

Accuracy analysis of selected time series and machine learning methods for smart cities based on Estonian electricity consumption forecast

Häring, Tobias; Ahmadihangar, Roya; Rosin, Argo; Korõtko, Tarmo; Biechl, Helmuth 2020 IEEE 14th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) : proceedings 2020 / p. 425-428 : ill <https://doi.org/10.1109/CPE-POWERENG48600.2020.9161690>

Aggregated demand-side energy flexibility : a comprehensive review on characterization, forecasting and market prospects

Plaum, Freddy; Ahmadihangar, Roya; Rosin, Argo; Kilter, Jako Energy reports 2022 / p. 9344-9362
<https://doi.org/10.1016/j.egyr.2022.07.038> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Aggregated energy flexibility provision using residential heat pumps

Plaum, Freddy; Ahmadihangar, Roya; Rosin, Argo 2022 IEEE 16th International Conference on Compatibility, Power Electronics, and Power Engineering (CPE-POWERENG) 2022 / 5 I <https://doi.org/10.1109/CPE-POWERENG54966.2022.9880898>

Aggregation ready flexibility management methods for mechanical ventilation systems in buildings

Maask, Vahur; Rosin, Argo; Korõtko, Tarmo; Thalfeldt, Martin; Syri, Sanna; Ahmadihangar, Roya Energy and buildings 2023 / art. 113369, 14 p. : ill <https://doi.org/10.1016/j.enbuild.2023.113369> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Aggregator index for 24-hour energy flexibility evaluation in an ADN including PHEVs

Rashtbaryan, A.; Gharehpetian, Gevork B.; Baghaee, H. R.; Ahmadihangar, Roya IEEE Access 2024 / p. 16105-16116
<https://doi.org/10.1109/ACCESS.2024.3353136> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Analysis of microgrid configuration effects on energy efficiency

Peterson, Kristjan; Ahmadihangar, 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/>

Analysis of ventilation load flexibility depending on indoor climate conditions

Maask, Vahur; Häring, Tobias; Ahmadihangar, Roya; Rosin, Argo; Korõtko, Tarmo 2020 IEEE International Conference on Industrial Technology, Buenos Aires Institute of Technology (ITBA) Buenos Aires, Argentina, 26-28 February, 2020 : proceedings 2020 / p. 607-612 <https://doi.org/10.1109/ICIT45562.2020.9067153> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Analytical approach for maximizing self-consumption of nearly zero energy buildings- case study : Baltic region

Ahmadihangar, Roya; Karami, Hossein; Husev, Oleksandr; Blinov, Andrei; Rosin, Argo; Jonaitis, Audrius; Sanjari, Mohammad Javad Energy 2022 / art. 121744, 11 p. : ill <https://doi.org/10.1016/j.energy.2021.121744> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Applying reinforcement learning method for real-time energy management

Borhan Dayani, Aida; Fazlollahabadi, Hamed; Ahmadihangar, Roya; Rosin, Argo 2019 IEEE International Conference on Environment and Electrical Engineering and 2019 IEEE Industrial and Commercial Power Systems Europe (EEEIC / I&CPS Europe) 2019 / 5 p. : ill <https://doi.org/10.1109/EEEIC.2019.8783766>

Awareness of BSR municipalities about sustainable urban lighting and green public procurements

Korõtko, Tarmo; Rosin, Argo; Varjas, Toivo; Ahmadihangar, Roya 2020 IEEE International Conference on Environment and Electrical Engineering and 2020 IEEE Industrial and Commercial Power Systems Europe (EEEIC / I&CPS Europe), Madrid, Spain, 9-12 June 2020 : proceedings 2020 / 6 p. : ill <https://doi.org/10.1109/EEEIC/ICPSEurope49358.2020.9160761>

Challenges of smart grids implementation

Ahmadihangar, Roya; Rosin, Argo; Palu, Ivo; Azizi, Aydin Demand-side flexibility in smart grid 2020 / p. 1-15
https://doi.org/10.1007/978-981-15-4627-3_1 [Journal metrics at Scopus](#) [Article at Scopus](#)

Characterizing energy flexibility of buildings with electric vehicles and shiftable appliances on single building level and aggregated level

Azizi, Elnaz; Ahmadihangar, Roya; Rosin, Argo; Bolouki, Sadegh Sustainable cities and society 2022 / art. 103999
<https://doi.org/10.1016/j.scs.2022.103999> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Cleaning of floating photovoltaic systems : a critical review on approaches from technical and economic perspectives

