

### **Active and reactive power control of DFIG using optimized fractional order-PI controller**

Javed, Umar; Arshad, Muhammad Asad; **Shabbir, Noman; Kütt, Lauri; Rassõlkin, Anton** 2021 IEEE 19th International Power Electronics and Motion Control Conference, The Silesian University of Technology Gliwice, Poland, 25 - 29 April, 2021 (PEMC) : proceedings 2021 / p. 398-404 <https://doi.org/10.1109/PEMC48073.2021.9432608>

### **Advanced sensors and on-line measurements for power lines in smart grids**

**Shabbir, Noman** 18th International Symposium "Topical Problems in the Field of Electrical and Power Engineering". Doctoral School of Energy and Geotechnology III : Toila, Estonia, January 14-19, 2019 : [proceedings] 2019 / p. 205-206 : ill [https://www.ester.ee/record=b5183874\\*est](https://www.ester.ee/record=b5183874*est)

### **Analysis of microgrid configuration effects on energy efficiency**

**Peterson, Kristjan; Ahmadiyahangar, Roya; Shabbir, Noman; Vinnal, Toomas** 2019 IEEE 60th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), 7-9 October 2019 : conference proceedings 2019 / 6 p. : ill <https://doi.org/>

### **Battery size optimization with customer PV installations and domestic load profile**

**Shabbir, Noman; Kütt, Lauri; Astapov, Victor; Jawad, Muhammad; Allik, Alo; Husev, Oleksandr** IEEE Access 2022 / p. 13012-13025 : ill <https://doi.org/10.1109/ACCESS.2022.3147977> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Bivariate stochastic model of current harmonic analysis in the low voltage distribution grid**

**Iqbal, Muhammad Naveed; Kütt, Lauri; Daniel, Kamran; Jarkovoi, Marek; Asad, Bilal; Shabbir, Noman** Proceedings of the Estonian Academy of Sciences 2021 / p. 190-206 : ill <https://doi.org/10.3176/proc.2021.2.08> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Case study of non-linear PV inverter devices attached to the LV distribution network**

**Vinnal, Toomas; Puusepp, Hardi; Shabbir, Noman; Kütt, Lauri; Iqbal, Muhammad Naveed** Agronomy research 2020 / p. 2639-2652 : ill <https://doi.org/10.15159/AR.20.233> <https://dspace.emu.ee/xmlui/handle/10492/5955> [Journal metrics at Scopus](#) [Article at Scopus](#)

### **Comparative analysis of machine learning techniques for non-intrusive load monitoring**

**Shabbir, Noman; Vassiljeva, Kristina; Hokmabad, Hossein Nourollahi; Husev, Oleksandr; Petlenkov, Eduard; Belikov, Juri** Electronics 2024 / art. 1420 <https://doi.org/10.3390/electronics13081420>

### **Comparative analysis of power quality monitoring systems**

Hassan, Syed Rizwan; Rehman, Ateeq Ur; **Shabbir, Noman**; Unbreen, Arooj NFC IEF journal of engineering and scientific research 2020 / p. 19-23 <http://nijesr.com/ojs/index.php/archive/article/view/249>

### **Comparative Analysis of ZigBee Based Wireless Sensor Networks (WSNs)**

**Shabbir, Noman**; Hassan, Syed Rizwan; **Iqbal, Muhammad Naveed; Kütt, Lauri** Proceeding of the 4th International Conference on Recent Trends in Computer Science and Electronics 2019 2019 / p. 115 [http://www.rtcse.org/RTCSE\\_2019.pdf](http://www.rtcse.org/RTCSE_2019.pdf)

### **Comparative analysis of zigbee based wireless sensor networks (WSNs)**

**Shabbir, Noman**; Hassan, Syed R.; **Iqbal, Muhammad N.; Kütt, Lauri**; Unbreen, A. International journal of recent technology and engineering 2019 / p. 980-984 : ill <https://www.ijrte.org/wp-content/uploads/papers/v7i6s/F04000376S19.pdf> [Journal metrics at Scopus](#) [Article at Scopus](#)

### **Comparative Analysis of ZigBee Based Wireless Sensor Networks (WSNs)**

**Shabbir, Noman**; Hassan, Syed Rizwan; **Iqbal, Muhammad Naveed; Kütt, Lauri**; Unbreen, Arooj International journal of recent technology and engineering 2019 / p. 980-984 : ill <https://www.ijrte.org/wp-content/uploads/papers/v7i6s/F04000376S19.pdf>

