

Assoc. Prof. AHMET ÖNEN

Personal Information

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Biography

Dr. Onen received the B.Sc. degree in Electrical-Electronics Engineering from Gaziantep University in 2005. He received the M.S degree in Electrical-Computer Engineering from Clemson University in 2010 and his Ph.D. from Virginia Tech – Electrical and Computer Engineering Department in 2014. Prior to joining Abdullah Gül University as a faculty of Electrical-Electronics Engineering in 2014, He was a member of DEW software developing team for power systems planning and operation. During the time he was a member of DEW software developing, he had close relationship with distribution companies in New York and developed smart grid solutions for their system and consulted the biggest utilities in USA for advancing their grid with the technologies he developed the during his PhD. His research interests are distribution system reliability, storm outage and reconfiguration, Distributed Series Reactance (DSR), Renewable Energy Integration to Grid, Smart Grid optimization, control, economic analysis and micro-grid. He has more than 16 SCI journals including high rank journals and 11 international conferences in last three years.

Education Information

Doctorate, Virginia Polytechnic Institute And State University, Muhendislik Ve Doga Bilimleri, United States Of America 2010 - 2014

Postgraduate, Clemson University, Muhendislik Ve Doga Bilimleri, United States Of America 2008 - 2010

Undergraduate, Gaziantep Üniversitesi, Muhendislik Ve Doga Bilimleri, Turkey 2000 - 2005

Foreign Languages

English, C1 Advanced

Dissertations

Doctorate, Model-Based Grid Modernization Economic Evaluation Framework, Virginia Polytechnic Institute And State University, Electrical And Computer Engineering, Power System, 2014

Research Areas

Electrical and Electronics Engineering, Energy, Power System Analysis, Electric Power Transmission, Distribution and Protection, Renewable energy, Power Electronics, Power Apparatus (transformers,reactors,switchgear,etc.), Power Quality, Engineering and Technology

Academic Titles / Tasks

Associate Professor, Abdullah Gül Üniversitesi, Mühendislik Fakültesi, Elektrik Elektronik Mühendisliği, 2018 - Continues
Assistant Professor, Abdullah Gül Üniversitesi, Mühendislik Ve Doga Bilimler, Elektrik-Elektronik Muhendisligi, 2018 - 2018
Assistant Professor, Abdullah Gül Üniversitesi, Mühendislik Ve Doga Bilimler, Elektrik-Elektronik Muhendisligi, 2014 - 2018
Research Assistant, Virginia Polytechnic Institute And State University, Mühendislik Ve Doga Bilimler, Elektrik-Elektronik Muhendisligi, 2010 - 2014
Research Assistant, Clemson University, Mühendislik Ve Doga Bilimler, Elektrik-Elektronik Muhendisligi, 2008 - 2010
Research Assistant, Kocaeli Üniversitesi, Mühendislik Ve Doga Bilimler, Mekatronik Muhendisligi, 2006 - 2007

Academic and Administrative Experience

Abdullah Gül Üniversitesi, Fen Bilimleri, 2016 - Continues
Abdullah Gül Üniversitesi, Elektrik Elektronik Muhendisligi, 2015 - 2016