Zahedi, Rafi; Ranjbaran, Parisa; Gharehpetian, Gevork B.; Mohammadi, Fazel; **Ahmadihangar, Roya** Energies 2021 / art. 2018, 25 p. : ill <https://doi.org/10.3390/en14072018> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Clustering-based penalty signal design for flexibility utilization

Rosin, Argo; Ahmadihangar, Roya; Azizi, Elnaz; Sahoo, Subham; **Vinnikov, Dmitri;** Blaabjerg, Frede; Dragicevic, Tomislav; Bolouki, Sadegh IEEE Access 2020 / p. 208850-208860 <https://doi.org/10.1109/ACCESS.2020.3038822> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Comparison of machine learning based methods for residential load forecasting

Shabbir, Noman; Ahmadihangar, 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>

Comparison of the impact of different household occupancies on load matching algorithms

Häring, Tobias; Ahmadihangar, Roya; Rosin, Argo; Biechl, Helmuth; Korõtko, Tarmo 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.2019.8818270>

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

Shabbir, Noman; Kütt, Lauri; Astapov, Victor; Husev, Oleksandr; Ahmadihangar, 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](#)

Cooperative control of flywheel energy storage system and diesel generator for frequency regulation of microgrids using digital FIR filters

Faraji, M.; Mahdavi, Mohammad Saeed; Gharehpetian, Gevork B.; Ahmadihangar, Roya; Rosin, Argo 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 6 p <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227448>

A coordinated strategy for multi-machine power system stability

Ghasemi-Marzbali, Ali; Ahmadihangar, Roya Applied Soft Computing 2021 / art. 07742, 16 p. : ill <https://doi.org/10.1016/j.asoc.2021.107742> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Cost/comfort-oriented clustering-based extended time of use pricing

Azizi, Elnaz; Shotorbani, R.; Ahmadihangar, Roya; Mohammadi-Ivatloo, B.; Rosin, Argo; Sadiq, R. Sustainable cities and society 2021 / art. 102673, 10 p. : ill <https://doi.org/10.1016/j.scs.2020.102673> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Cyber-physical microgrids : toward flexible energy districts

Rosin, Argo; Ahmadihangar, Roya; Martins, Joao; Sahoo, Subham; Blaabjerg, Frede Cyber Security for Microgrids 2022 / p. 161-178 : ill https://doi.org/10.1049/PBPO196E_ch8

Data-driven quantification and aggregation of demand-side flexibility for symmetrical bidding in energy balancing markets

Shahid, Arqum; Ahmadihangar, Roya; Kilter, Jako; Rosin, Argo Electric Power Systems Research 2025 / art. 111823 <https://doi.org/10.1016/j.epsr.2025.111823>

Day-ahead economical planning of multi-vector energy district considering demand response program

Ghasemi-Marzbali, Ali; Shafiei, Mohammad; Ahmadihangar, Roya Applied energy 2023 / art. 120351 <https://doi.org/10.1016/j.apenergy.2022.120351> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Day-ahead scheduling of electric vehicles and electrical storage systems in smart homes using a novel decision vector and AHP method

Alilou, Masoud; Gharehpetian, Gevork B.; Ahmadihangar, Roya; Rosin, Argo; Anvari-Moghaddam, Amjad Sustainability (Switzerland) 2022 / Art. 11773 <https://doi.org/10.3390/su141811773> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Demand-side Flexibility in Smart Grid

Ahmadihangar, Roya; Rosin, Argo; Palu, Ivo; Azizi, Aydin 2020 <https://doi.org/10.1007/978-981-15-4627-3>

Development of a battery sizing tool for nearly zero energy buildings

Ahmadihangar, Roya; Husev, Oleksandr; Blinov, Andrei; Karami, Hossein; Rosin, Argo IECON 2020 The 46th Annual Conference of the IEEE Industrial Electronics Society 2020 / p. 5149-5154 : ill <https://doi.org/10.1109/IECON43393.2020.9254557> [Conference proceeding](#) [Article at Scopus](#) [Article at WOS](#)

Development of prosumer logical structure and object modeling

Korõtko, Tarmo; Rosin, Argo; Ahmadihangar, Roya 2019 IEEE 13th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) : [proceedings] 2019 / 6 p. : ill <https://doi.org/10.1109/CPE.2019.8862390>

Development of TalTech flexible virtual power plant to aggregate demand-side flexibility

