



5th International Conference on Power Generation Systems and Renewable Energy Technologies

August 26-27, Istanbul, Turkey

| CONFERENCE PROGRAM SCHEDULE | | | |
|------------------------------------|---|--|---|
| August 25, 2019 | | | |
| 13:00 – 17:00 | Registration | | |
| August 26, 2019 | | | |
| 08:00 – 09:00 | Registration & Guests to be Seated | | |
| 09:00 – 09:30 | <i>Conference Overview/ Welcome Speech: Prof. Dr. Erol Kurt</i> | | |
| | <i>Opening Remarks: Dr. Saeed Badshah</i> | | |
| | <i>Address by Deanship of ITU</i> | | |
| 9:30 – 11:00 | Parallel Session A1 Energy Systems, Technology & Management (Hall-A) | Parallel Session A2 Renewable Energy Systems and Technologies (Hall-B) | Parallel Session A3 Nuclear Power Generation Systems and Technologies (Hall-C) |
| 11:00 – 11:30 | Coffee Break | | |
| 11:30 – 13:00 | Parallel Session B1 Energy Systems, Technology & Management (Hall-A) | Parallel Session B2 Renewable Energy Systems and Technologies (Hall-B) | Parallel Session B3 Mixed Topics (Hall-C) |
| 13:00– 14:00 | Lunch Break | | |
| 14:00– 14:30 | Keynote Speaker 1: <i>Josep M. Guerrero, Denmark</i> (Venue: Hall A) | | |
| 14:30– 16:00 | Parallel Session C1 Energy Systems, Technology & Management (Hall-A) | Parallel Session C2 Renewable Energy Systems and Technologies (Hall-B) | Parallel Session C3 Ocean Energy & Hydro Power Generation Systems and Technologies (Hall-C) |
| 16:00– 16:30 | Coffee Break | | |
| 16:30– 17:30 | Parallel Session D1 Ocean Energy & Hydro Power Generation Systems and Technologies (Hall-A) | Parallel Session D2 Mixed Topics (Hall-B) | Parallel Session D3 Mixed Topics (Hall-C) |
| 16:30– 17:30 | Poster Session D4 (Location: Foyer) | | |



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|--------------|---|
| 19:30 | GALA DINNER ON BOAT IN BOSPHORUS ISTANBUL (from istinye IDO ferry station the trip starts. From conference venue get a minibus to “istinye” for 5 min to reach there) |
|--------------|---|

| August 27, 2019 | | | |
|------------------------|---|---|---|
| 08:30 – 09:15 | Registration and Arrival of Participants | | |
| 09:15 – 09:45 | Keynote Speaker 2: <i>Ibrahim Sefa, Turkey</i> (Venue: Hall A) | | |
| 09:45 – 11:00 | Parallel Session E1 Renewable Energy Systems and Technologies (Hall-A) | Parallel Session E2 Mix Topics (Hall-B) | Parallel Session E3 Renewable Energy System - Aspects of Materials and Structures (Hall-C) |
| 11:00 – 11:30 | Coffee Break | | |
| 11:30 – 13:00 | Parallel Session F1 Energy Systems, Technology & Management (Hall-A) | Parallel Session F2 Renewable Energy System - Aspects of Materials and Structures (Hall-B) | Parallel Session F3 Mix Topics (Hall-C) |
| 13:00 – 14:00 | Lunch Break | | |
| 14:00 – 15:30 | Parallel Session G1 Energy Systems, Technology & Management (Hall-A) | Parallel Session G2 Renewable Energy System - Aspects of Materials and Structures (Hall-B) | Parallel Session G3 Mix Topics (Hall-C) |
| 15:30 – 16:00 | Coffee Break | | |
| 16:00 – 17:30 | Parallel Session H1 Energy Systems, Technology & Management (Hall-A) | Parallel Session H2 Renewable Energy System - Aspects of Materials and Structures (Hall-B) | Parallel Session H3 Mix Topics (Hall-C) |
| 17:30 – 18:00 | HALL A - Closing Ceremony | | |



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| Technical Sessions | | |
|---------------------------|---|---|
| 1. | Ocean Energy & Hydro Power Generation Systems and Technologies | Session – C3, D1, |
| 2. | Renewable Energy Systems and Technologies | Session – A2, B2, C2, E1 |
| 3. | Renewable Energy System - Aspects of Materials and Structures | Session – E3, F2, G2, H2 |
| 4. | Energy Systems, Technology & Management | Session – A1, B1, C1, F1, G1, H1 |
| 5. | Nuclear Power Generation Systems and Technologies | Session – A3 |
| 6. | Mixed Topics | Session – B3, D2, D3,E2, F3, G3, H3 |
| 7. | Poster Session on Mixed Topics | (on Monday, 16:30 – 17:30) Location: FOYER |