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **PSO Supported Ensemble Algorithm for Bad Data Detection Against Intelligent Hacking Algorithm**
YAVUZ L., SORAN A., ÖNEN A., MUYEEN S. M.
FRONTIERS IN ENERGY RESEARCH, vol.9, 2021 (Journal Indexed in SCI)
- II. **Enhancing Cybersecurity in Smart Grids: False Data Injection and Its Mitigation**
ÜNSAL ÇELİMLİ D. B., USTUN T. S., HUSSAIN S. M. S., ÖNEN A.
ENERGIES, vol.14, no.9, 2021 (Journal Indexed in SCI)
- III. **Machine Learning-Based Intrusion Detection for Achieving Cybersecurity in Smart Grids Using IEC 61850 GOOSE Messages**
USTUN T. S., HUSSAIN S. M. S., ULUTAŞ A., ÖNEN A., ROOMI M. M., MASHIMA D.
SYMMETRY-BASEL, vol.13, no.5, 2021 (Journal Indexed in SCI)
- IV. **Artificial Intelligence Based Intrusion Detection System for IEC 61850 Sampled Values Under Symmetric and Asymmetric Faults**
USTUN T. S., HUSSAIN S. M. S., YAVUZ L., ÖNEN A.
IEEE ACCESS, vol.9, pp.56486-56495, 2021 (Journal Indexed in SCI)
- V. **Rooftop Solar PV Penetration Impacts on Distribution Network and Further Growth Factors-A Comprehensive Review**
UZUM B., ÖNEN A., HASANIEEN H. M., MUYEEN S. M.
ELECTRONICS, vol.10, no.1, 2021 (Journal Indexed in SCI)
- VI. **Implementation of cost benefit analysis of vehicle to grid coupled real Micro-Grid by considering battery energy wear: Practical study case**
KUBAA R., YOLDAŞ Y., GÖREN S., KRICHEN L., ÖNEN A.
ENERGY & ENVIRONMENT, 2020 (Journal Indexed in SSCI)
- VII. **Neuro-Fuzzy-Based Model Predictive Energy Management for Grid Connected Microgrids**
ULUTAŞ A., ALTAŞ İ. H., ÖNEN A., USTUN T. S.
ELECTRONICS, vol.9, no.6, 2020 (Journal Indexed in SCI)
- VIII. **Peer-to-Peer Energy Trading in Virtual Power Plant Based on Blockchain Smart Contracts**
SEVEN S., YAO G., SORAN A., ÖNEN A., MUYEEN S. M.
IEEE ACCESS, vol.8, pp.175713-175726, 2020 (Journal Indexed in SCI)
- IX. **Implementation of capital deferral algorithm in real distribution systems considering reliability by managing major faults**
YOLDAŞ Y., ÖNEN A., BROADWATER R., ALAN İ.
ELECTRICAL ENGINEERING, 2019 (Journal Indexed in SCI)