### **Comparison of current harmonic emission by different lighting technologies**

**Iqbal, Muhammad Naveed; Kütt, Lauri; Shabbir, Noman; Asad, Bilal** 2020 IEEE 61st International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), Riga, Latvia, Nov. 5-7, 2020 : conference proceedings 2020 / 6 p <http://toc.proceedings.com/52742webtoc.pdf>

### **Comparison of machine learning based methods for residential load forecasting**

**Shabbir, Noman; Ahmadiyahangar, Roya; Kütt, Lauri; Rosin, Argo** 2019 Electric Power Quality and Supply Reliability Conference (PQ) & 2019 Symposium on Electrical Engineering and Mechatronics (SEEM), Kärdla, Estonia, June 12-15, 2019 : proceedings 2019 / 4 p. : ill <https://doi.org/10.1109/PQ.2019.8818267>

### **Congestion control strategies for increased renewable penetration of photovoltaic in LV distribution networks**

**Shabbir, Noman; Kütt, Lauri; Astapov, Victor; Husev, Oleksandr; Ahmadiyahangar, Roya; Wen, Fushuan; Kull, Karl** Energy reports 2022 / p. 217-223 <https://doi.org/10.1016/j.egyr.2022.10.184> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **A cost-effective electric vehicle intelligent charge scheduling method for commercial smart parking lots using a simplified convex relaxation technique**

Jawad, Muhammad; Qureshi, Muhammad Bilal; Ali, Sahibzada Muhammad; **Shabbir, Noman**; Khan, Muhammad Usman; Aloraini, Afnan; Nawaz, Raheel Sensors 2020 / p. 1-19 <https://doi.org/10.3390/s20174842> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Current harmonic aggregation cases for contemporary loads**

**Daniel, Kamran; Kütt, Lauri; Iqbal, Muhammad Naveed; Shabbir, Noman** Energies 2022 / art. 437 <https://doi.org/10.3390/en15020437> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Distributed average integral control based energy management model**

Shaukat, Neelofar; Khan, Bilal; Qureshi, Muhammad Bilal; Jawad, Muhammad; **Shabbir, Noman; Daniel, Kamran** 2023 IEEE International Conference on Energy Technologies for Future Grids (ETFG) 2023 / 5 p <https://doi.org/10.1109/ETFG55873.2023.10407358>

### **Economic analysis and impact on national grid by domestic photovoltaic system installations in Pakistan**

**Shabbir, Noman**; Usman, Muhammad; Jawad, Muhammad; Zafar, Muhammad H.; **Iqbal, Muhammad Naveed; Kütt, Lauri** Renewable energy 2020 / p. 509-521 : ill <https://doi.org/10.1016/j.renene.2020.01.114> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Energy storage expansion planning in microgrid**

**Ahmadiyahangar, Roya; Baharvandi, Amir; Rosin, Argo; Häring, Tobias; Azizi, Elnaz; Korötko, Tarmo; Shabbir, Noman** Proceedings : 2020 IEEE 14th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) : Online - Setúbal, Portugal, 08 - 10 July, 2020 2020 / p. 433-437 <https://doi.org/10.1109/CPE-POWERENG48600.2020.9161502>

### **Exploratory data analysis based short-term electrical load forecasting : a comprehensive analysis**

Javed, Umar; Ijaz, Khalid; **Shabbir, Noman; Kütt, Lauri; Husev, Oleksandr** Energies 2021 / art. 5510 <https://doi.org/10.3390/en14175510> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Feasibility investigation for residential battery sizing considering EV charging demand**

**Shabbir, Noman; Kütt, Lauri; Daniel, Kamran; Astapov, Victor; Raja, Hadi Ashraf; Iqbal, Muhammad Naveed; Husev, Oleksandr** Sustainability 2022 / art. 1079 <https://doi.org/10.3390/su14031079> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Forecasting of energy consumption and production using recurrent neural networks**

**Shabbir, Noman; Kütt, Lauri**; Jawad, Muhammad; **Iqbal, Muhammad Naveed; Ghahfarokhi, Payam Shams** Advances in electrical and electronic engineering 2020 / p. 190-197 <https://doi.org/10.15598/aeee.v18i3.3597> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Forecasting of wind speed and power through FFNN and CFNN using HPSOBA and MHP SO-BAACs techniques**