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| Day:1 Parallel Session A1 Energy Systems, Technology & Management (Hall-A) | | |
|---|--|---|
| Session Chair: <i>Athraa Ali Kadhem and Liu Yi (Each Talk: 15 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 9:30 – 11:00 | <i>Said Belhadj, Kaci Ghedamsi and Karim Belmokhtar</i> | Paper Id 8 <i>An Optimal energy management strategy to increase the autonomy of a fuel cell hybrid electric vehicle</i> |
| | <i>Mohamed Albattal and Bahadir Tunaboynu</i> | Paper Id 21 <i>Energy performance and cost assessment of different PV systems for a building-integrated application</i> |
| | <i>Liu Yi, Rao Guo Hui, Huang Hao Ran and Shao Rui Bo</i> | Paper Id 31 <i>Implementation method of Single Point Fault of Computer Equipment in Electric Power Monitoring System</i> |
| | <i>Athraa Ali Kadhem, Noor Izzri Abdul Wahab and Ahmed N. Abdalla</i> | Paper Id 34 <i>Differential Evolution Optimization Algorithm Based on Generation Systems Reliability Assessment Integrated with Wind Energy</i> |
| | <i>Faryar Darvishi, Asadollah Javanshir, Niloufar Ziasistani, Elin Markarian and Nastaran Ziasistani</i> | Paper Id 182 <i>Energy performance assessment of PCM buildings considering multiple factors</i> |



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| Day:1 Parallel Session A2 Renewable Energy Systems and Technologies (Hall-B) | | |
|---|---|--|
| Session Chair: <i>Aref Maalej and Stephen Afonaa-Mensah (Each Talk: 15 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 9:30 – 11:00 | <i>Benmedjahed Miloud, Rachid Maouedj and Mouhadjer Samir</i> | Paper Id 11 <i>Wind Energy Resource Assessment of Desert Sites in Algeria and Energy and Reduction of CO₂ Emissions</i> |
| | <i>Hani Beltagy, Sofiane Mihoub, Hamid Ajdad and Said Nouredine</i> | Paper Id 12 <i>Techno-Economic Study of Linear Fresnel Solar Thermal Power Plant in Algeria</i> |
| | <i>Stephen Afonaa-Mensah, Qian Wang and Wisdom Opare</i> | Paper Id 20 <i>The Impact of the Financial Incentive Levels of Demand Response Programs on the Generation Cost of Solar-Integrated Power Systems</i> |
| | <i>Shoroug Alweheshi, Aisha Abdelali, Muhanad Albarassi, Ahmed Hammada and Adel Mohamed</i> | Paper Id 28 <i>Simulation and Hardware Implementation of Photovoltaic Maximum Power Point Tracking System</i> |
| | <i>Aref Maalej</i> | Paper Id 32 <i>Efficiency Analysis of Photo-Voltaic Thermal Air Collectors</i> |



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| Day:1 Parallel Session A3 Nuclear Power Generation Systems and Technologies (Hall-C) | | |
|---|--|---|
| Session Chair: <i>Ataollah Rabiee and Muhammad Tariq Siddique</i> (Each Talk: 15 min) | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 9:30 – 11:00 | <i>Michal Oziemski</i> | Paper Id 94 <i>Topping nuclear power plants steam cycles with gas turbines as the way of enhancing their efficiency</i> |
| | <i>Dr. Idrees Ahmad, Dr. Nadeem Shaukat and Dr. Rizwan Ahmed</i> | Paper Id 100 <i>An Improved Numerical Technique for the Solution of Point Reactor Kinetic Equations with Temperature Feedback</i> |
| | <i>Mohsen Ebrahimian, Mohammad Reza Nematollahi and Farhad Salari</i> | Paper Id 155 <i>The effect of using different materials of fuel cladding on the neutronic and thermal-hydraulic parameters of the VVER-1000 Reactor</i> |
| | <i>Rustam Khan, Muhammad Tariq Siddique, Nadeem Shaukat, Sikander Majeed Mirza, Thomas Stummer and Mario Villa</i> | Paper Id 161 <i>SuperMC Model of the TRIGA MARK II Reactor and its Validation</i> |
| | <i>Ebrahim Ghanbari, Ataollah Rabiee and Mohammad Reza Nematollahi</i> | Paper Id 199 <i>IDPSA to Decrease Risk & Energy Consumption in a Typical PWR</i> |
| | <i>Ataollah Rabiee, Amir Hossein Kamalinia and Alireza Atf</i> | Paper Id 204 <i>Study of Nanofluid Boiling in Forced Swirl Flow Field</i> |



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| Day:1 Parallel Session B1 Energy Systems, Technology & Management (Hall-A) | | |
|---|--|--|
| Session Chair: <i>Ramazan Kopru and Ghamgeen Rashed (Each Talk: 15 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 11:30 – 13:00 | <i>Fazel Mohammadi, Gholam-Abbas Nazri and Mehrdad Saif</i> | Paper Id 54 <i>A Fast Fault Detection and Identification Approach in Power Distribution Systems</i> |
| | <i>Muhammad Arsalan Wahid and Muhammad Haris Wahid</i> | Paper Id 64 <i>Calculation of Electric Power Conservation at Home Through Smart Sensors</i> |
| | <i>Ramazan Kopru</i> | Paper Id 78 <i>Broadband Matching of PA-to-PCB Interconnection for X-band Wireless Power Transfer</i> |
| | <i>Reza Farhangi and Mohamad Taghi Hamidi Beheshti</i> | Paper Id 82 <i>Frequency Synchronization and Transient Stability in Electric Networks</i> |
| | <i>Ghamgeen Rashed, Gilbert Shyirambere, Geoffrey Gasore, Jean De Dieu Niyonteze and Yuanzhang Sun</i> | Paper Id 84 <i>Applicability Study of Battery Charging Stations in Off-Grid for Rural Electrification – the case of Rwanda</i> |
| | <i>Syed Athar Masood and Irfan Gondal</i> | Paper Id 16 <i>Role of passive design and alternative energy in building energy optimization</i> |



