ONUR ELMA
ASST. PROF.



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Learning Knowledge

Doctorate 2011 - 2016	Yildiz Technical University, Faculty Of Electrical & Electronics, Elektrik Mühendisliği, Turkey
Postgraduate 2009 - 2011	Yildiz Technical University, Faculty Of Electrical & Electronics, Elektrik Mühendisliği, Turkey
Undergraduate 2007 - 2011	Anadolu University, Faculty Of Busıness Admınıstratıon, Department Of Busıness, Turkey
Undergraduate 2004 - 2009	Yildiz Technical University, Faculty Of Electrical & Electronics, Elektrik Mühendisliği, Turkey

Certificates, Courses and Trainings

Renewable Energy Sources, Smart Grid and Power Systems, Syracuse University, 2012
Other, Smart Grid, Virginia Polytechnic Institute and State University, 2012

Dissertations

Doctorate, Development and Implementation of A New Home Energy Management Algorithm For Smart Grids, Yildiz Technical University, Faculty of Electrical & Electronics, Electrical Engineering Department, 2016
Postgraduate, A System Analysis of A Renewable Energy Supplied Stand-Alone Residential House Considering Both Demand Side And Source Side Dynamics, Yildiz Technical University, Faculty of Electrical & Electronics, Electrical Engineering Department, 2011

Academic Titles / Tasks

Assistant Professor 2021 - Continues	Yildiz Technical University, Faculty Of Electrical & Electronics, Electrical Engineering Department

Research Assistant PhD 2016 - 2021	Yildiz Technical University, Faculty Of Electrical & Electronics, Electrical Engineering Department

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Research Assistant 2010 - 2016	Yildiz Technical University, Faculty Of Electrical & Electronics, Electrical Engineering Department

Supported Projects

1. Elma O., Gabbar H. A., Project Supported by Public Organizations in Other Countries, Analysis and Design of Fast Charging System with Flywheel Energy Storage Platform, 2020 - 2020
2. Elma O., Gaber H., Project Supported by Public Organizations in Other Countries, Development of Resilient Microgrids in Trailers, 2018 - 2019
3. Elma O., Selamoğulları U. S., Project Supported by Higher Education Institutions, AKILLI ŞEBEKELER İÇİN YENİ BİR EV ENERJİ YÖNETİM ALGORİTMASININ GELİŞTİRİLMESİ VE UYGULANMASI, 2014 - 2016
4. Selamoğulları U. S., Uzunoğlu M., Vural B., Industrial Thesis Project, Akıllı Şebekelerde Enerji Yönetimi İçin Akıllı Priz Geliştirilmesi, 2013 - 2014
5. Elma O., Baysal M., Uğur E., Selamoğulları U. S., Boynueğri A. R., Uzunoğlu M., Project Supported by Other Official Institutions, Enerji Verimliliğini Arttırmak ve Karbon Emisyonunu Azaltmak Amacıyla Akıllı Şebeke Altyapısına Uygun Bir Akıllı Evin Geliştirilmesi, 2012 - 2012
6. Erdinç O., Selamoğulları U. S., ELMA O., Project Supported by Higher Education Institutions, System Design and Application of a Renewable Energy System for the Supply of Electric Energy Demand of a Residential Unit Considering Load and Supply Variability, 2010 - 2012

Awards

1. Elma O., Gaber H., Best Paper Award, International Conference On Power Generation Systems And Renewable Energy Technologies, August 2019

Scholarships

Postdoc Fellowship, University, 2020 - 2020
2214-A, TUBITAK, 2014 - 2015
2211-C, TUBITAK, 2014 - 2014
Turkcell Akademi Bursu, Special Institutions and Organizations, 2013 - 2014

Published journal articles indexed by SCI, SSCI, and AHCI

1. **Modeling and simulation of the International Space Station (ISS) electrical power system**
   Kuzlu M., Abalos K., ELMA O., Popescu O., Pipattanasomporn M.
   INTERNATIONAL TRANSACTIONS ON ELECTRICAL ENERGY SYSTEMS, vol.31, no.8, 2021 (SCI-Expanded)
2. **A dynamic charging strategy with hybrid fast charging station for electric vehicles**
   Elma O.
   Energy, vol.202, pp.1-10, 2020 (SCI-Expanded)
3. **Experimental determination of ZIP coefficients for residential appliances and ZIP model based**

appliance identification: The case of YTU Smart Home
Bircan M., Durusu A., Kekezoğlu B., Elma O., Selamoğulları U. S.
ELECTRIC POWER SYSTEMS RESEARCH, vol.179, 2020 (SCI-Expanded)