Ahmadihangar, Roya 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. 17-18 https://www.eester.ee/record=b5291755*est

Distribution transformer frequency response analysis : behavior of different statistical indices during inter-disk fault
Nurmanova, Venera; Sultanbek, Adilet; Bagheri, Mehdi; **Ahmadihangar, Roya** 2019 IEEE International Conference on Environment and Electrical Engineering and 2019 IEEE Industrial and Commercial Power Systems Europe (IEEEIC / I&CPS Europe) 2019 / 6 p. : ill <https://doi.org/10.1109/IEEEIC.2019.8783252>

Energy management of an isolated microgrid : a practical case

Ghasemi-Marzbali, Ali; **Ahmadihangar, Roya**; Gouran Orimi, Sina; Shafiei, Mohammad; **Häring, Tobias**; **Rosin, Argo** IECON 2021 – 47th Annual Conference of the IEEE Industrial Electronics Society, 13-16 October 2021, Toronto, ON, Canada 2021 / 6 p. : ill <https://doi.org/10.1109/IECON48115.2021.9589801> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Energy scheduling and flexibility quantification in buildings

Ahmadihangar, Roya; **Blinov, Andrei**; Pefitsis, Dimosthenis Distributed energy systems : design, modeling, and control 2023 / p. 249-259 : ill <https://doi.org/10.1201/9781003229124-16>

Energy storage expansion planning in microgrid

Ahmadihangar, 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>

Energy storage facilities impact on flexibility of active distribution networks: stochastic approach

Alipour, Manijeh; Gharehpetian, Gevork B.; **Ahmadihangar, Roya**; **Rosin, Argo**; **Kilter, Jako** Electric power systems research 2022 / art. 108645 <https://doi.org/10.1016/j.epr.2022.108645> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Exploratory data analysis for demand-side flexibility quantification

Shahid, Arqum; **Ahmadihangar, Roya**; **Rosin, Argo**; **Maask, Vahur**; **Martins, João F.** 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 6 p <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227408>

Exploring the Landscape of End User Energy Flexibility: A Systematic Review of Technologies, Challenges, and Opportunities

Maask, Vahur; **Agabus, Hannes**; **Tiismus, Hans**; **Astapov, Victor**; **Ahmadihangar, Roya**; **Korötko, Tarmo**; **Rosin, Argo** IEEE Access 2025 / p. 146579-146602 <https://doi.org/10.1109/ACCESS.2025.3599989> <https://ieeexplore.ieee.org/document/11129056>

A fast current harmonic detection and mitigation strategy for shunt active filter

Firouzjahi, Khalil Gorgani; **Ahmadihangar, Roya**; **Rosin, Argo**; **Häring, Tobias** 2019 Electric Power Quality and Supply Reliability Conference (PQ) & 2019 Symposium on Electrical Engineering and Mechatronics (SEEM), Kärda, Estonia, June 12-15, 2019 : proceedings 2019 / 5 p. : ill <https://doi.org/10.1109/PQ.2019.8818253>

Flexibility enhancement of hybrid microgrids using optimal H^∞ filtering-based fuzzy control of UIPC

Zolfaghari, Mahdi; **Ahmadihangar, Roya**; Gharehpetian, Gevork B.; **Häring, Tobias**; **Rosin, Argo** Proceedings : 2020 IEEE 14th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) : Online - Setúbal, Portugal, 08 - 10 July, 2020 2020 / p. 451-455 <https://doi.org/10.1109/CPE-POWERENG48600.2020.9161545>

Flexibility investigation of price-responsive batteries in the microgrids cluster

Ahmadihangar, Roya; **Azizi, Elnaz**; Subham, Sahoo; **Häring, Tobias**; **Rosin, Argo**; **Vinnikov, Dmitri**; Dragicevic, Tomislav; Blaabjerg, Frede Proceedings : 2020 IEEE 14th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) : Online - Setúbal, Portugal, 08 - 10 July, 2020 2020 / p. 456-461 : ill <https://doi.org/10.1109/CPE-POWERENG48600.2020.9161667>

Forecasting available demand-side flexibility

Ahmadihangar, Roya; **Rosin, Argo**; **Palu, Ivo**; Azizi, Aydin Demand-side flexibility in smart grid 2020 / p. 39-49 https://doi.org/10.1007/978-981-15-4627-3_4 [Journal metrics at Scopus](#) [Article at Scopus](#)