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| Day:1 Parallel Session B2 Renewable Energy Systems and Technologies (Hall-B) | | |
|---|---|--|
| Session Chair: <i>George Nerubenko and Reem Salim (Each Talk: 15 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 11:30-13:00 | <i>Burcu Cansu İnanç, Kadir Ertogral and Kürşad Derinkuyu</i> | Paper Id 44 <i>Optimization of the regional allocation of wind power capacity</i> |
| | <i>Assia Habbati Bellia</i> | Paper Id 56 <i>Optimisation of Photovoltaic Module By DOE</i> |
| | <i>Guan Xin, Yuan Fen, Qiu Hao and He Jinan</i> | Paper Id 83 <i>Simulation of Concentrating Photovoltaic/Thermal System Based on Jet Cooling</i> |
| | <i>Reem Salim</i> | Paper Id 85 <i>The Performance of ACO in the Parameter Identification of a PEM Fuel Cell Model in Comparison to GA and PSO</i> |
| | <i>Muhammad Asim Munir, Abraiz Khattak, Kashif Imran, Abasin Ulasyar and Adeel Khan</i> | Paper Id 112 <i>Solar PV Generation Forecast Model Based on the Most Effective Weather Parameters</i> |



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| Day:1 Parallel Session B3 Mixed Topics (Hall-C) | | |
|---|--|--|
| Session Chair: <i>Dubravko Sabolić and S. M. Hassan Hosseini (Each Talk: 15 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 11:30 – 13:00 | <i>Tahar Tayebi, Hamza Mihoubi and Brahim Bouderah</i> | Paper Id 5 <i>Study of enhancement of natural convection heat transfer in a concentric annulus using nanofluid</i> |
| | <i>Dubravko Sabolić, Ivan Sičaja and Igor Ivanković</i> | Paper Id 7 <i>Correlation between wind generation and load in Croatian power system</i> |
| | <i>Wenxi Zhu, Qifeng Xu, Yifan Huang, Yuting Xu and Qiao Tan</i> | Paper Id 17 <i>A Circular Sub-wavelength Radial Polarization Grating Based on Nanotechnology</i> |
| | <i>Mahmoud Ghofrani, Amirsaman Arabali and Anthony Suherli</i> | Paper Id 25 <i>A Linearized Optimization Framework for Distributed Generation Planning Studies</i> |
| | <i>Muhammad Ahmed and Maliha Siddiqui</i> | Paper Id 29 <i>Wind Energy Potential of Southern Sindh, Pakistan for Power Generation</i> |
| | <i>Ubaid Fayaz, Ans Ghazi, Hanif Khattak, Saeed Badshah, Syed Haris Iftikharand Usama Perwez</i> | Paper Id 35 <i>Aerodynamic analysis of a bio-inspired fan blade with tubercles</i> |



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|--------------|--|
| 14:00– 14:30 | Keynote Speaker 1: <i>Josep M. Guerrero, Aalborg University (Denmark)</i> (Venue: Hall I) |
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| Day:1 Parallel Session C1 | | |
|---|--|---|
| Energy Systems, Technology & Management (Hall-A) | | |
| Session Chair: <i>Rui Costa Neto and Attila Magyar (Each Talk: 15 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 14:30– 16:00 | <i>Arjmand Khaliq, Muhammad Amar Zulfiqar and Abdul Ahad</i> | Paper Id 95 <i>Case Study of Energy Saving in an Apartment Building by Efficient Lighting and Integrated Control System</i> |
| | <i>Jakub Motylewski</i> | Paper Id 96 <i>Augmentation of the Heat Recovery Steam Generator in the CCGT cycle as the way to reduce the CO2 emissions</i> |
| | <i>Onur Elma and Hossam A. Gabbar</i> | Paper Id 97 <i>Design and Analysis of Mobile Hybrid Energy System for Off-Grid Applications</i> |
| | <i>Attila Gölle and Attila Magyar</i> | Paper Id 102 <i>Temperature Dependence Study of Electrochemical Storage Systems</i> |
| | <i>Duarte Drumond de Abreu, Rui Costa Neto, Laura Aelenei and Carlos A. Santos Silva</i> | Paper Id 103 <i>Modelling and experimenting thermal energy storage through the use of PCM in low thermal inertia office</i> |
| | <i>Kerem Can Arayici and Gokturk Poyrazoglu</i> | Paper Id 106 <i>The Optimal Placement Model for Electric Vehicle Charging Stations</i> |