4. **A smart transformer application for voltage controlled home energy management system**
Selamoğulları U. S., Elma O.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.33, pp.1543-1556, 2018 (SCI-Expanded)
5. **Implementation of a dynamic energy management system using real time pricing and local renewable energy generation forecasts**
Elma O., Tascikaraoglu A., İnce A. B., Selamoğulları U. S.
ENERGY, vol.134, pp.206-220, 2017 (SCI-Expanded)
6. **A new home energy management algorithm with voltage control in a smart home environment**
Elma O., Selamoğulları U. S.
ENERGY, vol.91, pp.720-731, 2015 (SCI-Expanded)
7. **Real-time performance analysis of an optimally sized hybrid renewable energy conversion unit**
ERDİNÇ O., ELMA O., Uzunoglu M., SELAMOĞULLARI U. S.
ENERGY AND BUILDINGS, vol.75, pp.419-429, 2014 (SCI-Expanded)
8. **A comparative sizing analysis of a renewable energy supplied stand-alone house considering both demand side and source side dynamics**
Elma O., Selamogulları U. S.
APPLIED ENERGY, vol.96, pp.400-408, 2012 (SCI-Expanded)
9. **Experimental performance assessment of an online energy management strategy for varying renewable power production suppression**
Erdinç O., Elma O., Uzunoglu M., Selamoğulları U. S., Vural B., Ugur E., Boynueğri A. R., Dusmez S.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.37, pp.4737-4748, 2012 (SCI-Expanded)

Articles Published in Other Journals

1. **Determination of zip coefficients for residential loads**
Bircan M., Durusu A., Kekezoğlu B., Elma O., Selamoğulları U. S.
Pressacademia Procedia, vol.5, pp.176-180, 2017 (Peer-Reviewed Journal)
2. **A Robust Building Energy Management Algorithm Validated in a Smart House Environment**
Avijit S., Murat K., Manisa P., Saifur R., Elma O., Selamoğulları U. S., Uzunoğlu M., Yağcıtekin B.
Intelligent Industrial Systems, vol.1, pp.163-174, 2015 (Peer-Reviewed Journal)

Books & Book Chapters

1. **Perspectives of Demand-Side Management Under Smart Grid Concept**
Elma O., Gabbar H. A.
in: Energy Conservation in Residential, Commercial, and Industrial Facilities, Hossam A. GABBAR, Editor, John Wiley & Sons, New Jersey, Usa, New Jersey, pp.225-246, 2017
2. **Investigation of cost reduction in residential electricity bill using electric vehicle at peak times**
Elma O., Selamoğulları U. S.
in: Power, Control and Optimization, Ivan Zelinka,Pandian Vasant,Nader Barsoum, Editor, Springer, London/Berlin , Heidelberg, pp.123-133, 2013

