	219 Differential Protection Scheme for FREEDM System based IoT Communication Protocol	Ahmed Y. Hatata, Mohamed A. Essa, Bishoy E. Sedhom
KEYNOTE SESSION (in HALL A)		
SESSION 10B Numerical Calculations on Energy Systems		Session Chair: Artun Sel
15:35-17:05	141 Development of solar aggregation platform on the cloud and use cases	Panitarn Chongfuangprinya , Bo Yang, Yanzhu Ye, Abe Masonori
	247 The Design Solar and Wind Hybrid System Energy For Street Light and Sustainable Urban of Power Generation	Nattapon Jaisumroum
	259 Parameter Extraction with Honey Badger Algorithm and Wild Horse Optimizer for Single and Double Diode PV Models	Kezban Koc , Mehmet Demirtaş, İpek Çetinbaş
	191 Sliding mode control based disturbance estimator design for a class of lti systems	Artun Sel , Uygur Gunes, Cosku Kasnakoglu
	119 Optimal shape and transmutation property of a fusion based molten salt transmutation reactor	Bong Guen Hong
	116 An Artificial Neural Network approach to power substation infrastructure maintenance to achieve equipment service life	Moyahabo Dominic Ramere , Opeyeolu Timothy Laseinde

SESSION 11B Advances in Wind Energy		Session Chair: Dr. Bukurije Hoxha
17:10-18:40	16 Use of Autonomous Drone for Damage Assessment of Wind Turbine	Harun Tanrıverdi , Ahmet Ulukan, Güzide Karakuş
	131 Experimental study of the influence of clumped weights on a scaled mooring line	Tomas López-Olocco , Leo M. González-Gutiérrez, Javier Calderón-Sánchez
	171 Digital Twin for the management of wind power plants	Sergio Salimbeni , Andrés Redchuk
	181 Optimization of Renewable Energy Systems with Storage in Wind Farms	Catarina Martins , Maria Inês Marques, Alberto Secades Barreñada
	200 Design of a cup anemometer performance simulator	Daniel Alfonso-Corcuera , Elena Lopez-Nuñez, Mikel Ogueta-Gutiérrez, Enrique Vega, Octavian Curea, Ángel Sanz-Andrés, Santiago Pindado
	111 The analysis of wind turbine distances by using a novel techno-spatial approach in complex wind farm terrains	Bukurije Hoxha , Drenusha Krasniqi – Alidema, Risto V. Filkoski
	121 Local Regression Method (LRM) for Pre-processing the Vibration Data of Wind Turbines	Zheng-Yun Zhuang , Ming-Hung Hsu

2. DAY [8 MAY 2022 SUNDAY] - HALL C (ONLINE SESSIONS)

SESSION 7C Optimization Works on Energy		Session Chair: Dr. Miguel Antonio Domínguez-Crespo
09:00-10:30	226 Production, comparison and Storage stability of Biodiesels under different storage conditions	Soufiane Ghanimi , Badreddine Elmejhed, Wafa Terouzi, Fouzia Kzaiber
	234 Three dimensional tidal dynamic characteristics and tidal energy evaluation in the southern sea area of Hainan Island	Huiming Huang , Xiantao Huang, Siqi Li
	251 Experimental validation and comparison of control-oriented models for a renewable microgrid	Julio José Caparrós Mancera , Eduardo López González, Fernando Isorna, Ascensión Zafra-Cabeza, Carlos Bordons, Francisca Segura Manzano, José Manuel Andújar
	188 A comparison for polyphase synchronous generator structures with FEA software	Selami Balci, Mustafa Akkaya
	264 Surface modification and characterization of carbon based nanoadsorbents for wastewater treatment	Ángeles Iveth Licona-Aguilar , Aidé Minerva Torres-Huerta, Miguel Antonio Domínguez-Crespo, Silvia Beatriz Brachetti-Sibaja, María de la Luz Xochilt Negrete-Rodríguez, Eloy Conde-Barajas
	199 Mechanical evaluation of continuously transposed cables for transformer windings	Emanuel Almeida, Ricardo Lopes, Pedro Lima, Gonçalo Cipriano, Daniel Braga , Pedro Moreira
	209 Dark fermentation with Fe0 nanoparticles supplementation for enhanced biohydrogen production	Dolores Hidalgo , Jesús M. Martín-Marroquín
SESSION 8C Energy Policy		Session Chair: Dr. Amal Bouich
10:35-11:50	263 Structural and morphological study of nanocrystalline cellulose obtained from pineapple plant leaves for application in water treatment	Patricia Salazar-Bravo , Aidé Minerva Torres-Huerta, Miguel Antonio Domínguez-Crespo, Diana Palma-Ramírez, Arquímedes Cruz-López, Héctor Dorantes-Rosales
	110 Role of wind energy in sustainable development in coal-based systems: case of Kosovo	Bukurije Hoxha , Risto V. Filkoski
	185 Democratization, Economic Development and Renewable Energy: Explaining When and Why Democracy promotes Energy Transition	Zeynep Clulow
	176 Bright future by controlling α/δ phase junction of formamidinium lead iodide doped by Imidazolium for solar cells applications	Amal Bouich , Julia Mari Guaita, Bernabé Marí Soucase, Pablo Palacios
	37 Study of a power-heat hybrid microgrid solution using hydrogen as energy vector for residential houses	Sergio Jesús Navas Herrera , Gracia María Cabello González, Francisco Javier Pino Lucena

