

Prof. ALİ NEZİH GÜVEN

Personal Information

Office Phone: [+90 312 210 2330](tel:+903122102330)

Email: guven@metu.edu.tr

Web: <https://avesis.metu.edu.tr/guven>

Address: Orta Doğu Teknik Üniversitesi, Elektrik-Elektronik Müh. Bölümü Çankaya, Ankara 06800

International Researcher IDs

ScholarID: 2qC1y1gAAAAJ

ORCID: 0000-0001-6041-7199

Publons / Web Of Science ResearcherID: D-8029-2011

ScopusID: 36845815800

Yoksis Researcher ID: 5097

Education Information

Doctorate, Ohio State University, Electrical Engineering, United States Of America 1981 - 1984

Postgraduate, Ohio State University, Graduate School Of Engineering, Electrical Engineering, United States Of America 1979 - 1981

Undergraduate, Middle East Technical University, Faculty of Engineering, Turkey 1974 - 1979

Foreign Languages

English, C1 Advanced

Dissertations

Doctorate, Modeling and Simulation of Zero Sequence Current Distribution Along Underground Cables, Ohio State University, Graduate School Of Engineering, Electrical Engineering, 1984

Research Areas

Electrical and Electronics Engineering, Energy, Power System Analysis, Electric Power Transmission, Distribution and Protection, Protection Systems, Renewable energy, Engineering and Technology

Academic Titles / Tasks

Professor, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 1986 - Continues

Assistant Professor, Michigan State University, Graduate School Of Engineering, Electrical Eng. And Systems Science Department, 1984 - 1985

Academic and Administrative Experience

Middle East Technical University, Presidency Office, 2002 - 2008

Middle East Technical University, Presidency Office, 2000 - 2008

Courses

Power System Analysis II, Undergraduate, 2020 - 2021

POWER SYSTEM STABILITY AND DYNAMICS, Postgraduate, 2021 - 2022

ECONOMIC OPERATION OF POWER SYSTEMS, Postgraduate, 2020 - 2021

Advising Theses

Güven A. N., Optimal Placement and Cost-Benefit Analysis of Battery Energy Storage Systems, Postgraduate, H.Hökelek(Student), 2022

GÜVEN A. N., Optimum placement and cost-benefit analysis of battery energy storage systems, Postgraduate, İ.HARUN(Student), 2022

Güven A. N., GIS based modelling and analysis of unbalanced LV distribution networks with distributed energy resources, Postgraduate, İ.ÖZDAMAR(Student), 2019

Güven A. N., Newton-Raphson based load flow analysis of AC/DC distribution systems with distributed generation, Postgraduate, F.EMRE(Student), 2019

Güven A. N., Monte Carlo based control algorithm for economic feasibility of v2G applications, Postgraduate, K.ŞAHİNKAYA(Student), 2019

GÜVEN A. N., Assessment of impacts of electric vehicles on low voltage distribution networks in Turkey, Postgraduate, A.TEMİZ(Student), 2015

GÜVEN A. N., Optimization of location and number of lightning arresters in 420 kV substations in turkish high voltage electricity system, Postgraduate, M.OZAN(Student), 2014

GÜVEN A. N., Güven A., Technical evaluation of synchronous interconnection between Mashriq Countries /, Postgraduate, G.Yasin(Student), 2014

GÜVEN A. N., Transmission system security study for Akkuyu Nuclear Power Plant, Postgraduate, S.EREN(Student), 2014

GÜVEN A. N., Güven A., Optimal determination and allocation of secondary frequency control reserve in a market environment considering ACE criteria /, Postgraduate, A.Geren(Student), 2014

GÜVEN A. N., Optimal determination and allocation of secondary frequency control reserve in a market environment considering ace criteria, Postgraduate, A.GEREN(Student), 2014

GÜVEN A. N., Optimal bidding strategies for day ahead electricity market by risk constrained stochastic price based unit commitment, Postgraduate, A.SHİLEH(Student), 2014

GÜVEN A. N., Technical evaluation of synchronous interconnection between Mashriq countries, Postgraduate, G.YASİN(Student), 2014

