

## **Prof. NEDİM TUTKUN**

### **Personal Information**

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### **Education Information**

Doctorate, University of Wales College of Cardiff, England 1994 - 1999  
Undergraduate, Istanbul Technical University, Turkey 1985 - 1990

### **Foreign Languages**

English, C1 Advanced

### **Academic Titles / Tasks**

Associate Professor, Duzce University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2009 - 2014  
Assistant Professor, Zonguldak Bülent Ecevit University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 1999 - 2009  
Research Assistant, Zonguldak Bülent Ecevit University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 1993 - 1998  
Lecturer, Zonguldak Bülent Ecevit University, Alaplı Meslek Yüksekokulu, Elektrik Ve Enerji Bölümü, 1993 - 1993

### **Academic and Administrative Experience**

Istanbul Aydin University, 2018 - 2021  
Duzce University, 2010 - 2018  
Zonguldak Bülent Ecevit University, 2001 - 2004

### **Courses**

Electromagnetic Energy Conversion, Undergraduate, 2021 - 2022  
Power Converter Design, Undergraduate, 2021 - 2022  
Photovoltaic System Design, Postgraduate, 2020 - 2021, 2019 - 2020  
Electrical Machines, Undergraduate, 2020 - 2021  
Optimization by Genetic Algorithms, Postgraduate, 2019 - 2020, 2018 - 2019  
Optimization Methods, Postgraduate, 2018 - 2019  
Electric Circuits II, Undergraduate, 2018 - 2019  
Electric Circuits I, Undergraduate, 2018 - 2019  
Elektrik Devreleri 1, Undergraduate, 2016 - 2017  
Yüksek Gerilim Tekniği , Undergraduate, 2016 - 2017  
Elektrik-Elektronik Müh. Giriş, Undergraduate, 2016 - 2017

## Advising Theses

- NEDİM T., Design of low cost and reliable home energy management system using generalized reduced gradient nonlinear solver method, Postgraduate, M.SARMAD(Student), 2021
- NEDİM T., Design of a 50 kW solar pv powered charging stationfor EVs, Postgraduate, A.RASHED(Student), 2021
- NEDİM T., Design of A 1 KW wireless battery charger for a typical electric vehicle using an optimal solar PV system, Postgraduate, A.HUSEIN(Student), 2021
- NEDİM T., Otomotiv haberleşmesinde denetleyici alan ağı (CAN) için hibrit bir saldırı savuşturma uygulaması, Postgraduate, S.BAKI(Student), 2021
- NEDİM T., Optimal Design of a Rooftop Wind-PV Hybrid System to Meet Energy Demand for a Typical Residential Home, Postgraduate, A.AL(Student), 2020
- NEDİM T., Minimization of operation cost and peak power demand for residential buildings, Postgraduate, A.A.J. (Student), 2020
- NEDİM T., CdTe nanomalzeme ile güneş hücresi üretimi ve karakterizasyonu, Doctorate, E.ELİBOL(Student), 2018
- NEDİM T., Üreten tüketicili konutlar ve ofisler için minimum işletme maliyeti sağlayan yazılım geliştirilmesi, Postgraduate, F.ÜNGÖREN(Student), 2018
- NEDİM T., Minimum tasarım ve işletme maliyetli fotovoltaik sistemin çatı üstü uygulaması: Denizli TEKNOBİL Lisesi örneği, Postgraduate, N.YÜCEL(Student), 2018
- NEDİM T., Düzce ilinde tipik bir konut için rüzgar-güneş hibrit enerji sistemlerinin modellenmesi, Postgraduate, M.NECATİ(Student), 2017
- NEDİM T., Düşük güçlü fotovoltaik enerji üretimi için maksimum güç noktasını takip eden algoritmanın geliştirilmesi, Postgraduate, M.AKTAŞ(Student), 2016
- NEDİM T., Yenilenebilir mikrogrid sistemin meta-sezgisel bir yöntem ile optimal güç planlaması, Postgraduate, Ö.CAN(Student), 2016
- NEDİM T., Tipik bir fotovoltaik panelin maksimum güç aktarımını etkileyen temel elektrik devre parametrelerinin hibrit genetik algoritmalar ile tahmin edilmesi, Postgraduate, E.ELİBOL(Student), 2014
- NEDİM T., Kapasitör uyarmalı asenkron generatörün optimal kapasitesinin hibrit genetik algoritma ile belirlenmesi, Postgraduate, F.ARSLAN(Student), 2010
- NEDİM T., Bir fazlı eviricilerde selektif harmonik eliminasyonunun Genetik Algoritmalar yöntemi ile gerçekleştirilmesi, Postgraduate, Y.TÜRKKAN(Student), 2009
- NEDİM T., Sinüzoidal PWM sinyalindeki harmoniklerin optimize edilmiş taşıyıcı üçgen dalga ile azaltılması, Postgraduate, İ.DEMİRDÖVEN(Student), 2008
- NEDİM T., Elektronik olarak üretilen dalga şekilleri altında manyetik aygıtlarda meydana gelen ilave demir kayıplarının araştırılması, Postgraduate, M.ŞİMŞİR(Student), 2007
- NEDİM T., Sıcaklık, stres ve diğer çevresel faktörlerin manyetik malzeme özellikleri üzerindeki etkisinin araştırılması, Postgraduate, M.SOLAK(Student), 2006
- NEDİM T., Küçük güçlü toroidsel transformatör nüvelerinin optimal tasarımında genetik algoritmaların uygulanması, Postgraduate, T.SARIKAYA(Student), 2006