Forecasting demand-side flexibility of a household with dynamic consumer behavior analysis

Shahid, Arqum; **Ahmadihangar, Roya**; **Rosin, Argo**; **Korötko, Tarmo** IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT Europe 2024) : proceedings 2024 / 5 p <https://doi.org/10.1109/ISGTEUROPE62998.2024.10863005>

Forecasting short term wind energy generation using machine learning

Shabbir, Noman; **Ahmadihangar, 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>

A holistic D-PMU optimal placement framework considering pragmatic constraints in smart grids

Farhizadan, Mohammadreza; Karrari, Mehdi; Gharehpetian, Gevork B.; **Ahmadihangar, Roya**; **Kilter, Jako**; **Rosin, Argo** IEEE 16th International Conference on Compatibility, Power Electronics, and Power Engineering (CPE-POWERENG) 2022 / 7 p.

Impact of load matching algorithms on the battery capacity with different household occupancies

Häring, Tobias; Ahmadihangar, Roya; Rosin, Argo; Biechl, Helmuth IECON 2019 - 45th Annual Conference of the IEEE Industrial Electronics Society : proceedings 2019 / p. 2541-2547 <https://doi.org/10.1109/IECON.2019.8927495> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Impacts of grid-scale battery systems on power system operation, case of Baltic region

Ahmadihangar, Roya; Plaum, Freddy; Häring, Tobias; Drovitar, Imre; Korötko, Tarmo; Rosin, Argo IET Smart Grid 2024 / p. 101-119 <https://doi.org/10.1049/stg2.12142> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Improving dynamic stability of deregulated power system

Rouhani, Seyed Hossein; **Ahmadihangar, Roya; Häring, Tobias; Rosin, Argo** 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 <https://doi.org/10.1109/RTUCON51174.2020.9316618>

Info-gap-based optimization of microgrids integrated with power, cooling and hydrogen generation units

Mahmoudnezhad, Fayeze; Mirzaei, Mohammad Amin; Plaum, Freddy; Ahmadihangar, Roya; Kilter, Jako; Rosin, Argo 2022 IEEE 16th International Conference on Compatibility, Power Electronics, and Power Engineering (CPE-POWERENG) 2022 / 7 I <https://doi.org/10.1109/CPE-POWERENG54966.2022.9880880>

Investigating different sources of flexibility in power system

Ahmadihangar, Roya; Rosin, Argo; Palu, Ivo; Azizi, Aydin Demand-side flexibility in smart grid 2020 / p. 27-37 https://doi.org/10.1007/978-981-15-4627-3_3 [Journal metrics at Scopus](#) [Article at Scopus](#)

Kalman-filter based maximum power point tracking for a single-stage grid-connected photovoltaic system

Farrokhi, Ehsan; Ghoreishy, Hoda; **Ahmadihangar, Roya; Rosin, Argo** IECON 2021 – 47th Annual Conference of the IEEE Industrial Electronics Society 2021 / Code 173927 <https://doi.org/10.1109/IECON48115.2021.9589653> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Leveraging the machine learning techniques for demand-side flexibility - a comprehensive review

Shahid, Arqum; Ahmadihangar, Roya; Rosin, Argo; Blinov, Andrei; Korötko, Tarmo; Vinnikov, Dmitri Electric power systems research 2025 / art. 111185 <https://doi.org/10.1016/j.epsr.2024.111185>

Lifetime-oriented control strategies for hybrid energy storage systems in an islanded microgrid

Cinay, Nazli; Häring, Tobias; Rosin, Argo; Korötko, Tarmo; Ahmadihangar, Roya; Biechl, Helmuth 2021 22nd IEEE International Conference on Industrial Technology (ICIT) : proceedings 2021 / p. 1-6 <https://doi.org/10.1109/ICIT46573.2021.9453617> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

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

Shabbir, Noman; Kütt, Lauri; Raja, Hadi Ashraf; Ahmadihangar, 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 approach for flexibility characterisation of residential space heating

Häring, Tobias; Ahmadihangar, Roya; Rosin, Argo; Biechl, Helmuth IECON 2021 - 47th Annual Conference of the IEEE Industrial Electronics Society, Toronto, Canada, Oct. 13-16, 2021 2021 / 6 p. : ill <https://doi.org/10.1109/IECON48115.2021.9589216> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Microgrid oriented modeling of space heating system based on neural networks

