

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

1. DAY [7 May 2022 Saturday] - HALL A (PHYSICAL SESSIONS)

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| 09:00-09:15 | OPENING SESSION - The Welcome Message | Prof. Dr. Erol Kurt (Founder & Chairman) |
| | SESSION 1A - Special Session (Advances in solar energy) | Session Chair: Dr.Rupendra Kumar Sharma |
| 09:15-10:30 | 9- Energy Analysis of a Small-scale Multi-effect Distillation System Powered by Photovoltaic/thermal Collectors | Mahmoud Sheta , Ahmed Elwardany, Shinichi Ookawara, Hamdy Hassan |
| | 14- Thermal management of photovoltaic cell using heat pipe and phase change material (PV-HP-PCM): a numerical study | Ramadan Gad , Hatem Mahmoud, Shinichi Ookawara, Hamdy Hassan |
| | 69- Deposition process and electrical properties of electrodeposited SnS with different concentrations of TEA | Boubakri Asma , Koumya Yassine, Rajira Amal, Al Maggoussi Abdelmajid, Abounadi Abdelhadi, Achargui Noureddine |
| | 146- Development of BiOI thin films for lead-free graded bandgap perovskite solar cells | Nor Azlian Binti Abdul Manaf , Salmiah Binti Ibrahim |
| | 245- Modeling, design, and construction of Parabolic Trough Solar System | Maryam Khan, Hafiz Mohammad Mutee ur Rehman, Muhammad Muqet Rehman , Woo Young Kim |
| | 252- Analysis of Silicon Heterojunction Solar Cells under Low Illumination Conditions | Rupendra Kumar Sharma , Mathieu Boccardb, Jakub Holovsky |
| 10:30-10:50 | COFFEE BREAK | |
| | SESSION 2A Nano-scale production and characterization | Session Chair: Dr. Yasemin Oztekin Ciftci |
| 10:50-12:05 | 267- Optoelectronic Properties of Semiconductor NiHfSi Compound via Ab-initio Methods | Ilknur K. Durukan , Yasemin O. Ciftci |
| | 268- Theoretical Analysis of Thermodynamic Properties of RhTiAs Half Heusler Compound | Ilknur K. Durukan , Yasemin O. Ciftci |
| | 222- High Breakdown Field and Low Trapping Effects up to 1400 V in Normally Off GaN-on-Silicon Heterostructures | Abid Idriss , Hamdaoui Youssef, Mehta Jash, Medjdoub Farid |
| | 274- First-Principles Study on Thermoelectric and Electronic Properties of Half-Heusler BeCaGa Compound Under Strain | Ilknur K. Durukan , Yasemin O. Ciftci |
| | 98- NiW6Se8 Chevrel Phase for Photocatalytic Water Splitting: A DFT Study | Tugce Sevinc Dag , Aysenur Gencer, Faruk Ozel, Gokhan Surucu, Yasemin O. Ciftci |
| 12:05-12:15 | BREAK | |
| | SESSION 3A Energy and environmental management | Session Chair: Dr. Nor Azlian Binti Abdul Manaf |
| 12:15-13:30 | 10-Energy audit of a residential building in semi-arid climate: a case study | Issa Jumatatu Bosu , Hamdy AboAli Hassan |
| | 33- Regional approach to renewables | Jiri Stodola , Petr Stodola, Jan Furch |
| | 65-Wealth Effects of Financing by Sustainability-Linked bonds: A note | Christian Pohl , Dirk Schiereck |
| | 184- Spillover effects of CO2 emission, renewable and non-renewable energy consumption on environmental degradation | Amjad Naveed , Nisar Ahmad, Reza FathollahZadeh Aghdam |
| | 257-The effect of using four types coated electrodes on surface roughness of titanium metal by electrical discharge machining (EDM) | Maryam A. Sadik , Shukry H. Aghdeab, Raed R. Shwaish |
| | 26-Hybrid sorbents for carbon capture in waste-to-energy technologies | Maris Klavins |