Ellahi, Manzoor; Usman, Muhammad Rehan; Arif, Waqas; Usman, Hafiz Fuad; Khan, Waheed A.; Satrya, Gandeve Bayu; **Daniel, Kamran; Shabbir, Noman** Electronics 2022 / art. 4193 <https://doi.org/10.3390/electronics11244193> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Forecasting short term wind energy generation using machine learning**

**Shabbir, Noman; Ahmadiyahangar, Roya; Kütt, Lauri; Iqbal, Muhammad Naveed; Rosin, Argo** 2019 IEEE 60th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), 7-9 October 2019 : conference proceedings 2019 / 4 p <https://doi.org/10.1109/RTUCON48111.2019.8982365>

### **Impact of cable impedance on the harmonic emission of LED lamps**

**Iqbal, Muhammad Naveed; Kütt, Lauri; Asad, Bilal; Shabbir, Noman** 2020 21st International Scientific Conference on Electric Power Engineering (EPE), October 19-21, 2020, Prague, Czech Republic 2020 / 5 p <https://doi.org/10.1109/EPE51172.2020.9269271>

### **Impact of LED thermal stability to household lighting harmonic load current modeling**

**Iqbal, Muhammad Naveed; Jarkovoi, Marek; Kütt, Lauri; Shabbir, Noman** 2019 Electric Power Quality and Supply Reliability Conference (PQ) & 2019 Symposium on Electrical Engineering and Mechatronics (SEEM), Kärdla, Estonia, June 12-15, 2019 : proceedings 2019 / 6 p. : ill <https://doi.org/10.1109/PQ.2019.8818226>

### **The impact of load on global parameters of electrical machines in case of healthy and broken rotor bars**

**Kudelina, Karolina; Raja, Hadi Ashraf; Autso, Siarhei; Asad, Bilal; Vaimann, Toomas; Rassõlkin, Anton; Kallaste, Ants; Shabbir, Noman** 2022 18th Biennial Baltic Electronics Conference (BEC) 2022 / 5 l. <https://doi.org/10.1109/BEC56180.2022.9935614>

### **Increasing PV hosting capacity in LV distribution networks using congestion control techniques**

**Shabbir, Noman** 21st International Symposium "Topical problems in the field of electrical and power engineering. Doctoral school of energy and geotechnology. III" : Pärnu, Estonia, June 15-18, 2022 2022 / p. 87-88 [https://www.ester.ee/record=b5504019\\*est](https://www.ester.ee/record=b5504019*est)

## **Integrating smart energy management system with internet of things and cloud computing for efficient demand side management in smart grids**

Saleem, M. Usman; Shakir, Mustafa; Usman, M. Rehan; Bajwa, M. Hamza Tahir; **Shabbir, Noman**; **Shams Ghahfarokhi, Payam**; **Daniel, Kamran** Energies 2023 / art. 4835 : ill <https://doi.org/10.3390/en16124835>

## **Load current harmonic model complexity reduction through empirical pattern analysis**

**Kamran, Daniel**; **Kütt, Lauri**; **Iqbal, Muhammad Naveed**; **Shabbir, Noman**; **Jarkovoi, Marek**; **Parker, Martin** 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227474>

## **Machine learning and deep learning techniques for residential load forecasting : a comparative analysis**

**Shabbir, Noman**; **Kütt, Lauri**; **Raja, Hadi Ashraf**; **Ahmadiyahangar, Roya**; **Rosin, Argo**; **Husev, Oleksandr** 2021 IEEE 62nd International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON): conference proceedings 2021 / p. 1-5 <https://doi.org/10.1109/RTUCON53541.2021.9711741>

## **Machine learning and deep learning techniques for wind energy forecasting**

**Shabbir, Noman** 19th International Symposium "Topical problems in the field of electrical and power engineering. Doctoral school of energy and geotechnology. III" : Tartu, Estonia, January 14-17, 2020 2020 / p. 95-96 : ill [https://www.ester.ee/record=b5291755\\*est](https://www.ester.ee/record=b5291755*est)