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Adaptive Virtual Impedance Control with MPC's Cost Function for DG Inverters in a Microgrid with Mismatched Feeder Impedances for Future Energy Communities**  
Khan M. H., Zulkifli S. A., TUTKUN N., Burgio A.  
*Sustainability* (Switzerland), vol.16, no.2, 2024 (SCI-Expanded)
- II. **Breast Cancer Mass Classification Using Machine Learning, Binary-Coded Genetic Algorithms and an Ensemble of Deep Transfer Learning**

- Tiryaki V. M., Tutkun N.  
 COMPUTER JOURNAL, 2023 (SCI-Expanded)
- III. Intelligent scheduling of smart home appliances based on demand response considering the cost and peak-to-average ratio in residential homes**  
 TUTKUN N., Burgio A., Jasinski M., Leonowicz Z., Jasinska E.  
*Energies*, vol.14, no.24, 2021 (SCI-Expanded)

## Articles Published in Other Journals

- I. Improved Low-Cost Home Energy Management Considering User Preferences with Photovoltaic and Energy-Storage Systems**  
 Tutkun N., Scarcello L., Mastroianni C.  
*SUSTAINABILITY*, vol.15, no.11, 2023 (Peer-Reviewed Journal)
- II. Designed operating approach of economic dispatch for java bali power grid areas considered wind energy and pollutant emission optimized using thunderstorm algorithm based on forward cloud charge mechanism**  
 Afandi A. N., Wibawa A. P., Fujita G., Padmantara S., Triyana W., Yunis S., El Shimy M. M., HM M., Gao X. Z., TUTKUN N.  
*INTERNATIONAL REVIEW OF ELECTRICAL ENGINEERING (IREE)*, 2019 (Scopus)

## Refereed Congress / Symposium Publications in Proceedings

- I. The improved low cost grid connected EV charging station with PV and energy storage systems**  
 TUTKUN N., Zulkifli S. A., Ahmad Z. B.  
 2023 14th International Renewable Energy Congress, IREC 2023, Sousse, Tunisia, 16 - 18 December 2023
- II. Comparison of Typical PV Module Performances Based on the Circuit Models**  
 TUTKUN N., SARMA N., Gegin K., Salam Z.  
 2018 IEEE PES Asia-Pacific Power and Energy Engineering Conference (APPEEC), 7 - 10 October 2018
- III. Optimal Design of a Rooftop Wind-PV Hybrid System to Meet Energy Demand for a Typical Residential Home in 20-Year Lifetime Projection**  
 TUTKUN N., BOZOK N., ŞİMŞİR M., ALKHESHA A.  
 2018 2nd International Symposium on Multidisciplinary Studies and Innovative Technologies (ISMSIT), Ankara, Turkey, 19 - 21 October 2018, pp.1-5
- IV. Modeling of a Typical Photovoltaic Module using Matlab/Simulink**  
 SARMA N., GEGİN K., ŞİMŞİR M., TUTKUN N.  
 2018 2nd International Symposium on Multidisciplinary Studies and Innovative Technologies (ISMSIT), Ankara, Turkey, 19 - 21 October 2018
- V. Synthesising Highly Luminescent CdTe Quantum Dots Using Cannula Hot Injection Method**  
 ELİBOL E., ÇADIRCI M., TUTKUN N.  
 ICQD 2017 : 19th International Conference on Quantum Dots, Paris, France, 28 - 29 December 2017, vol.11, pp.2545
- VI. Low cost operation of an off-grid wind-PV system electrifying residential homes through combinatorial optimization by the RCGA**  
 TUTKUN N., Can Ö., Afandi A. N.  
 The 5th International Conference on Electrical, Electronics and Information Engineering (ICEEIE 2017), 6 - 08 October 2017
- VII. Low cost operation of an off-grid wind-PV system to feed a typical residential home**  
 TUTKUN N.  
 International IEEE 4th Conference on Electrical, Electronics and Information Engineering, 6 - 08 October 2017
- VIII. Renewable Energy Inclusion on Economic Power Optimization using Thunderstorm Algorithm**