Häring, Tobias; Kull, Tuule Mall; Ahmadihangar, Roya; Rosin, Argo; Thalfeldt, Martin; Biechl, Helmuth Journal of building engineering 2021 / art. 103150, 12 p. : ill <https://doi.org/10.1016/j.jobbe.2021.103150> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

New approaches for increasing demand-side flexibility

Ahmadihangar, Roya; Rosin, Argo; Palu, Ivo; Azizi, Aydin Demand-side flexibility in smart grid 2020 / p. 51-62 https://doi.org/10.1007/978-981-15-4627-3_5 [Journal metrics at Scopus](#) [Article at Scopus](#)

A new master-slave based centralized control method for an AC microgrid with multiple distributed energy resources

Habibnia, Saba; Mahdavi, Mohammad Saeed; Gharehpetian, Gevork B.; **Ahmadihangar, Roya; Rosin, Argo; Vinnikov, Dmitri** IEEE 13th International Symposium on Power Electronics for Distributed Generation Systems (PEDG) 2022 / 6 p. <https://doi.org/10.1109/PEDG54999.2022.9923216>

Non-intrusive load monitoring based smart energy management system for smart buildings

Jawad, Muhammad; **Shabbir, Noman; Ahmadihangar, Roya; Rosin, Argo;** Khaleel, T.; Tahir, W. 2024 7th International Conference on Information and Computer Technologies (ICICT) : proceedings 2024 / p. 46-50 <https://doi.org/10.1109/ICICT62343.2024.00014>

Novel quantification method of aggregated energy flexibility based on power-duration curves

Plaum, Freddy; Rosin, Argo; Ahmadihangar, Roya IEEE Access 2024 / p. 132825-132837

<https://doi.org/10.1109/ACCESS.2024.3461151> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

On the concept of flexibility in electrical power systems : signs of inflexibility

Ahmadihangar, Roya; Rosin, Argo; Palu, Ivo; Azizi, Aydin Demand-side flexibility in smart grid 2020 / p. 17-26

https://doi.org/10.1007/978-981-15-4627-3_2 [Journal metrics at Scopus](#) [Article at Scopus](#)

Optimal energy management of grid-connected multi-microgrid systems considering demand-side flexibility : a two-stage multi-objective approach

Karimi, Hamid; Gharehpetian, Gevork B.; Ahmadihangar, Roya; Rosin, Argo Electric power systems research 2023 / art. 108902

<https://doi.org/10.1016/j.epsr.2022.108902> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Optimal scheduling of HVACs in islanded residential microgrids to reduce BESS size considering effect of discharge duration on voltage and capacity of battery cells

Sanjareh, Mehrdad Bagheri; Nazari, Mohammad Hassan; Gharehpetian, Gevork B.; Ahmadihangar, Roya; Rosin, Argo

Sustainable Energy, Grids and Networks 2021 / art. 100424 <https://doi.org/10.1016/j.segan.2020.100424> [Journal metrics at Scopus](#)

[Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Optimal tuning of resonant and repetitive based controller for single-phase buck-boost inverter with unfolding circuit

Husev, Oleksandr; Belikov, Juri; Matiushkin, Oleksandr; Vinnikov, Dmitri; Ahmadihangar, Roya; Vosoughi Kurdkandi, Naser IEEE journal of emerging and selected topics in industrial electronics 2022 / p. 954-965

<https://doi.org/10.1109/JESTIE.2021.3121190>

Optimization-based power management for battery/supercapacitor hybrid energy storage system with load estimation capability in a DC microgrid

Farrokhi, Ehsan; Ghoreishy, Hoda; Ahmadihangar, Roya International journal of electrical power and energy systems 2024 / art.

109665, 10 p. : ill <https://doi.org/10.1016/j.ijepes.2023.109665> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#)

[Article at WOS](#)

Optimized energy scheduling of residential DC building: Case of Nordic climate

Sidorova, Aleksandra; Blinov, Andrei; Ahmadihangar, Roya; Vinnikov, Dmitri; Vösa, Karl-Villem; Kurnitski, Jarek 2023

IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 7 p

<https://doi.org/10.1109/CPE-POWERENG58103.2023.10227437>

Output voltage regulation of isolated PV-vonnected boost converters with variable loads using converted hysteresis sliding mode controller

Zolfaghari, Mahdi; Zolfaghari, A.; Gharehpetian, Gevork B.; Ahmadihangar, Roya; Rosin, Argo 2023 IEEE 17th International

Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 7 p <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227386>