GÜVEN A. N., Determination of optimum values for voltage setpoints of power stations in Turkey, Postgraduate, İ.ELMA(Student), 2014

GÜVEN A. N., Determination of wind power potential and optimal wind power plant locations in Turkey, Postgraduate, H.ÇETİNAY(Student), 2014

GÜVEN A. N., Design of a special protection scheme and supplementary controls regarding HVDC back to back interconnection between Turkey and Georgia, Postgraduate, Ö.TANIDIR(Student), 2014

GÜVEN A. N., Stochastic wind-thermal generation coordination for Turkish day-ahead electricity market /, Postgraduate, A.AYDOĞDU(Student), 2014

GÜVEN A. N., Price based unit commitment with reserve considerations, Postgraduate, A.OKUŞLUĞ(Student), 2013

GÜVEN A. N., Distribution network reconfiguration for loss reduction by multi branch exchange method, Postgraduate, B.GALYMOV(Student), 2012

GÜVEN A. N., Short term electricity price forecasting in Turkish electricity market, Postgraduate, E.ÖZGÜNER(Student), 2012

GÜVEN A. N., Assessment of the effect of hydroelectric power plants' governor settings on low frequency inter area oscillations, Postgraduate, C.GENÇOĞLU(Student), 2010

GÜVEN A. N., Modeling and investigation of fault ride through capability of variable speed wind turbines, Postgraduate, E.KOÇ(Student), 2010

GÜVEN A. N., Congestion-driven transmission planning considering incentives for generator investments, Doctorate, O.BÜLENT(Student), 2008

GÜVEN A. N., Subsynchronous resonance analysis for Elbistan-2 Thermal Power Plant, Postgraduate, U.KARAAĞAÇ(Student), 2002

GÜVEN A. N., An Object oriented approach to geographical information system applications for electric distribution systems, Postgraduate, S.YÜREKLİ(Student), 2001

GÜVEN A. N., Evaluation of wheeling based on optimum power flow, Postgraduate, A.KARADEMİR(Student), 2001

GÜVEN A. N., Switching overvoltages on the new interconnection between Turkey and Bulgaria, Postgraduate, O.BÜLENT(Student), 2001

GÜVEN A. N., Determination of real-time external system equivalents for power system contingency analysis, Postgraduate, T.ÖZDEN(Student), 2000

GÜVEN A. N., Self-excitation of induction motors compensated by permanently connected capacitors, Postgraduate, Z.ÇAKIR(Student), 2000

GÜVEN A. N., Implementation of linear programming based optimum power plan, Postgraduate, İ.ALPAY(Student), 1999

GÜVEN A. N., Object oriented graphical editor based power system analysis package implementation, Postgraduate, O.ONAY(Student), 1998

GÜVEN A. N., Computer simulation of substation grounding grid performance, Postgraduate, T.ERTUĞRUL(Student), 1997

GÜVEN A. N., Implementation of a communication system for distribution automation based on telephone network, Postgraduate, H.ALTINOLUK(Student), 1996

GÜVEN A. N., Design of an automated mapping and facilities management system for electric distribution utilities in Turkey, Postgraduate, N.TUNCER(Student), 1996

GÜVEN A. N., Trouble call analysis based on automated mapping and facilities management system, Postgraduate, A.TÜMAY(Student), 1996

GÜVEN A. N., An Object oriented graphical user interface for power system modeling, Postgraduate, Ö.YAZAR(Student), 1995

GÜVEN A. N., Accurate determination of neutral conductor current distribution along low voltage feeders, Postgraduate, A.AKSU(Student), 1994

GÜVEN A. N., Feeder reconfiguration for loss reduction in distribution systems, Postgraduate, A.DOUSTDAR(Student), 1994

GÜVEN A. N., Design and implementation of a communication controller for supervisory control and data acquisition applications, Postgraduate, İ.BIYIK(Student), 1993

GÜVEN A. N., Overvoltages in electric substations and protection with metal oxide surge arresters, Postgraduate, Ü.HIZIROĞLU(Student), 1993