- Afandi A. N., Sulistyorini Y., Khai N. P., Fujita G., TUTKUN N.  
4th International Conference on Electrical Engineering, Computer Science and Informatics (EECSI 2017), 19 - 21 September 2017
- IX. **Improved load shifting and valley filling strategies in demand side management in a nano scale off-grid wind-PV system in remote areas**  
TUTKUN N., Üngören F., Alpagut B.  
IEEE 14th International Conference on Networking, Sensing and Control (ICNSC), 2017, 16 - 18 May 2017
- X. **Prosumers with a photovoltaic-battery system: Comparison of two stategies for imbalance reduction**  
Burgio A., Menniti D., Pinarelli A., Sorrentino N., Vizza P., TUTKUN N.  
IEEE 14th International Conference on Networking, Sensing and Control (ICNSC), 2017, 16 - 18 May 2017
- XI. **Building off grid photovoltaic wind systems with low cost operation in rural areas in developing countries**  
TUTKUN N.  
International Conference on Frontiers of Information Technology, 19 - 21 December 2016
- XII. **Optimum unit sizing of wind PV battery system components in a typical residential home**  
TUTKUN N., ÇELEBİ N., BOZOK M. N.  
The 4th International Renewable and Sustainable Energy Conference (IRSEC'16), 14 - 17 November 2016
- XIII. **An improved approach to minimise energy cost in a small wind photovoltaic hybrid system**  
TUTKUN N., ÇELEBİ N.  
The 4th International Renewable and Sustainable Energy Conference (IRSEC'16), 14 - 17 November 2016
- XIV. **Optimal load management in a low power off-grid wind-photovoltaic microhybrid system**  
TUTKUN N., CAN Ö.  
16th International Conference on Environment and Electrical Engineering (EEEIC), Floransa, Italy, 7 - 10 June 2016
- XV. **Improved approach to extract maximum power from a small scale fixed PV system**  
TUTKUN N., AKTAŞ M.  
IEEE 16th International Conference on Environment and Electrical Engineering (EEEIC), 7 - 10 June 2016
- XVI. **Daily Cost Minimization for an Off Grid Renewable Microhybrid System Installed to a Residential Home**  
TUTKUN N.  
International Conference on Renewable Energy Research and Applications Conference, 22 - 25 November 2015
- XVII. **Parameter Extraction From a Typical PV Module Using a Metaheuristic Technique**  
TUTKUN N.  
International Conference on Renewable Energy Research and Applications Conference, 22 - 25 November 2015
- XVIII. **Farklı panel tipleri için eşdeğer devre modelinin parametre değerlerinin bulunması**  
ELİBOL E., AKTAŞ M., TUTKUN N.  
VI Enerji Verimliliği, Kalitesi Sempozyumu ve Sergisi, Turkey, 4 - 06 June 2015
- XIX. **Ev tipi yenilenebilir hibrit sistem için mikro genetik algoritma ile optimal yük planlaması**  
TUTKUN N.  
VI Enerji Verimliliği, Kalitesi Sempozyumu ve Sergisi, Turkey, 4 - 06 June 2015
- XX. **Basic Parameter Extraction From An Organic Solar Cell Through The Single Diode Model And A Metaheuristic Technique With The Lambert W Function**  
TUTKUN N.  
The 2nd International Renewable and Sustainable Energy Conference (IRSEC'14), 17 - 19 October 2014
- XXI. **Determination of the PID controller parameters for a DC shunt motor using the genetic algorithm method**  
TUTKUN N.  
Electrical, Electronics and Computer Engineering (ELECO), 2010, Turkey, 2 - 04 December 2010