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| Day:1 Parallel Session C2 Renewable Energy Systems and Technologies (Hall-B) | | |
|---|---|--|
| Session Chair: <i>George Nerubenko and Janusz Buchta (Each Talk: 15 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 14:30– 16:00 | <i>George Nerubenko, Vladimir Blintsov, Andriy Mozgovyy and Ivan Biliuk</i> | Paper Id 13 <i>The Novel Wave Energy Harvesting Buoy</i> |
| | <i>Janusz Buchta, Andrzej Oziemski and Maciej Pawlik</i> | Paper Id 117 <i>Polish Power Generation Sector in the Conditions of Growing Contribution of Renewable Energy Sources</i> |
| | <i>Touhami Ghaitaoui, B Benabdelkrim, Slimane Laribi and Rachid Maouedj</i> | Paper Id 136 <i>Experimental evaluation of the Saharian condition effect on thin-film photovoltaic panel</i> |
| | <i>Yedilkhan Amirgaliyev, Murat Kunelbayev, Beibut Amirgaliyev, Talgat Sundetov, Didar Yedilkhan and Timur Merembayev</i> | Paper Id 158 <i>Development and research of the control algorithm and software of solar controller for double-circuit solar collectors with thermosiphon circulation</i> |
| | <i>Qi Wu, Yinfeng Dong, Jianli Rao, Feipeng Liu, Yanli Xie and Lvhe Dong</i> | Paper Id 159 <i>Temperature Stress of Waste Bunker in Municipal Solid Waste Incineration Power Generation Plant</i> |
| | <i>Xiaoping Yang, Jiansheng Li, Judong Chen, Yuncai Lu, Yuanli Lin and Jun Jiang</i> | Paper Id 133 <i>Research on UHF Wave of Partial Discharge Leakage of Oil-Impregnated Paper Bushing of Power Transformers</i> |



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| Day:1 Parallel Session C3 | | |
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| Ocean Energy & Hydro Power Generation Systems and Technologies (Hall-C) | | |
| Session Chair: <i>Mircea Neagoe and Mostapha Tarfaoui (Each Talk: 15 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 14:30– 16:00 | <i>Mourad Nachtane, Mostapha Tarfaoui and Dennoun Saifaoui</i> | Paper Id 10 <i>Performance Analysis of New Hydrofoil for Tidal Current Turbines</i> |
| | <i>Manzar Ahmed, Dr. Asif Nawaz, Mishaal Ahmed and Ali Aizaz Aizaz</i> | Paper Id 24 <i>Improving Wave Energy System By Using New Techniques</i> |
| | <i>Mojtaba Kordestani, Ali Akbar Safavi, Narjes Sharafi and Mehrdad Saif</i> | Paper Id 30 <i>Fault Tolerant Control of Rhine-Meuse Delta Water System: A Performance Assessment Based Approach</i> |
| | <i>Mircea Neagoe, Radu Saulescu and Codruta Jaliu</i> | Paper Id 65 <i>Comparative Performance Analysis of Two Chain Planetary Speed Increaseers for Micro-Hydro/Wind Conversion Systems</i> |
| | <i>Niloofar Pourghaderi, Mahmud Fotuhi-Firuzabad, Moein Moeini-Aghtaie and Milad Kabirifar</i> | Paper Id 205 <i>Market-Based Framework to Exploit the Flexibility of DERs by the Concept of TVPP</i> |



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| Day:1 Parallel Session D1 | | |
|--|---|--|
| Ocean Energy & Hydro Power Generation Systems and Technologies (Hall-A) | | |
| Session Chair: <i>Candeniz Seckin and Sakhi Jan (Each Talk: 15 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 16:30– 17:30 | <i>Mehmet Salih Karaalioglu and Sakir Bal</i> | Paper Id 105 <i>Hydrodynamic performance of a cavitating marine current turbine</i> |
| | <i>Adeel Khan, Abraiz Khattak, Abasin Ulasyar, Kashif Imran and Muhammad Asim Munir</i> | Paper Id 113 <i>Investigation of Archimedean Screw Turbine for optimal power output by varying number of blade</i> |
| | <i>Sakhi Jan, Saeed Badshah, Muhammad Amjad and Sajjad Ahmad</i> | Paper Id 192 <i>Wake modeling of tidal current turbine array</i> |
| | <i>Candeniz Seckin</i> | Paper Id 71 <i>Performance analysis of a biomass-fired cooling/power combined cycle (Ejector Refrigeration and Kalina cycle)</i> |



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| Day:1 Parallel Session D2 Mixed Topics (Hall-B) | | |
|---|---|---|
| Session Chair: <i>Mohamed M. El-Awad and Azhar Ulhaq (Each Talk: 15 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 16:30– 17:30 | <i>Mohamed M. El-Awad</i> | Paper Id 70 <i>Development and Validation of an Excel Add-In for determining the Properties of Various Refrigerants</i> |
| | <i>Fouzia Benmessaoud</i> | Paper Id 74 <i>Multi-level direct torque control of induction motor using fuzzy-genetic speed regulation</i> |
| | <i>Azhar Ulhaq, Aqib Pervaiz and Almas Anjum</i> | Paper Id 86 <i>Enhancements in Micro-Grid Operation Through Electrics Charging and Discharging</i> |
| | <i>Seyed Hossein Hosseini, Babak Yousefi Khanghah, Saeed Ghasemzadeh and Behnam Mohammadi Ivatloo</i> | Paper Id 167 <i>Resilience Response Program in Smart Grids Considering Extreme Weather Conditions</i> |