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| 13:30-14:20 | LUNCH | |
| | SESSION 4A Material Characterization | Session Chair: Dr. H. Hilal Kurt |
| 14:20-15:25 | 269- Defect effects on hardness of B2-type YIn Compound | Ilknur K. Durukan , Yasemin O. Ciftci |
| | 273- Pressure Effect on the Elastic and Electronic Properties of RhTiSb Half Heusler Compound | Yasemin O. Ciftci , Ilknur K. Durukan |
| | 127- Special optical fiber design for modification of dispersion characteristics | Gulbakhar Yussupova , Nazym Kussambayeva, Yegzekova, Anara, Zhadyra Sadvakassova, Saule Nurymova, Dilfuza Akhmedova |
| | 220- Behavior of bean straw under inert torrefaction | Mohamed Khairy Elsayed , Mona Gamal, Shinichi Ookawara, H. Sekiguchi, Ahmed Elwardany |
| | 173-3D numerical simulation of a salt gradient solar pond | Ibtissem Mhamdi, Fakhreddine Segni Oueslati , Haykel Ben Hamed |
| 15:25-15:45 | COFFEE BREAK | |
| | SESSION 5A Auxiliary Components of Energy Systems | Session Chair: Dr. Mohsen Assadi |
| 15:45-16:50 | 215- A fuel flexible combined heat and power micro gas turbine test rig for dispatchable generation | Mohsen Assadi |
| | 51- A computational approach to the role of tramp elements in steel | Aurélie Jacob, Erwin Povoden-Karadeniz |
| | 140- Utilization of similarity on model-prototype transition of francis turbines | Sena Gozde Yildirim , Sila Fatma Seydim, Kaan Guzey, Ece Nil Kantar, Asli Beril Ejder, Ece Ayli, Kutay Celebioglu, Selin |
| | 139- The performance enhancement of stay vanes in rehabilitation process of Francis Turbines | Kaan Guzey , Oguzhan Ulucak, Ece Ayli, Kutay Celebioglu, Selin Aradag |
| | 214- Influence of SiO ₂ , Al ₂ O ₃ and CNT Nanoparticles Fuel Blends on Performances and Exhaust Emission Characteristics of Diesel Engine | Anes G. Mrwan, Ang F. Chen, M. Akmal Adzmi, I. M. Yusri, Abdullah Adam , Farad Jaliliantabar |

1. DAY [7 May 2022 Saturday] - HALL B (PHYSICAL SESSIONS)

| SESSION 1B Optimization of Energy Systems | | Session Chair: Dr. Mayorkinos Papaelias |
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| 09:15-10:30 | 11- The heat transfer phenomena of PCMs & NEPCMs for melting and solidification cycles in different container-shapes | Allan T. Muzhanje, Mohsen A. Hassan, Shinichi Ookawara, Hamdy Hassan |
| | 50- Impact of CsF on phase transitions of K ₂ CO ₃ . | Natalia Mazur, Henk Huinink, Hartmut Fischer, Pim Donkers, Olaf Adan |
| | 68- Cold Flow Simulation of Fluidized Bed Reactor Based on Different Air Nozzle Directions | Mohamad M. Alashmawy, Hassan Shokry Hassan, Shinichi Ookawara, Ahmed E. Elwardany |
| | 85- Numerical analysis on deformation and stresses in RM1 NACA-4415 wind turbine | Khurshid Alam, Muhammad Iqbal, Ahmed Al Balushi, Afzal Husain, Sakhi Jan, Saeed Badshah |
| | 246- Assets migration by means of solving of portfolio optimization | Krassimira Stoyanova, Vassil Guliashki |
| | 260- Design optimisation of hydrogen pressure vessels for deep sea autonomous underwater vehicles powered using an alkaline fuel cell | Valter Luiz Jantara Junior, Mayorkinos Papaelias |
| 10:30-10:50 | COFFEE BREAK | |
| SESSION 2B Biomass & Biodiesel & Combustion & Photovoltaic | | Session Chair: Dr. Ehssein Chighali |
| 10:50-12:05 | 67- Greenhouse tomato wastes valorization investigation: case study of biogas production in Tunisia | Skandar Rejeb, Ahmed Hannachi |
| | 138- An investigation of the influence of biodiesel blends on the performance parameters, combustion, and emissions characteristics of compression ignition engines | Mohamed E. Khidr, Tamer F. Megahed, Shinichi Ookawara, Ahmed E. Elwardany |
| | 147- Comparative study on n-butanol and ethyl acetate as promising four-carbon oxyfuels in a compression ignition engine | Shadrack Kimanzi Musyoka, Ahmed S. Khalil, Shinichi A. Ookawara, Ahmed E. Elwardany |
| | 204- Production of bioethanol and biogas from olive mill solid lignocellulose biomass | Hassan Azaizeh, Hiba N. Abu Tayeh |
| | 151- Experimental Investigation of Heating and Evaporation Characteristics of Single Suspended Aniline Droplet. | Hesham Elkady, Rami Zewail, Shinsuke Mori, Ahmed E. Elwardany |
| | 154- A new indirect photovoltaic power optimization method based on the measured temperature and irradiance | Ehssein Chighali, Ba Abdellahi, Aroudam Elhassen |
| 12:05-12:15 | BREAK | |
| SESSION 3B Optimization of Energy Devices | | Session Chair: Dr. Khurshid Alam |
| 12:15-13:30 | 162- Design of Log-Periodic Tooth Nano-Antenna for Energy Harvesting in the Infrared Band | Fahad Al-Qahtani, Ali Yahyaoui, Jawad Yousaf, Hatem Rmili |
| | 174- Study of waste-heat powered facemask | Jan H. Wiśniewski |
| | 87- Investigation Into The Effects of Improper Maintenance On Wind Turbines | Michael S. Davis, Mohammad R. Madani |
| | 175- Li-ion battery thermal parameter identification and core temperature estimation | Khadija Saqli, Houda Bouchareb, Oudghiri Bentaie Mohammed, Kouider Nacer M'sirdi |
| | 240- Optimal Design of a Coupled Photovoltaic-Electrolysis-Battery System for Hydrogen Generation | Aisha AIObaid, Raymond Adomaitis |
| | 244- Recyclable humidity sensor based on a bio-waste material for multifunctional applications | Maryam Khan, Hafiz Mohammad Mutee ur Rehman, Muhammad Muqet Rehman, Woo Young Kim |