- X. **Assessment of Battery Storage Technologies for a Turkish Power Network**
Kocer M. C. , Cengiz C., Gezer M., Gunes D., ÇINAR M. A. , ALBOYACI B., ÖNEN A.
SUSTAINABILITY, vol.11, no.13, 2019 (Journal Indexed in SCI)
- XI. **Transformation of microgrid to virtual power plant - a comprehensive review**
YAVUZ L., ÖNEN A., Muyeen S. M. , Kamwa I.
IET GENERATION TRANSMISSION & DISTRIBUTION, vol.13, no.11, pp.1994-2005, 2019 (Journal Indexed in SCI)
- XII. **Enhancing smart grid with microgrids: Challenges and opportunities**
Yoldas Y., ÖNEN A., Muyeen S. M. , Vasilakos A. V. , ALAN İ.
RENEWABLE & SUSTAINABLE ENERGY REVIEWS, vol.72, pp.205-214, 2017 (Journal Indexed in SCI)
- XIII. **Energy Saving of Conservation Voltage Reduction Based on Load-Voltage Dependency**
ÖNEN A.
SUSTAINABILITY, vol.8, no.8, 2016 (Journal Indexed in SCI)
- XIV. **Model-centric Distribution Automation: Capacity, Reliability, and Efficiency**
ÖNEN A., Jung J., Dilek M., Cheng D., Broadwater R. P. , Scirbona C., Cocks G., Hamilton S., Wang X.
ELECTRIC POWER COMPONENTS AND SYSTEMS, vol.44, no.5, pp.495-505, 2016 (Journal Indexed in SCI)
- XV. **Investigation of distributed series reactors in power system applications and its economic implementation**
ÖNEN A.
INTERNATIONAL TRANSACTIONS ON ELECTRICAL ENERGY SYSTEMS, vol.1, pp.1-8, 2016 (Journal Indexed in SCI Expanded)
- XVI. **Automation Effects on Reliability and Operation Costs in Storm Restoration**
Cheng D., ÖNEN A., Zhu D., Kleppinger D., Arghandeh R., Broadwater R. P. , Scirbona C.
ELECTRIC POWER COMPONENTS AND SYSTEMS, vol.43, no.6, pp.656-664, 2015 (Journal Indexed in SCI)
- XVII. **Configurable, Hierarchical, Model-based, Scheduling Control with photovoltaic generators in power distribution circuits**
Jung J., ÖNEN A., Russell K., Broadwater R. P. , Steffel S., Dinkel A.
RENEWABLE ENERGY, vol.76, pp.318-329, 2015 (Journal Indexed in SCI)
- XVIII. **Local steady-state and quasi steady-state impact studies of high photovoltaic generation penetration in power distribution circuits**
Jung J., ÖNEN A., Russell K., Broadwater R. P.
RENEWABLE & SUSTAINABLE ENERGY REVIEWS, vol.43, pp.569-583, 2015 (Journal Indexed in SCI)
- XIX. **Economic Evaluation of Distribution System Smart Grid Investments**
ÖNEN A., Cheng D., Broadwater R. P. , Scirbona C., Cocks G., Hamilton S., Wang ., Roark J.
ELECTRIC POWER COMPONENTS AND SYSTEMS, vol.43, no.2, pp.224-233, 2015 (Journal Indexed in SCI)
- XX. **Economic optimal operation of Community Energy Storage systems in competitive energy markets**
Arghandeh R., Woyak J., ÖNEN A., Jung J., Broadwater R. P.
APPLIED ENERGY, vol.135, pp.71-80, 2014 (Journal Indexed in SCI)
- XXI. **Time-varying cost of loss evaluation in distribution networks using market marginal price**
Onen A., Woyak J., Arghandeh R., Jung J., Scirbona C., Broadwater R. P.
INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS, vol.62, pp.712-717, 2014 (Journal Indexed in SCI)
- XXII. **Phasor-based assessment for harmonic sources in distribution networks**
Arghandeh R., Onen A., Jung J., Cheng D., Broadwater R. P. , Centeno V.
ELECTRIC POWER SYSTEMS RESEARCH, vol.116, pp.94-105, 2014 (Journal Indexed in SCI)
- XXIII. **Coordinated control of automated devices and photovoltaic generators for voltage rise mitigation in power distribution circuits**
Jung J., ÖNEN A., Arghandeh R., Broadwater R. P.
RENEWABLE ENERGY, vol.66, pp.532-540, 2014 (Journal Indexed in SCI)
- XXIV. **Smart Model Based Coordinated Control Based on Feeder Losses, Energy Consumption, and Voltage Violations**
ÖNEN A., Cheng D., Arghandeh R., Jung J., Woyak J., Dilek M., Broadwater R. P.

- ELECTRIC POWER COMPONENTS AND SYSTEMS, vol.41, no.16, pp.1686-1696, 2013 (Journal Indexed in SCI)
- XXV. **Harmonic interactions of multiple distributed energy resources in power distribution networks**
Arghandeh R., Onen A., Jung J., Broadwater R. P.
ELECTRIC POWER SYSTEMS RESEARCH, vol.105, pp.124-133, 2013 (Journal Indexed in SCI)
- XXVI. **Monte Carlo analysis of Plug-in Hybrid Vehicles and Distributed Energy Resource growth with residential energy storage in Michigan**
Jung J., Cho Y., Cheng D., Onen A., Arghandeh R., Dilek M., Broadwater R. P.
APPLIED ENERGY, vol.108, pp.218-235, 2013 (Journal Indexed in SCI)