Refereed Congress / Symposium Publications in Proceedings

1. **An Interpretable Solar Photovoltaic Power Generation Forecasting Approach Using An Explainable Artificial Intelligence Tool**
   Sarp S., Kuzlu M., Cali U., ELMA O., Guler O.
   IEEE-Power-and-Energy-Society Innovative Smart Grid Technologies Conference (ISGT), Washington, Kiribati, 16 - 18 February 2021
2. **Flywheel-Based Ultra-Fast On-Route Charging System for Public E-Buses**
   Elma O., Gabbar H. A.
   2020 International Conference on Electrical, Communication, and Computer Engineering (ICECCE), İstanbul, Turkey, 12 - 13 June 2020, pp.1-5
3. **Effects of Ultra-Fast Charging System for Battery Size of Public Electric Bus**
   ELMA O., Adham M. I., Gabbar H. A.
   8th International Conference on Smart Energy Grid Engineering, SEGE 2020, Oshawa, Canada, 12 - 14 August 2020, pp.142-147
4. **Smoothing PV Power Fluctuations with Electric Vehicle and its Grid Interaction**
   Verma A. K., Elma O., Whang Y., Pota H., Gadh R., Srivastava M.
   2020 IEEE International Conference on Power Electronics, Smart Grid and Renewable Energy, Kochi, India, 2 - 04 January 2020, pp.1-6
5. **Design and Analysis of Mobile Hybrid Energy System for Off-Grid Applications**
   Elma O., Gaber H.
   International Conference on Power Generation Systems and Renewable Energy Technologies, İstanbul, Turkey, 26 - 27 August 2019, pp.1-5
6. **Economic Analysis of Demand Response with Voltage Control in Residential Environment**
   ELMA O., SELAMOĞULLARI U. S.
   ICSG Istanbul 2019, İstanbul, Turkey, 25 April 2019, pp.1-5
7. **Sizing analysis of hybrid DC fast charging system for electric vehicles**
   Elma O., Gabbar H. A.
   2018 International Conference on Smart Energy Systems and Technologies, SEST 2018, Sevilla, Spain, 10 - 12 September 2018
8. **Determination of ZIP Coefficients for Residental Loads**
   Bircan M., Durusu A., Kekezoğlu B., Elma O., Selamoğulları U. S.
   2nd WORLD CONFERENCE ON TECHNOLOGY, INNOVATION AND ENTREPRENEURSHIP, İstanbul, Turkey, 12 May 2017, vol.2, no.1, pp.1-6
9. **An Overview of Demand Response Applications under Smart Grid Concept**
   ELMA O., SELAMOĞULLARI U. S.
   ICEE 2017, Ankara, Turkey, 08 April 2017
10. **A Survey of a Residential Load Profile for Demand Side Management Systems**
    ELMA O., Selamogullar U. S.
    5th IEEE International Conference on Smart Energy Grid Engineering (SEGE), Oshawa, Canada, 14 - 17 August 2017, pp.85-89
11. **The Importance of Smart Meter for Transition of Smart Grid in Turkey**
    KIRAL G. E., ELMA O.
    2nd International Conference on Green Energy and Expo, Atlanta, United States Of America, 28 November 2016, pp.1-4
12. **A Home Energy Management Algorithm with Smart Plug for Maximized Customer Comfort**
    Elma O., Selamoğulları U. S.
    4th International Conference on Electric Power and Energy Conversion Systems (EPECS), Sharjah, United Arab Emirates, 24 November 2015
13. **Photovoltaic system design, feasibility and financial outcomes for different regions in Turkey**
    Kayhan V. A., Ülker F., ELMA O.
    Electric Power and Energy Conversion Systems (EPECS), 2015 4th International Conference on, Sharjah, United Arab Emirates, 24 November 2015, pp.1-6

14. **Analyzing the Capacity Utilization Rate of Traction Motor Drives in Electric Vehicles with Real World Driving Cycles**
ÖZDEMİR S., ELMA O., acar f., SELAMOĞULLARI U. S.
2014 IEEE Vehicle Power and Propulsion Conference (VPPC), Coimbra, Portugal, 27 - 30 October 2014
15. **Analyzing the Effect of Inverter Efficiency Improvement in Wind Turbine Systems**
ÖZDEMİR S., SELAMOĞULLARI U. S., ELMA O.
3rd THE INTERNATIONAL CONFERENCE on RENEWABLE ENERGY RESEARCH and APPLICATIONS (ICRERA), Milwakuee,Wisconsin, United States Of America, 19 October 2014, pp.572-575
16. **Data Reliability and Latency Test for ZigBee-based Smart Home Energy Management Systems**
Ince A. T., Elma O., Selamoğulları U. S., Vural B.
7th International Ege Energy Symposium Exhibition, Uşak, Turkey, 18 - 20 June 2014, pp.0-4
17. **Türkiye de Akıllı Şebekeler Alt Yapısına Uygun Akıllı Ev Laboratuvarı**
ELMA O., SELAMOĞULLARI U. S., UZUNOĞLU M.
2. Uluslararası İstanbul Akıllı Şebekeler Kongre ve Fuarı, 8 - 09 May 2014
18. **A Home Energy Management Algorithm in a Smart House Integrated with Renewable Energy**
Saha A., Kuzlu M., Khamphanchai W., Pipattanasomporn M., Rahman S., Elma O., Selamoğulları U. S., Uzunoglu M., Yagcitekin B.
5th IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT Europe), İstanbul, Turkey, 12 - 15 October 2014
19. **Smart grid-ready concept of a smart home prototype: A demonstration project in YTU**
Tascikaraoglu A., Uzunoglu M., Tanrioven M., BOYNUEĞRİ A. R., ELMA O.
2013 4th International Conference on Power Engineering, Energy and Electrical Drives, POWERENG 2013, İstanbul, Turkey, 13 - 17 May 2013, pp.1568-1573
20. **Carbon emission savings with a renewable energy supplied smart home operation**
Elma O., Selamoğulları U. S., Uzunoğlu M., Uğur E.
2013 International Conference on Renewable Energy Research and Applications (ICRERA), Madrid, Spain, 20 - 23 October 2013, pp.0-4
21. **Financial Payback Analysis of Small Wind Turbines for a Smart Home Application in Istanbul/Turkey**
Ugur E., Elma O., Selamoğulları U. S., Tanrioven M., Uzunoglu M.
International Conference on Renewable Energy Research and Applications (ICRERA), Madrid, Spain, 20 - 23 October 2013, pp.686-689
22. **Investigation of cost reduction in residential electricity bill using electric vehicle at peak times**
ELMA O., SELAMOĞULLARI U. S.
6th Global Conference on Power Control and Optimization, PCO 2012, Las Vegas, NV, United States Of America, 6 - 08 August 2012, vol.1499, pp.130-132
23. **Invetsigation of CO2 Emission Reduction with Renewable Energy Use in Residential House**
Elma O., Selamoğulları U. S.
International Ege Energy Symposium , İzmir, Turkey, 28 - 30 June 2012, pp.1-5
24. **Yeşil Binalar için Net Sıfır Enerjili Aydinlatma Sistemi Tasarımı ve Ekonomik Analizi**
Elma O., Selamoğulları U. S., Nakir İ.
Çevre ve Tasarım Kongresi, İstanbul, Turkey, 8 - 09 December 2011, pp.1-9
25. **The effect of inverter efficiency on stand-alone residential PV system sizing**
ELMA O., SELAMOĞULLARI U. S.
7th International Conference on Electrical and Electronics Engineering, ELECO 2011, Bursa, Turkey, 1 - 04 December 2011
26. **Performance Evaluation of Monocrystalline and Polycrystalline PV Modules-A Case Study for Istanbul**
Elma O., Selamoğulları U. S.
International Conference on Sustainable Energy Technologies, İstanbul, Turkey, 4 - 07 September 2011, pp.1-5