GÜVEN A. N., Vector computer implementation of fast decoupled load flow, Postgraduate, S.HIZIROĞLU(Student), 1991

GÜVEN A. N., Analysis of transient recovery voltages across high voltage circuit breakers, Postgraduate, T.CAN(Student), 1991

GÜVEN A. N., Fault analysis based on sparse vector methods, Postgraduate, J.BADRAN(Student), 1991

GÜVEN A. N., Short-term thermal unit commitment by dynamic programming approach, Postgraduate, E.GÖKÇAY(Student), 1991

GÜVEN A. N., Distribution substation control and monitoring based on an industrial MS-DOS computer, Postgraduate, İ.BATUR(Student), 1991

GÜVEN A. N., Insulation coordination study for Hilal/İzmir gas insulated substation, Postgraduate, S.ŞERİFEKEN(Student), 1990

GÜVEN A. N., Short-term on-line load forecasting algorithms in power systems, Postgraduate, İ.BESLEME(Student), 1988

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **CVaR-based stochastic wind-thermal generation coordination for Turkish electricity market**
AYDOĞDU A., TOR B. O., GÜVEN A. N.
JOURNAL OF MODERN POWER SYSTEMS AND CLEAN ENERGY, vol.7, no.5, pp.1307-1318, 2019 (SCI-Expanded)
- II. **Implementation of low voltage express feeder (LVEF) to reduce of no-load losses of distribution transformers which suffer high seasonal load deviation**
Tor O. B., CEBECI M. E., KAS N., GOKTEPE M., KALKAN E., YILMAZ S. C., GUNDOĞDU A., GÜVEN A. N.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.33, no.3, pp.979-994, 2018 (SCI-Expanded)
- III. **Dynamic optimization of long term primary electric distribution network investments based on planning metrics**
Tor O. B., CEBECI M. E., KOC M., Guven A. N.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.33, no.1, pp.227-237, 2018 (SCI-Expanded)
- IV. **Optimal siting and sizing of wind farms**
CETINAY H., KUIPERS F. A., GÜVEN A. N.
RENEWABLE ENERGY, vol.101, pp.51-58, 2017 (SCI-Expanded)
- V. **Probabilistic day-ahead system marginal price forecasting with ANN for the Turkish electricity market**
OZGUNER E., TOR O. B., GÜVEN A. N.
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.25, no.6, pp.4923-4935, 2017 (SCI-Expanded)
- VI. **Promoting the Investment on IPPs for Optimal Grid Planning**
TOR O. B., GÜVEN A. N., Shahidehpour M.
IEEE TRANSACTIONS ON POWER SYSTEMS, vol.25, no.3, pp.1743-1750, 2010 (SCI-Expanded)
- VII. **Congestion-driven transmission planning considering the impact of generator expansion**
TOR O. B., GÜVEN A. N., Shahidehpour M.
IEEE TRANSACTIONS ON POWER SYSTEMS, vol.23, no.2, pp.781-789, 2008 (SCI-Expanded)
- VIII. **Application of geographic information system to distribution information support - Discussion**
Güven N., Tunali E.
IEEE TRANSACTIONS ON POWER SYSTEMS, vol.11, no.1, pp.197, 1996 (SCI-Expanded)
- IX. **Dependency-based algorithms for vector processing of sparse matrix forward backward substitutions - Discussion**
Güven N., Aykanat C.
IEEE TRANSACTIONS ON POWER SYSTEMS, vol.11, no.1, pp.205, 1996 (SCI-Expanded)
- X. **Object-oriented programming, C++ and power system simulation - Discussion**
Güven N., Senyurt G.
IEEE TRANSACTIONS ON POWER SYSTEMS, vol.11, no.1, pp.213, 1996 (SCI-Expanded)
- XI. **TECHNICAL AND ECONOMIC-FEASIBILITY OF CONVERSION TO A HIGHER VOLTAGE DISTRIBUTION**
OZAY N., GUVEN A. N., TURELI A., DEMIROGLU M.
IEE PROCEEDINGS-GENERATION TRANSMISSION AND DISTRIBUTION, vol.142, no.5, pp.468-472, 1995 (SCI-Expanded)
- XII. **ALGORITHMS FOR EFFICIENT VECTORIZATION OF REPEATED SPARSE POWER-SYSTEM NETWORK COMPUTATIONS**
AYKANAT C., OZGU O., GÜVEN A. N.
IEEE TRANSACTIONS ON POWER SYSTEMS, vol.10, no.1, pp.448-456, 1995 (SCI-Expanded)
- XIII. **A PROPOSED APPLICATION OF AN INDUSTRIAL DOS COMPUTER FOR DISTRIBUTION SUBSTATION MONITORING AND CONTROL**
BATUR I., GUVEN A. N., OZAY N.
IEEE TRANSACTIONS ON POWER DELIVERY, vol.9, no.2, pp.729-735, 1994 (SCI-Expanded)