Articles Published in Other Journals

- I. **Impact and Control Study of LV Communication Networks with PVPenetrated Micro Grid**
ÜNSAL ÇELİMLİ D. B. , ÖNEN A., KULAKSIZ A. A.
International Research Journal of Engineering and Technology (IRJET), vol.6, no.8, pp.1402-1411, 2019 (Refereed Journals of Other Institutions)
- II. **Impact And Control Study Of LV Networks with PV Penetrated Micro Grid, Yıl: 2019**
ÜNSAL ÇELİMLİ D. B. , KULAKSIZ A. A. , ÖNEN A.
Iet Computers And Digital Techniques, vol.6, no.8, 2019 (Refereed Journals of Other Institutions)
- III. **Loss Calculation Technique With Randomize Load Curves**
ÖNEN A.
Journal of Polytechnic, vol.20, no.1, pp.197-203, 2017 (Other Refereed National Journals)
- IV. **Günümüzün ve Geleceğin Elektrik Şebekeleri**
ÖNEN A., Kuran ş.
TÜBİTAK Bilim ve Teknik Dergisi, vol.2, pp.84-87, 2015 (National Non-Refereed Journal)
- V. **Electric Power Distribution Feeder Performance Evaluation and Distributed Computation**
Wang L., ÖNEN A., Woyak J., Arghandeh R., Broadwater R. P.
El-Cezerî Journal of Science and Engineering, vol.2, no.1, pp.59-67, 2015 (Other Refereed National Journals)
- VI. **Economic Control of Distributed Energy Storage Systems in Competitive Energy Markets**
Arghandeh R., ÖNEN A., Woyak J., Broadwater R. P.
Physics and Society, vol.1, pp.25-30, 2014 (Refereed Journals of Other Institutions)
- VII. **Impact of harmonics from distributed energy resources on distribution networks**
Arghandeh R., ÖNEN A., Jung J., Cheng D., Broadwater R. P.
Energy-Tech Magazine, vol.1, pp.20-25, 2014 (Refereed Journals of Other Institutions)

Refereed Congress / Symposium Publications in Proceedings

- I. **Optimal Energy Management and Scheduling of a Microgrid in Grid-Connected and Islanded Modes**
ÖNEN A.
2019 International Conference on Smart Energy Systems and Technologies (SEST), Porto, Portugal, 9 - 11 September 2019
- II. **Coronary Artery Disease Diagnosis Using Optimized Adaptive Ensemble Machine Learning Algorithm**
KOLUKISA B., YAVUZ L., SORAN A., GÜNGÖR B., Tuncer D., ÖNEN A., GÜNGÖR V. Ç.
3rd Int. Conference on Information System and Data Mining (ICISDM 2019), Texas, United States Of America, 6 - 08 April 2019
- III. **A hybrid agent-based secondary control for microgrids with increased fault-tolerance needs**
ÖNEN A.
Mediterranean Conference on Power Generation, Transmission, Distribution and Energy Conversion (MEDPOWER 2018), Dubrovnik, Croatia, 12 - 15 November 2018
- IV. **Design considerations for campus micro-grid: MCAST Case Study**

ÖNEN A.

2018 IEEE 7th World Conference on Photovoltaic Energy Conversion (WCPEC) (A Joint Conference of 45th IEEE PVSC, 28th PVSEC 34th EU PVSEC), Waikoloa Village, HI, 10 - 15 June 2018