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| Day:1 Parallel Session D3 Mixed Topics (Hall-C) | | |
|---|---|--|
| Session Chair: <i>Vladimir Karandey and Ali A. Jazie (Each Talk: 15 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 16:30– 17:30 | <i>Boussahoua Bouziane and Elmaouhab Ali</i> | Paper Id 43 <i>Smart Grid Reliability Using Reliable Block Diagram Case Study: Adrar’s Isolated Network of Algeria</i> |
| | <i>Vladimir Karandey, Boris Popov, Olga Popova and Viktor Afanasyev</i> | Paper Id 46 Research of electromagnetic parameters for improvement of efficiency of special electric drives and components |
| | <i>Ali A. Jazie, Suhad A. Abed and H. Pramanik</i> | Paper Id 58 <i>Dbsa-Catalyzed Biodiesel Production From Sewage Sludge In A Micro-Reactor: Box-Behnken Design Optimization</i> |
| | <i>Ali A. Jazie, Emad Jadeen Alshebaney and Suhad A. Abed</i> | Paper Id 55 <i>In-Situ Dodecylbenzenesulfonic acid - Catalyzed Transesterification of Micro Algae Chlorella Sp. for Biodiesel Production</i> |



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| Day:1 Poster Session D4 | | |
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| Mixed Topics (FOYER) | | |
| Session Chair: <i>Rachid Maouedj and Fouzi Harrou (Each Talk: 10 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 16:30– 17:30 | <i>Magdy Aboelela, Mahmoud Elsis, Mahmoud Soliman and Wagdy Mansour</i> | Paper Id 61 <i>New Smart Supervisor Controller design for Load Frequency Control of Multi-area Interconnected Power System</i> |
| | <i>Fouzi Harrou, Bilal Taghezouit and Ying Sun</i> | Paper Id 114 <i>Improved Monitoring of PV Systems Using Generalized Likelihood Ratio Hypothesis Testing</i> |
| | <i>Fouzi Harrou, Ahmed Saidi and Ying Sun</i> | Paper Id 115 <i>Latent variable-based prediction methods for a reliable wind power prediction</i> |
| | <i>Akkari Nadia, Abdelhamid Lilia and Benalia Leila</i> | Paper Id 132 <i>Field Oriented Control of a Doubly Fed Induction Motor (DFIM) Using a Sliding Mode Controller</i> |
| | <i>Rachid Maouedj, Miloud Benmedjahed, Djamel Saba, Abdeldjalil Dahbi, Touhami Ghaitaoui, Slimane Laribi, Brahim Berbaoui and Abdelkarim Mammeri</i> | Paper Id 157 <i>An experimental study of cooling photovoltaic (PV) panels using water</i> |
| | <i>Jianli Rao, Yinfeng Dong, Qi Wu, Yanli Xie, Feipeng Liu and Lvhe Dong</i> | Paper Id 166 <i>Effect of Temperature Stress on Main Structure in Waste Incineration Power Generation Plant</i> |



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|---------------|--|
| 09:15 – 09:45 | Keynote Speaker 2: <i>Ibrahim Sefa, Gazi University (Turkey)</i> (Venue: Hall I) |
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| Day:2 Parallel Session E1 Renewable Energy Systems and Technologies (Hall-A) | | |
|---|--|--|
| Session Chair: <i>Daniel Oliveira and Zahid Hussain Hulio (Each Talk: 15 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 09:45 – 11:00 | <i>Daniel Oliveira, Aylton Alves and Bárbara Arantes</i> | Paper Id 42 <i>Solar Energy As An Alternative Source In Boiler Economizers</i> |
| | <i>Asadullah and Rab Nawaz</i> | Paper Id 67 <i>Design of Novel Evacuated Glass Solar Collector (NEGSC) incorporated with Phase Change Material (PCM) for Solar Energy Collection and Storage</i> |
| | <i>Zahid Hussain Hulio</i> | Paper Id 179 <i>Pakistan’s Renewable Resource Assessment: Policy Challenges and Recommendations</i> |
| | <i>Zahid Hussain Hulio</i> | Paper Id 180 <i>Determination of inherent nature of wind speed of Hawksbay site, Pakistan using wavelet and Fast Fourier Transform (FFT)</i> |



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| Day:2 Parallel Session E2 Mixed Topics (Hall-B) | | |
|--|---|---|
| Session Chair: <i>Fazel Mohammadi</i> (Each Talk: 15 min) | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 09:45 -11:00 | <i>Saleh Al-Senaidi, Abdulrahman Alolah and Majeed Alkanhal</i> | Paper Id 160 <i>Comparative Study of Core Loss Models in Three-Phase Self-Excited Reluctance Generators</i> |
| | <i>S. M. Hassan Hosseini and Sina Eslami</i> | Paper Id 89 <i>Pumped Storage Power Plant Control System Modeling by Applying VSI and Vector control principle</i> |
| | <i>Fazel Mohammadi, Gholam-Abbas Nazri and Mehrdad Saif</i> | Paper Id 72 <i>Modeling, Simulation, and Analysis of Hybrid Electric Vehicle Using MATLAB/Simulink</i> |
| | <i>Mohamed Koundi and Hassan El Fadil</i> | Paper Id 36 <i>Mathematical modeling of PEM electrolyzer and design of a voltage controller by the SMPWM approach</i> |