XIV. ANALYSIS OF GROUND FAULT CURRENT DISTRIBUTION ALONG UNDERGROUND CABLES

GUVEN A. N., SEBO S.

IEEE TRANSACTIONS ON POWER DELIVERY, vol.1, no.4, pp.9-18, 1986 (SCI-Expanded)

Articles Published in Other Journals

- I. **Bölgeler Arası Düşük Frekanslı Generatör Salınımlarını Sönümleyici Faktörler ve Türkiye ENTSO-E CESA Enterkonneksiyonu için Çözümler**
Gençoğlu C., TOR B. O., GÜVEN A. N.
EMO Bilimsel Dergi, vol.1, no.1, pp.39-44, 2011 (Peer-Reviewed Journal)
- II. **Değişken Hızlı Rüzgar Türbinlerinin Modellenmesi ve Arıza Sonrası Sisteme Katkı Yeteneklerinin İncelenmesi**
KOÇ E., GÜVEN A. N.
EMO Bilimsel Dergi, vol.1, pp.51-55, 2011 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. **An AGC Algorithm for Multi-Area Power Systems in Network Splitting Conditions**
Temiz A., GÜVEN A. N.
2023 IEEE PES Generation, Transmission and Distribution International Conference and Exposition, GTD 2023, İstanbul, Turkey, 22 - 25 May 2023, pp.77-81
- II. **Multi-Period Reactive Power Optimization for Determination of Switch Statuses of Shunt Elements and Voltage Setpoints of Power Plants**
Elma I., GÜVEN A. N.
13th International Conference on Electrical and Electronics Engineering, ELECO 2021, Virtual, Bursa, Turkey, 25 - 27 November 2021, pp.6-10
- III. **Price Based Unit Commitment for Bidding Strategies in Turkish Market Under Unit and System Constraints**
OKUŞLUĞ A., GÜVEN A. N., TOR O. B., BARA A., OPREA S. V.
8th International Conference on ENERGY and ENVIRONMENT (CIEM), Bucharest, Romania, 19 - 20 October 2017, pp.59-63
- IV. **Implementation of 1 kV on LV feeders: A smart alternative to MV line investments to solve voltage drop problems at LV systems**
Özen K., CEBECİ M. E., TOR B. O., BATAR G., KILIÇ A., TÜRKMEN Ü., GÜVEN A. N.
5th International Istanbul Smart Grids and Cities Congress and Fair, ICSG 2017, İstanbul, Turkey, 19 - 21 April 2017, pp.27-31
- V. **Theoretical and Practical Aspects of Implementing a Low Voltage Express Feeder between Nearby Distribution Transformers to Reduce Annual Losses**
KAS N., TOR O. B., CEBECİ M. E., GOKTEPE M., KALKAN E., YILMAZ S. C., GÜVEN A. N., GUNDOĞDU A.
5th International Istanbul Smart Grid and Cities Congress and Fair (ICSG), İstanbul, Turkey, 19 - 21 April 2017, pp.70-74
- VI. **Optimization of long-term investments of electric distribution systems considering planning metrics**
KOC M., TOR O. B., CEBECİ M. E., GÜVEN A. N., GULER F., TASKIN H., TUNCER A., OKUL U.
5th International Istanbul Smart Grid and Cities Congress and Fair (ICSG), İstanbul, Turkey, 19 - 21 April 2017, pp.60-64
- VII. **Feasibility of distributing electric power through single-phase transformers at rural regions of Turkey based on rural characteristic indices**
ERDAGİSTANLI N., YUKSEL H., SAGİR D., YILMAZ I., KOC M., CEBECİ M. E., TOR O. B., GÜVEN A. N.
2017 IEEE Power and Energy Conference at Illinois, PECE 2017, Illinois, United States Of America, 23 - 24 February