Power smoothing in smart buildings using flywheel energy storage

Plaum, Freddy; Häring, Tobias; Ahmadihangar, Roya; Rosin, Argo Proceedings : 2020 IEEE 14th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) : Online - Setúbal, Portugal, 08 - 10 July, 2020 2020 /

p. 473-477 <https://doi.org/10.1109/CPE-POWERENG48600.2020.9161458>

Profit analytics in disruption risk for electrical energy supply network considering cost-oriented big data

Fazlollahtabar, Hamed; Ahmadihangar, Roya Energy and Environment 2024 <https://doi.org/10.1177/0958305X231225599> [Journal](#)

[metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Real-time optimal power management for a hybrid energy storage system with battery thermal consideration and DC microgrid current estimation capability

Farrokhi, Ehsan; Ghoreishy, Hoda; Ahmadihangar, Roya Electrical Engineering 2024 / p. 4705 - 4718

<https://doi.org/10.1007/s00202-024-02243-9> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Recent contributions, future prospects and limitations of interlinking converter control in hybrid AC/DC microgrids

Najafzadeh, Mahdiyyeh; Ahmadihangar, Roya; Husev, Oleksandr; Roasto, Indrek; Jalakas, Tanel; Blinov, Andrei IEEE

Access 2021 / art. 9312595, p. 7960-7984 <https://doi.org/10.1109/ACCESS.2020.3049023> [Journal metrics at Scopus](#) [Article at Scopus](#)

[Journal metrics at WOS](#) [Article at WOS](#)

Research and development of quantification methods for aggregated energy flexibility = Agreegeritud energiapiandlikkuse kvantifitseerimismeetodi uurimine ja arendamine

Plaum, Freddy 2025 <https://digikogu.taltech.ee/et/Item/3e244995-0b3a-4efd-8f68-6e7e4268576f> https://www.ester.ee/record=b5746292*est

<https://doi.org/10.23658/taltech.28/2025>

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 flexibility characterization using non-intrusive load monitoring

Azizi, Elnaz; Ahmadiyahangar, Roya; Rosin, Argo; Martins, Joao; Lopes, Rui Amaral; Beheshti, M. TH.; Bolouki, Sadegh Sustainable cities and society 2021 / art. 103321, 12 p. : ill <https://doi.org/10.1016/j.scs.2021.103321> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Residential load forecasting for flexibility prediction using machine learning-based regression model

Ahmadiyahangar, Roya; Häring, Tobias; Rosin, Argo; Korötko, Tarmo; Martins, Joao 2019 IEEE International Conference on Environment and Electrical Engineering and 2019 IEEE Industrial and Commercial Power Systems Europe (EEEIC / I&CPS Europe) 2019 / 4 p. : ill <https://doi.org/10.1109/EEEIC.2019.8783634>

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>

A review on realtime simulation and analysis methods of microgrids

Ahmadiyahangar, Roya; Rosin, Argo; Nabavi Niaki, Ali; Palu, Ivo; Korötko, Tarmo International transactions on electrical energy systems 2019 / art. e12106, 16 p. : ill <https://doi.org/10.1002/2050-7038.12106> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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>

Simulation and analysis of transformer winding inter-disk and inter-turn faults for online diagnosis

Nurmanova, Venera; Ahmadiyahangar, Roya; Aliakmet, Kamilla; Naderi, Mohammad Salay 2019 IEEE International Conference on Environment and Electrical Engineering and 2019 IEEE Industrial and Commercial Power Systems Europe (EEEIC / I&CPS Europe) 2019 / 5 p. : ill <https://doi.org/10.1109/EEEIC.2019.8783743>

State of the art in research on microgrids realtime studies

Ahmadiyahangar, Roya 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. 67-68
https://www.ester.ee/record=b5183874*est

Stochastic energy management for Battery Storage System-based microgrid considering different forecasting models

Zahraoui, Younes; Korötko, Tarmo; Rosin, Argo; Ahmadiyahangar, Roya 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 6 p <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227451>

Using V2G technology as virtual active power filter for flexibility enhancement of HVDC systems

Zolfaghari, Mahdi; Ahmadiyahangar, Roya; Gharehpetian, Gevork B.; Rosin, Argo; Plaum, Freddy Proceedings : 2020 IEEE 14th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) : Online - Setúbal, Portugal, 08 - 10 July, 2020 2020 / p. 489-494 : ill <https://doi.org/10.1109/CPE-POWERENG48600.2020.9161602>

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>

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>