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| Day:2 Parallel Session E3 | | |
|---|---|--|
| Renewable Energy System - Aspects of Materials and Structures (Hall-C) | | |
| Session Chair: <i>Alper Nabi Akpolat and Nader Anani (Each Talk: 15 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 09:45 – 11:00 | <i>Zhenguo Ma, Huijie Guo and Qiansen Yu</i> | Paper Id 63 <i>Study on the Measuring Harmonics Based on Capacitor Voltage Transformer</i> |
| | <i>Nader Anani and Haider Ibrahim</i> | Paper Id 66 <i>Variations of the performance of a PV panel with the number of bypass diodes and partial shading patterns</i> |
| | <i>Alper Nabi Akpolat, Yongheng Yang, Frede Blaabjerg, Erkan Dursun and Ahmet Emin Kuzucuoğlu</i> | Paper Id 93 <i>Modeling Photovoltaic String in PLECS Under Partial Shading</i> |
| | <i>Cheng-Xi Fu, Lei Peng and Qiang Fu</i> | Paper Id 129 <i>Rapid determination of furfural concentration in transformer oil using UV- Vis spectroscopy based on different colorimetry with suitable data processing methods</i> |



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| Day:2 Parallel Session F1 Energy Systems, Technology & Management (Hall-A) | | |
|---|---|--|
| Session Chair: <i>Athar Waseem and Michal Oziemski (Each Talk: 15 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 11:30 – 13:00 | <i>Damla Tavsan, Erol Kurt, Hilal Kurt and Raoul Rashid Nigmatullin</i> | Paper Id 124 <i>Design and Implementation of an Energy Harvester with a Fluid Core</i> |
| | <i>Janusz Buchta and Andrzej Oziemski</i> | Paper Id 118 <i>Steam Power Units on the Path to Increase the Efficiency of Electricity Generation</i> |
| | <i>S. M. Ali, Athar Waseem and Zahid Ullah</i> | Paper Id 121 <i>Energy Management Models: A Game-Theoretic Optimization Techniques for Energy Management in Smart Grid</i> |
| | <i>Michal Oziemski</i> | Paper Id 111 <i>Limitation of spray water flow to steam reheaters as the way of enhancing the BB-1150 boiler efficiency</i> |
| | <i>Haijun Xing, Hequan Ren and Yuqing Hu</i> | Paper Id 128 <i>Multi-objective Siting and Sizing of Distributed Generation Based on the Mixed Integer Second-Order Cone Programming</i> |



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| Day:2 Parallel Session F2 Renewable Energy System - Aspects of Materials and Structures (Hall-B) | | |
|---|--|--|
| Session Chair: <i>Aysegul Abusoglu and Rui Yang (Each Talk: 15 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 11:30 – 13:00 | <i>Rui Yang, Hao Zhang, Rui Guo, Ai-Yu Liu, Kang-Kang Zhang and Pei Quan</i> | Paper Id 98 <i>The Effect of L Tip Vane on the Power and Load of 5MW Horizontal Axis Wind Turbine</i> |
| | <i>Liu Yunxin, Liao Siyang, Sun Yuanzhang, Xu Jian, Ghamgeen Izat Rashed Rashed, Ke Deping, Yao Liangzhong, Yang Jun, Wu Di, Tang Wei and Yang Cheng</i> | Paper Id 101 <i>Primary Frequency Modulation of Solar Photovoltaic-energy Storage Hybrid System Based on Virtual Synchronous Generator</i> |
| | <i>Alim Yolalmaz and Emre Yüce</i> | Paper Id 108 <i>Designs of diffractive optical elements for solar energy harvesting</i> |
| | <i>Hamine Adil, Bouazza Faiz and Idrissi Azami Hafida</i> | Paper Id 125 <i>Study and Realization of Desalination Prototype Assisted by Solar and photovoltaic Energy</i> |
| | <i>Dennai Benmoussa, Dida Tidjani and Fillali Mostefa</i> | Paper Id 145 <i>The Influence of Limiting Factors on the Performance of Photovoltaic Cells with Multi-junction Mixed Mode</i> |
| | <i>Aysegul Abusoglu, Amjad Anwari-Moghaddam and Josep Guerrero</i> | Paper Id 188 <i>Producing Bio-electricity and Bio-heat from Urban Sewage Sludge in Turkey Using a Two-Stage Process</i> |



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| Day:2 Parallel Session F3 Mix Topics (Hall-C) | | |
|--|---|--|
| Session Chair: <i>Mario Vasak (Each Talk: 15 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 11:30 – 13:00 | <i>Wei Huang, Bo Ye and Liangliang Hua</i> | Paper Id 90 <i>Two-level Optimal Dispatch for Combined Heat and Power Systems Considered Uncertainty</i> |
| | <i>Mario Vasak and Hrvoje Novak</i> | Paper Id 104 <i>Optimal control for daily operation planning of a water distribution system with pumped storage</i> |
| | <i>Fawad Ali Shah, Syed Owais Athar and Shehzar Shahzad Sheik</i> | Paper Id 120 <i>Battery Health Monitoring for Commercialized Electric Vehicle Batteries: Lithium-Ion</i> |
| | <i>Funda Battal, Selami Balci and Ibrahim Sefa</i> | Paper Id 208 <i>An analysis of high power inductor vibration behavior in terms of air gaps</i> |
| | <i>Lynda Chenini, Abdelkader Aissat, J.P. Vilcot</i> | Paper Id 139 <i>Theoretical study of Intersubband Absorption Coefficient of Conduction Band in GaAsP/GaP Quantum Well Structures</i> |