2017

- VIII. **Determination of zonal power demand S-curves with GA based on top-to-bottom and end-use approaches**
TURSUN F., CEBECI M. E., TOR O. B., SAHIN A., TASKIN H. G., GÜVEN A. N.
4th International Istanbul Smart Grid Congress and Fair (ICSG), İstanbul, Turkey, 20 - 21 April 2016, pp.33-37
- IX. **Assessment of Impacts of Electric Vehicles on LV Distribution Networks in Turkey**
TEMİZ A., GÜVEN A. N.
IEEE International Energy Conference (ENERGYCON), Leuven, Belgium, 4 - 08 April 2016
- X. **A Geographical Zoning Methodology for Nodal Transmission Use-of-System Tariffs**
Cebeci M. E., Tor O. B., Gencoglu C., Guven A. N.
General Meeting of the IEEE-Power-and-Energy-Society, California, United States Of America, 22 - 26 July 2012
- XI. **Investigation of Necessary Transmission Enforcements at the Balkan Region of ENTSO E in the Sense of Inter area oscillations after Interconnection of Turkey**
Tor O. B., Cihangir G., ÖZGÜR T., ERKUT C., GÜVEN A. N.
2011 Proceedings of ELECO 7th International Conf. on Electrical and Electronics Engineering,, Bursa, Turkey, 1 - 04 December 2011
- XII. **Transmission and substation expansion planning using mixed integer programming**
Cebeci M. E., EREN S., Tor O. B., Güven N.
43rd North American Power Symposium, NAPS 2011, Boston, MA, United States Of America, 04 August 2011 - 06 August 2011
- XIII. **Promoting the investment on IPPs for optimal grid planning**
Tor O., Mohammad S., GÜVEN A. N.
2011 IEEE Power and Energy Society General Meeting, Detroit, MI, USA, United States Of America, 24 - 29 July 2011
- XIV. **Değişken Hızlı Rüzgar Türbinlerinin Modellenmesi ve Arıza Sonrası Sisteme Katkı Yeteneklerinin İncelenmesi Modeling and investigation of fault ride through capability of variable speed wind turbines**
Koç E., GÜVEN A. N.
Electrical-Electronics-Computer Eng. Symposium, Bursa, Turkey, 2 - 05 December 2010, vol.1, pp.22-26
- XV. **Damping measures against low frequency inter area oscillations and solutions for Turkey ENTSO-E CESA interconnection Bölgeler arasi düşük frekansli generatör salinimlerini sönümleyici faktörler ve Türkiye ENTSO-E CESA enterkonneksiyonu için çözümler**
Gençoğlu C., Tör O. B., Güven N.
2010 7th National Conference on Electrical, Electronics and Computer Engineering, ELECO 2010, Bursa, Turkey, 2 - 05 December 2010, pp.153-157
- XVI. **Damping measures against prospective oscillations between Turkish grid and ENTSO-E system**
Tor O. B., Gencoglu C., Yilmaz O., Cebeci M. E., GÜVEN A. N.
2010 International Conference on Power System Technology: Technological Innovations Making Power Grid Smarter, POWERCON2010, Hangzhou, China, 24 - 28 October 2010
- XVII. **Assessment of the effect of hydroelectric power plants' governor settings on low frequency inter area oscillations**
GENCOGLU C., Tor O., Cebeci E., Yilmaz O., GÜVEN A. N.
2010 International Conference on Power System Technology: Technological Innovations Making Power Grid Smarter, POWERCON2010, Hangzhou, China, 24 - 28 October 2010
- XVIII. **Congestion-Driven Transmission Planning Considering the Impact of Generator Expansion**
Tor O., GÜVEN A. N., Shahidehpour M.
General Meeting of the IEEE-Power-and-Energy-Society, Pennsylvania, United States Of America, 20 - 24 July 2008, pp.4740
- XIX. **Design and implementation of a feeder automation system for distribution networks**
Ozay N., GÜVEN A. N., Buyuksemerci A., Fettahlioglu M.
1999 International Conference on Electric Power Engineering, PowerTech Budapest 1999, Budapest, Hungary, 29 August - 02 September 1999, pp.122