## **Modeling of lighting load in residential buildings**

**Iqbal, Muhammad Naveed**; **Kütt, Lauri**; **Shabbir, Noman** International journal of engineering and advanced technology 2018 / p. 233–236 <https://www.scopus.com/record/display.uri?eid=2-s2.0-85064435587&origin=resultlist>

## **Modeling of lighting load in residential buildings**

**Iqbal, Muhammad Naveed**; **Kütt, Lauri**; **Shabbir, Noman** Proceeding of the 4th International Conference on Recent Trends in Computer Science and Electronics 2019 2019 / p. 111 [http://www.rtce.org/RTCE\\_2019.pdf](http://www.rtce.org/RTCE_2019.pdf)

## **Non orthogonal multiple access: basic concepts and misconceptions**

Hassan, Syed Rizwan; **Shabbir, Noman**; Unbreen, Arooj; Rehman, Ateeq Ur; Iqbal, Ahmad NFC IEF journal of engineering and scientific research 2020 / 4 p <http://doi.org/10.24081/njesr.2019.1.0001>

## **A novel renewable powered stand-alone electric vehicle parking-lot model**

Jawad, Muhammad; Asghar, Hira; Arshad, Jehangir; Javed, Abbas; Qureshi, Muhammad Bilal; Ali, Sahibzada Muhammad; **Shabbir, Noman**; **Rassölkin, Anton** Sustainable Energy, Grids and Networks 2023 / art. 100992, 14 p. : ill <https://doi.org/10.1016/j.segan.2022.100992>

## **A novel short receptive field based dilated causal convolutional network integrated with Bidirectional LSTM for short-term load forecasting**

Javed, Umar; Ijaz, Khalid; Jawad, Muhammad; Khosa, Ikramullah; Ansari, Ejaz Ahmad; Zaidi, Khurram Shahih; Rafiq, Muhammad Nadeem; **Shabbir, Noman** Expert systems with applications 2022 / art. 117689 <https://doi.org/10.1016/j.eswa.2022.117689> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

## **Optimal fractional order PI controller for field oriented current control of switched reluctance motor**

Mughees, Neelam; Ashfaq, Hira; **Shabbir, Noman**; **Rassölkin, Anton**; **Kütt, Lauri** 2021 IEEE 19th International Power Electronics and Motion Control Conference, The Silesian University of Technology Gliwice, Poland, 25 - 29 April, 2021 (PEMC) : proceedings 2021 / p. 479-485 <https://doi.org/10.1109/PEMC48073.2021.9432616>

## **An overview of measurement standards for power quality**

**Shabbir, Noman**; **Kütt, Lauri**; **Jarkovoi, Marek**; **Iqbal, Muhammad Naveed**; **Rassölkin, Anton**; **Daniel, Kamran** Agronomy research 2021 / p. 944–960 <https://doi.org/10.15159/ar.21.074> [Journal metrics at Scopus](#) [Article at Scopus](#)

## **Requirements to data acquisition and signal analysis for electrical grid condition monitoring**

**Anjär, Toomas Erik**; **Shabbir, Noman**; **Kütt, Lauri**; **Iqbal, Muhammad Naveed** 2020 IEEE 61st International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), Riga, Latvia, Nov. 5-7, 2020 : conference proceedings 2020 <https://doi.org/10.1109/RTUCON51174.2020.9316487>

## **Residential DC load forecasting using long short-term memory network (LSTM)**

**Shabbir, Noman**; **Ahmadiyahangar, Roya**; **Rosin, Argo**; **Husev, Oleksandr**; **Jalakas, Tanel**; **Martins, Joao** 2023 IEEE 11th International Conference on Smart Energy Grid Engineering (SEGE) 2023 / p. 131-136 <https://doi.org/10.1109/SEGE59172.2023.10274596>

## **Residential energy management system to support increased renewable penetration = Taastuenergiaallikate kasutustihedust toetav energiahaldussüsteem**

**Shabbir, Noman** 2022 <https://doi.org/10.23658/taltech.37/2022> <https://digikogu.taltech.ee/et/Item/2c178a6b-f918-4932-bd1b-48fefb7fc7aa> [https://www.ester.ee/record=b5503996\\*est](https://www.ester.ee/record=b5503996*est)