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| 13:30-14:20 | LUNCH | |
| | SESSION 4B Advances in Energy Modeling | Session Chair: Dr. Denis Chikurtev |
| 14:20-15:25 | 237- Integration of data centres as active entities into energy systems modelling | Juan Jerez , Juan Gea-Bermúdez, Claire Bergaentzlé, Dogan Keles |
| | 249- Intentions to charge Electric Vehicles with Vehicle-to-grid technology among people with different motivations for energy saving | Zbigniew Bohdanowicz, Jarosław Kowalski , Cezary Biele |
| | 15- Experimental Study of Waste Heat Recovery from Industrial Chimney Using Thermoelectric Generator (TEG) Cooled by Natural Convection | Alfred Ochieng , Hamdy Hassan |
| | 250- Evaluation of energy efficiency of an intelligent infrared heating system for industrial buildings | Veneta Yosifova, Denis Chikurtev , Milena Haralampieva, Rosen Petrov |
| | 12- Economic and efficiency analysis of coupled of different ratios of PV and wind energy systems for green hydrogen production | Mohamed Nasser , Tamer F. Megahed, Shinichi Ookawara, Hamdy Hassan |
| 15:25-15:45 | COFFEE BREAK | |
| | SESSION 5B Plasmas & Gases | Session Chair: Dr. Maria Solakidou |
| 15:45-16:50 | 276- Simulation of DC Capacitive Discharge Plasma | Bekir Dursun , Erol Kurt |
| | 272- Ab-initio Study on Hydrogen Storage of Ni substituted CuZn in B2 structure | Yasemin O. Ciftci , Ilknur K. Durukan |
| | 144- Dual cocatalytic nanohybrids Au-TiO ₂ -RuO ₂ accelerate photocatalytic hydrogen production from water | Maria Solakidou , Areti Zindrou, Asterios Mantzani, Yiannis Deligiannakis |
| | 223- Towards highly efficient high power X-band AlN/GaN MIS HEMTs operating above 50V | Kathia Harrouche , Sri Saran Vankatachalam, François Grandpierron, Etienne Okada, Farid Medjdoub |

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| | 1. DAY [7 May 2022 Saturday] - POSTER SESSION | |
| | 105- Study of Growth Rate of Tetraselmis striata Microalgae for Biofuel Production | Sameer Al-Asheh , Ahmad Aidan, Rawan Abu Alwan, Dana Kadadou, Yousef Elzanaty, Maitha Ahli, Ghadeer Hegab |
| | 46- Wave energy potential of the coast of the island of El Hierro for the exploitation of a Wave Energy Converter (WEC). | Isidro Padrón, Manuel D. García, Devis Avila , Graciliano N. Marichal |