Other Publications

1. **Development of Resilient Micro-grids in Trailers**
   Gaber H., Elma O., Abdelmaksoud A., Cho Y.
   Technical Report, pp.1-13, 2019

Courses

Circuit Analysis, Undergraduate, 2020 - 2021
Elektrik Devre Temelleri, Undergraduate, 2020 - 2021

Patent

Elma O., ADAPTIF KORUMALI BIR AKILLI PRIZ VE BUNUN ÇALISMA YÖNTEMI, Patent, CHAPTER H Electricity, The Invention Registration Number: TR 2016 19250 B , Standard Registration, 2021
Elma O., Selamoğulları U. S., Bina enerji yönetimi için güç tüketimi kontrolü yapan bir priz, Patent, CHAPTER H Electricity, The Invention Registration Number: TR201400929B , Standard Registration, 2019
Elma O., EV ENERJİ YÖNETİM SİSTEMİNDE GERİLİM KONTROL CİHAZI İLE UYGULANAN YENİ BİR METOT, Patent, CHAPTER H Electricity, The Invention Registration Number: 2016 19715 , Standard Registration, 2019
Elma O., A Smart Building System with Energy Management Ability, Patent, CHAPTER H Electricity, The Invention Registration Number: TR 2013 14316 B , Standard Registration, 2018

Memberships / Tasks in Scientific Organizations

Elektrik Muhendisleri Odasi, Member, 2009 - Continues

Tasks In Event Organizations

Elma O., Gaber H., International Conference on Smart Energy Grid Engineering, Scientific Congress, Oshawa, Canada, Ağustos 2019

Mobility Activity

Erasmus Programme, Staff Mobility, Cape Peninsula University of Technology, South Africa, 2017 - 2017

Metrics

Publication: 41
Citation (WoS): 228
Citation (Scopus): 277
H-Index (WoS): 7
H-Index (Scopus): 9

Congress and Symposium Activities

International Conference on Smart Energy Grid Engineering (SEGE 2021), Session Moderator, Oshawa, Canada, 2020
International Conference on Smart Energy Grid Engineering (SEGE), Session Moderator, Oshawa, Canada, 2019
International Conference on Smart Energy Grid Engineering, Session Moderator, Oshawa, Canada, 2017
International Istanbul Smart Grid and Cities Congress and Fair, Working Group, İstanbul, Turkey, 2014

Research Areas

Electrical and Electronics Engineering, Energy, Electric Power Transmission, Distribution and Protection, Renewable energy, Wind power