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| Day:2 Parallel Session G1 Energy Systems, Technology & Management (Hall-A) | | |
|---|--|---|
| Session Chair: <i>Danica Vukadinovic and Chaohai Zhang (Each Talk: 15 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 16:00 – 17:30 | <i>Jun Jiang, Zhuowei Wang, Chaohai Zhang, Wanli Xu and Yuan Feng</i> | Paper Id 148 <i>Simultaneous detection of Dissolved Methane and Ethane in Transformer Oil Based on Laser Raman Spectroscopy</i> |
| | <i>Arvind Mathur and Suneet Singh</i> | Paper Id 150 <i>Status of India's renewable energy commitments for the Paris Agreement</i> |
| | <i>Danica Vukadinovic Greetham and Georgios Giasemidis</i> | Paper Id 152 <i>Investigating Robustness of Energy Management Maps for SMEs</i> |
| | <i>Ramin Nourollahi, Kazem Zare, Sayyad Nojavan and Miadreza Shafieekhah</i> | Paper Id 171 <i>Optimal scheduling of hybrid AC-DC microgrid using information gap decision theory</i> |
| | <i>Khwaja Naveed, Khalil Khan, Nasir Ahmad and Muhammad Fayaz</i> | Paper Id 173 <i>A Machine Learned Approach to Identify the Anomalies in Load Pattern of Pakistan</i> |



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| Day:2 Parallel Session G2 Renewable Energy System - Aspects of Materials and Structures (Hall-B) | | |
|---|---|---|
| Session Chair: <i>Dennai Benmoussa and Syed Qalb-E-Abbas Kazmi (Each Talk: 15 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 14:00 – 15:30 | <i>Syed Qalb-E-Abbas Kazmi, Abdul Waheed Khawaja, Zunaib Maqsood Haider, Tauheed-Ur-Rahman and Syed Muhammad Ali Musa Kazmi</i> | Paper Id 151 <i>Voltage stability of wind turbine based micro grid using simulation platforms</i> |
| | <i>Yedilkhan Amirgaliyev, Murat Kunelbayev, Omirlan Auelbekov, Aliya Kalizhanova, Ainur Kozbakova and Nazbek Katayev</i> | Paper Id 153 <i>Methodology of computing the entropy generation and researching the thermal characteristics for thermosiphon flat solar collector</i> |
| | <i>Hequan Ren, Yuqing Hu and Haijun Xing</i> | Paper Id 126 <i>Integration of Intermittent Renewable Energy Sources in an Active Distribution Network</i> |
| | <i>Dennai Benmoussa, Fillali Mostefa and Dida Tidjani</i> | Paper Id 163 <i>Performance comparison of (GaAs/GaAs) and (InGaP/GaAs) tunnel junction in multi-junction solar cells</i> |
| | <i>Sumair Aziz, Muhammad Umar Khan, Muhammad Atif Imtiaz, Zeeshan Kareem, Syeda Kanwal Zahra Naqvi, Athar Waseem</i> | Paper Id 209 <i>System Design for Early Fault Diagnosis of Machines using Vibration Features</i> |
| | <i>Erol Kurt, Halil Gor and Kayhan Celik</i> | Paper Id 168 <i>Electromagnetic Analysis of an Axial Flux Permanent Magnet Generator</i> |



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| Day:2 Parallel Session G3 Mix Topics (Hall-C) | | |
|---|--|--|
| Session Chair: <i>Mariana Pletea and Da-Ren Chen (Each Talk: 15 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 14:00 – 15:30 | <i>Da-Ren Chen and Ye-Zheng Chen</i> | Paper Id 141 <i>Web-based Application Design for Coal-Transportation Networks of Thermal Power Plant</i> |
| | <i>Mariana Pletea, Irinel Valentin Pletea and Dimitrie Alexa</i> | Paper Id 142 <i>SINGLE-PHASE RECTIFIER WITH NEAR SINUSOIDAL INPUT CURRENT</i> |
| | <i>Muhammet Tahir Guneser, Adem Dalcali, Turgut Ozturk and Cemil Ocak</i> | Paper Id 146 <i>Influence of Rotor Slot Structure at Starting Torque and Efficiency on Urban Use EV Motor</i> |
| | <i>Seyed Hossein Hosseini, Vafa Marzang, Peyman Alavi, Parham Mohseni, Naghi Rostami and Mehran Sabahi</i> | Paper Id 162 <i>An Interleaved High Step-Up DC-DC Converter with Low voltage-stress on Semiconductors</i> |
| | <i>Faizan Dastgeer, Hafiz Muhammad Anees, Hasan Erteza Gelani and Akhtar Kalam</i> | Paper Id 174 <i>A Mathematical Approach to Evaluation of Efficiency of Residential DC Distribution Systems</i> |
| | <i>Alireza Jahangiri, Meysam Mohammadi-Amin and Mohsen Bustanchy</i> | Paper Id 197 <i>Simulation of Solar Cell Absorption Enhancement via Incorporation of Plasmonic Nanoparticles</i> |