SESSION 9C Solar Energy		Session Chair: Dr. Peter van Duijsen
11:55-13:25	120 Solar concentrators in combination with agricultural fields: Azerbaijan and Mexico	Masuma Mammadova, Tetyana Baydyk , Ernst Kussul
	164 Inductive Coupling in Light-Rail Overhead Lines to Solar Cables	B Wennekes, D.C. Zuidervliet, P.J. van Duijsen
	208 Comparison of energy performance of PV and PVT panels for climate conditions of Kosovo	Blerina Bylykbashi , Risto Filkoski
	182 Renewable Solar Energy Systems for Drying Banana (Musa acuminata) Peel Biomass	Oluseye Omotoso Agbede
	152 Investigation of Unit Commitment Problem in the Presence Battery Storage and Seasonal Variations of Solar Power Plants: Case Study Kahramanmaras	Fatma Avli Fırış , İsrafil Karadöl, Mustafa Şekkelı
	197-Lanthanum promoted nickel-based catalysts	Zoulikha Abdelsadek, Hasan Koten , Juan Pedro Holgado, Djamila Halliche, Ouiza Cherifi, Sergio Gonzalez-Cortes, Patrick J. Masset
43 The Usage of Metallophthalocyanines in Dye Sensitized Solar Cells	Yaren Erdağ Maden , Atif Koca	
KEYNOTE SESSION (in HALL A)		
SESSION 10C Solar Energy Systems		Session Chair: Dr. Blerina Bylykbashi
15:35-17:05	49 Absorption enhancement in organic photovoltaic cells with triangular-shell-shaped active layers	Dooyoung Hah
	134 Charging electric vehicles using PV technology	Hiba Guedira , İrem Firtina-Ertis
	52 Performance Comparison of Dry-Type Transformer Under Different Excitations	Seda Kul , Selami Balci, Suleyman Sungur Tezcan
	286- Operation of CdZnTe (CZT) Detectors in Plasmic Media	H. Hilal Kurt, S. Utaş
	287 Energy conversion via GaAs Electrode in a Plasma System with Microdistance	H. Hilal Kurt, S. Utaş
	47 Role of the buffer layer from TiO2 for the performance of the lead-free perovskite photoelectric devices	Rade Tomov , Mariya Aleksandrova
	288- Graphene as Cathode Material at Low Pressures	S. Utaş , H. Hilal Kurt
239 Numerical study investigating the performance of tandem dual solar cell with integration of GaAs tunnel junction	Benbahouche Lynda , Idjdarene Souad	
SESSION 11C Mixed Topics		Session Chair: Dr. Matthieu Horgnies
17:10-18:40	291 HgCdTe Infrared Detector Applications in Plasma Systems	H. Hilal Kurt, S. Utaş
	187 Heat pump efficiency measurement	František Vranay, Ján Domanický , Michal Gorás
	207 The Simulation of a New High Frequency Transformer	Sude Hatem , Erol Kurt
	270 A New Algorithm for Secure Energy Video Communication	Erol Kurt, Soner Mülâyim
	125 New insights about optimal TES materials: study of a new composite material based on ettringite and hydrated salt	Frédéric Kuznik, Matthieu Horgnies
	92 Synergy of PMN-PT with piezoelectric polymer foams using sugar casting method for sensing applications	Rolan Mansour , Mr Oluwaseun.Omoniyi, Andrew Reid, Jame
135 Techno-cost Feasibility analysis for the Replacement of Diesel Pumps with Solar Pumps for irrigation purpose, Case study: BUGESERA District, Rwanda	Isaac Ntihinuzwa , Alexander Kyaruzi, Emmanuel Masabo	