- XX. **Gis based outage analysis system for electric distribution networks**
Güven N., Ozay N., Tunali E.
8th Mediterranean Electrotechnical Conference on Industrial Applications in Power Systems, Computer Science and Telecommunications (Melecon 96), Bari, Italy, 13 - 16 May 1996, pp.761-764
- XXI. **Utilisation of AM/FM systems in the operation of distribution networks**
GÜVEN A. N., Ozay N., Celenk E., Guven A. S.
Proceedings of the 7th Mediterranean Electrotechnical Conference - MELECON. Part 1 (of 3), Antalya, Turkey, 12 - 14 April 1994, vol.3
- XXII. **ACCURATE DETERMINATION OF NEUTRAL CONDUCTOR CURRENT DISTRIBUTION ALONG LOW-VOLTAGE FEEDERS**
OZAY N., GUVEN N., AKSU A.
7th Mediterranean Electrotechnical Conference (MeleCON 94), Antalya, Turkey, 12 - 14 April 1994, pp.948-951
- XXIII. **EFFICIENT VECTORIZATION OF FORWARD-BACKWARD SUBSTITUTIONS IN SOLVING SPARSE LINEAR-EQUATIONS**
AYKANAT C., OZGU O., GÜVEN A. N.
7th Mediterranean Electrotechnical Conference (MeleCON 94), Antalya, Turkey, 12 - 14 April 1994, pp.309-312
- XXIV. **Investigation of subsynchronous resonance risk in the 380 kv Turkish electric network**
Ozay N., GÜVEN A. N.
1988 IEEE International Symposium on Circuits and Systems, Proceedings, Espoo, Finland, vol.2, pp.1623-1626

Supported Projects

GÜVEN A. N., Other International Funding Programs, Smart Grid in the Electricity Transmission Feasibility Study in Turkey, 2014 - 2016

Memberships / Tasks in Scientific Organizations

ODTÜ Prof. Dr. Mustafa N. Parlar Eğitim ve Araştırma Vakfı, Member of the Board of Trustees, 2010 - Continues, Turkey
IEEE (Inst of Electrical Eng.), Member, 1984 - Continues, United States Of America

Scientific Refereeing

TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, Journal Indexed in SSCI, May 2022
Dokuz Eylül Üniversitesi Mühendislik Fakültesi Fen ve Mühendislik Dergisi, National Scientific Refreed Journal, December 2021
Technopark, Siemens, Turkey, June 2021
JOURNAL OF POLYTECHNIC-POLITEKNİK DERGISI, National Scientific Refreed Journal, March 2021
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, SCI Journal, February 2021
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, TUBITAK, Turkey, February 2020

Scientific Consultations

Türkiye Elektrik İletim A.Ş., Scientific Consultancy, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, Turkey, 2019 - Continues

Metrics

Publication: 41

Citation (WoS): 185

Citation (Scopus): 286

H-Index (WoS): 5

H-Index (Scopus): 8

Non Academic Experience

ODTÜ Prof.Dr.Mustafa.N.Parlar Eğitim ve Araştırma Vakfı

Orta Doğu Teknik Üniversitesi

TÜBİTAK

European Commission, Executive Agency Education, Audiovisual and Culture, Lifelong Learning Programme,

TÜBİTAK- UZAY Araştırma Enstitüsü

YÜKSEKÖĞRETİM KURULU BAŞKANLIĞI

Üniversitelerarası Kurul

TÜBİTAK- BİLTEN Araştırma Enstitüsü

Orta Doğu Teknik Üniversitesi

Michigan State University

Ohio State University

Orta Doğu Teknik Üniversitesi