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| Day:2 Parallel Session H1 Energy Systems, Technology & Management (Hall-A) | | |
|--|---|---|
| Session Chair: <i>Moamar Sayed-Mouchaweh and Maryam Imani (Each Talk: 15 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 16:00 – 17:30 | <i>Kai Wang, Huijuan Zhao and Jingtao Huang</i> | Paper Id 176 <i>Research on Single Phase Frequency Locking Technology Based on Second-order Generalized Integrator</i> |
| | <i>Maryam Imani</i> | Paper Id 183 <i>Long Short-Term Memory Network and Support Vector Regression for Electrical Load Forecasting</i> |
| | <i>Milad Kabirifar, Mahmud Fotuhi- Firuzabad, Moein Moeini-Aghtaie and Niloofar Pourghaderi</i> | Paper Id 184 <i>DER integrated multistage distribution network expansion planning applying active network management</i> |
| | <i>Hajer Salem, Moamar Sayed- Mouchaweh and Moncef Tagina</i> | Paper Id 201 <i>Semi-supervised Event based approach for Residential Non-Intrusive Load Monitoring</i> |
| | <i>Qusay Ibrahim, Rokhsareh Akbarzadeh, Tien-Chien Jen and Daniel Madyira</i> | Paper Id 202 <i>Case study and energy analysis for power system management of confectionery factory in Jordan</i> |
| | <i>Rokhsareh Akbarzadeh, Qusay Ibrahim, Tien-Chien Jen and Daniel Madyira</i> | Paper Id 203 <i>Evaluation of aerated lagoons performance and suggestion to develop more sustainable energy consumption in a STP plant; a case stud</i> |



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| Day:2 Parallel Session H2 | | |
|---|--|--|
| Renewable Energy System - Aspects of Materials and Structures (Hall-B) | | |
| Session Chair: <i>Rokhsareh Akbarzadeh and Shahryar Rahnamayan (Each Talk: 15 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 16:00 – 17:30 | <i>Negin Maftouni and Hoda Parsa</i> | Paper Id 178 <i>Effects of Implementing a Diffuser around the Wind Turbine</i> |
| | <i>Faryar Darvishi, Asadollah Javanshir, Niloufar Ziasistani and Nastaran Ziasistani</i> | Paper Id 181 <i>Energy performance assessment of a DSF building integrated with PV overhangs</i> |
| | <i>Rokhsareh Akbarzadeh, Qusay-Payef Ibrahim and Tien-Chien Jen</i> | Paper Id 185 <i>Photocatalysis and energy cost analysis of Vanadia Titania thin films synthesis</i> |
| | <i>Qusay-Payef Ibrahim, Rokhsareh Akbarzadeh and Tien-Chien Jen</i> | Paper Id 186 <i>Feasibility study of Mg Scrap Hydrolysis for hydrogen generation using HCl by energy cost analysis</i> |
| | <i>Azam Asilian Bidgoli and Shahryar Rahnamayan</i> | Paper Id 189 <i>An Innovization-based Model to Approximate Geometric Parameters of Solar Chimney Power Plant for Desired Efficiency and Output Power</i> |
| | <i>Alireza Jahangiri, Meysam Mohammadi-Amin and Komeyl Mohammadi-Amin</i> | Paper Id 194 <i>Solar Cell Enhancement with Organic Plasmonic Photovoltaics: Case Study of Lut Desert, Iran</i> |



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| Day:2 Parallel Session H3 | | |
|---|--|--|
| Mix Topics (Hall-C) | | |
| Session Chair: <i>Souri Mohamed Mimoune and Mohd H.S Alrashdan (Each Talk: 15 min)</i> | | |
| Time | Speaker Name/Authors | Paper Id/Paper Title |
| 16:00 – 17:30 | <i>Mohammed Ayad Alkhafaji and Yunus Uzun</i> | Paper Id 187 <i>Simulation and Control of an Electric Vehicle by Using PSO and Specify Driving Route Topology</i> |
| | <i>Souri Mohamed Mimoune, Cylia Amrane and Mohamed Lotfi Khene</i> | Paper Id 198 <i>Detection of the broken bar defects in induction machine by the blocked rotor technique</i> |
| | <i>Rabah Gomri</i> | Paper Id 87 <i>Optimization of Geothermal Heat Exchangers</i> |
| | <i>Mohd H.S Alrashdan</i> | Paper Id 210 <i>Eigen Frequency, Frequency Response, and Transient Response Analysis of MEMS T-Shape Cantilever Beam Piezoelectric Micro-Power Generator About 1 KHz</i> |
| | <i>Hassan Saadati, Kamal hadad, Ataollah Rabiee and Amir Hossein Kamalinia</i> | Paper Id 206 <i>3-D full core neutronic-thermohydraulic investigation of nanofluid coolant in VVER-1000 with porous media model</i> |
| | <i>Yakup Hundur, Tnaer Karateke</i> | Paper Id 207 <i>Investigation of Irradiation Mechanisms while Bombarding Fusion Reactor Wall with Deuterium</i> |
| 17:30 – 18:00 | HALL A - Closing Ceremony | |