## **Residential load forecasting using machine learning techniques : a comparative analysis**

**Shabbir, Noman** 20th International Symposium "Topical problems in the field of electrical and power engineering. Doctoral school of energy and geotechnology. III" : Tallinn, Estonia, September 8-10, 2021 2021 / p. 73-74 : ill [https://www.ester.ee/record=b5457278\\*est](https://www.ester.ee/record=b5457278*est)

#### **Residential load forecasting using recurrent neural networks**

**Shabbir, Noman; Ahmadiyahangar, Roya; Raja, Hadi Ashraf; Kütt, Lauri; Rosin, Argo** 2020 IEEE 14th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) : proceedings 2020 / p. 478-481 : ill <https://doi.org/10.1109/CPE-POWERENG48600.2020.9161565>

#### **Short-term PV energy generation forecasting using deep learning**

**Shabbir, Noman; Ahmadiyahangar, Roya; Rosin, Argo; Astapov, Victor; Kilter, Jako** Telematique 2022 <https://www.provinciajournal.com/index.php/telematique/article/view/813>

#### **Short-term wind energy forecasting using deep learning-based predictive analytics**

**Shabbir, Noman; Kütt, Lauri; Jawad, Muhammad; Husev, Oleksandr** CMC-Computers, Materials & Continua 2022 / p. 1017-1033 <https://doi.org/10.32604/cmc.2022.024576> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

#### **Spectrum analysis for condition monitoring and fault diagnosis of ventilation motor : a case study**

**Shabbir, Noman; Kütt, Lauri; Asad, Bilal; Jawad, Muhammad; Iqbal, Muhammad Naveed; Daniel, Kamran** Energies 2021 / art. 2001 <https://doi.org/10.3390/en14072001> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

#### **Techno-economic analysis and energy forecasting study of domestic and commercial photovoltaic system installations in Estonia**

**Shabbir, Noman; Kütt, Lauri; Raja, Hadi Ashraf; Jawad, Muhammad; Allik, Alo; Husev, Oleksandr** Energy 2022 / art. 124156 <https://doi.org/10.1016/j.energy.2022.124156> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

#### **Time-dependent variations in current harmonic emission by LED lamps in the low-voltage network**

**Iqbal, Muhammad Naveed; Kütt, Lauri; Asad, Bilal; Shabbir, Noman; Rasheed, Iftikhar** Electrical Engineering 2021 / p. 1525-1539 : ill <https://doi.org/10.1007/s00202-020-01175-4> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

#### **Waveform Variation Defined Model for Harmonic Current Emissions Including Cross-Order Supply Voltage Harmonics Influence**

**Daniel, Kamran; Kütt, Lauri; Iqbal, Muhammad Naveed; Shabbir, Noman; Jarkovoi, Marek; Parker, Martin** IEEE Access 2023 <https://doi.org/10.1109/ACCESS.2023.3270805>

#### **Wind energy forecasting using recurrent neural networks**

**Shabbir, Noman; Kütt, Lauri; Jawad, Muhammad; Ahmadiyahangar, Roya; Iqbal, Muhammad Naveed; Rosin, Argo** 2019 Big Data, Knowledge and Control Systems Engineering (BdKCSE) 2019 / 5 p. : ill <https://doi.org/10.1109/BdKCSE48644.2019.9010593>

#### **Vision towards 5G : comparison of radio propagation models for licensed and unlicensed indoor femtocell sensor networks**

**Shabbir, Noman; Kütt, Lauri; Alam, Muhammad Mahtab; Roosipuu, Priit** Physical communication 2021 / art. 101371 <https://doi.org/10.1016/j.phycom.2021.101371> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

#### **Voltage main harmonic level influence on harmonic current emission modeling**

**Daniel, Kamran; Kütt, Lauri; Iqbal, Muhammad Naveed; Shabbir, Noman; Jarkovoi, Marek; Parker, Martin** 2023 International Conference on Future Energy Solutions (FES) 2023 / p. 1-6 <https://doi.org/10.1109/FES57669.2023.10183302>

#### **XgBoost based short-term electrical load forecasting considering trends & periodicity in historical data**

**Shabbir, Noman; Ahmadiyahangar, Roya; Rosin, Argo; Jawad, Muhammad; Kilter, Jako; Martins, Joao** 2023 IEEE International Conference on Energy Technologies for Future Grids (ETFG) 2023 / 6 p <https://doi.org/10.1109/ETFG55873.2023.10407926>