- V. **Investigation of Energy Quality on MGs Under High Penetration of PV Generation**
ÜNSAL ÇELİMLİ D. B. , KULAKSIZ A. A. , ÖNEN A.
International Conference on Innovative Engineering Applications, Sivas, Turkey, 20 - 22 October 2018
- VI. **Cloud Induced PV Impact on Voltage Profiles for Real Microgrids**
Kocer M. C. , Yoldas Y., GÖREN S., ÖNEN A., ALAN İ., Al-Agtash S., Azzopardi B., Martensen N., Martinez-Ramos J. L. , Tzovaras D., et al.
5th International Symposium on Environment-Friendly Energies and Applications (EFEA), Rome, Italy, 24 - 26 September 2018
- VII. **Provision of Ancillary Services by a Smart Microgrid: An OPF Approach**
Martinez-Ramos J. L. , Marano-Marcolini A., Garcia-Lopez F. P. , Almagro-Yravedra F., ÖNEN A., Yoldas Y., Khat M., Ghomri L., Fragale N.
International Conference on Smart Energy Systems and Technologies (SEST), Sevilla, Spain, 10 - 12 September 2018
- VIII. **Distribution Automation Effects on Reliability during Major Contingencies**
Yoldas Y., ÖNEN A., ALAN İ., Broadwater R. P.
18th IEEE International Conference on Harmonics and Quality of Power (ICHQP), Ljubljana, Slovenia, 13 - 16 May 2018
- IX. **Novel Hybrid Design for Microgrid Control**
Bintoudi A. D. , Zyglakis L., Apostolos T., Ioannidis D., Al-Agtash S., Martinez-Ramos J. L. , ÖNEN A., Azzopardi B., Hadjidemetriou L., Martensen N., et al.
IEEE PES Asia-Pacific Power and Energy Engineering Conference (APPEEC), Bangalore, India, 8 - 10 November 2017
- X. **Investigation of LV Networks with EVs Under High Penetration of PV Generation**
Ünsal B., Kulaksız A., ÖNEN A.
International Advanced Technology Symposium, Elazığ, Turkey, 19 - 22 October 2017, pp.20-30
- XI. **Investigation of Design Considerations based on Energy Efficiency with loss calculation**
ÖNEN A.
2017 2nd International Conference on Renewable Energy and Smart Grid, Şangay, China, 24 - 26 March 2017, pp.10
- XII. **Coordinated Conservation Voltage Reduction Algorithm for Different Load Model**
ÖNEN A.
23 World Energy Congress, İstanbul, Turkey, 9 - 13 October 2016, vol.1, no.1, pp.214-228
- XIII. **Efficiency and Cost Evaluation of Distribution Systems based on Multiple Time Points**
ÖNEN A.
MEPS2015, Wroclaw, Poland, 6 - 09 July 2015, pp.1-5
- XIV. **Is the Smart Grid a good investment**
ÖNEN A., Broadwater R. P.
3. Uluslararası İstanbul akıllı şebekeler kongre ve fuarı, İstanbul, Turkey, 29 - 30 April 2015, pp.1-5
- XV. **Is the Smart Grid A Good Investment?**
ÖNEN A., Broadwater R.
3rd International Istanbul Smart Grid Congress and Fair (ICSG), İstanbul, Turkey, 29 - 30 April 2015
- XVI. **Model Centric Approach for Monte Carlo Assessment of Storm Restoration and Smart Grid Automation**
Cheng D., ÖNEN A., Arghandeh R., Jung J., Broadwater R. P. , Scirbona C.
ASME Power 2014 Conference, Baltimore, United States Of America, 28 - 31 July 2014, pp.1-6
- XVII. **Harmonic Impact Study For Distributed Energy Resources Integrated into Power Distribution Networks**
Arghandeh R., ÖNEN A., Jung J., Broadwater R. P. , Centeno V.

American Society of Mechanical Engineers Power Conference 2013, Boston, United States Of America, 29 July - 01 August 2013, pp.1-7

XVIII. Distributed energy storage system control for optimal adoption of electric vehicles

Arghandeh R., ÖNEN A., Broadwater R. P.

Power and Energy Society General Meeting, 2012 IEEE, San Diego, United States Of America, 22 - 26 July 2012, pp.1-8

Supported Projects

ÖNEN A., EU Framework Program Project, 3D Micro Grid, 2016 - Continues

ÖNEN A., Project Supported by Higher Education Institutions, Rastgele Yük Eğrisi metodu ile elektrik kayıplarının hesaplanması, 2016 - 2017

Activities in Scientific Journals

Electrical Engineering, Editor, 2019 - Continues

Frontiers in Energy, Assistant Editor, 2018 - Continues

El-Cezeri Journal of Science and Engineering, Editor, 2017 - Continues

Scientific Refereeing

Wiley international Transaction of Electrical Energy System, SCI Journal, November 2015

IEEE transaction on Industrial Electronic, SCI Journal, May 2015

Türkish Journal of Electrical and Computer Engineering, SCI Journal, March 2015

Edit Congress and Symposium Activities

Horizon 2020 Smart Grid info Day, Attendee, Brussel, Belgium, 2015

Citations

Total Citations (WOS):241

h-index (WOS):7

Scholarships

MEB yurt dışı bursu, Ministry of Education, 2007 - 2014

Awards

ÖNEN A., En iyi bildiri, IEEE PES, July 2012

Non Academic Experience

Other Public Institution, TEIAS

Business Organization (private), Edd Engineering