

## Asst. Prof. Necmiye Özlem ÜNVERDİ

### Personal Information

**Office Phone:** [+90 212 383 5906](tel:+902123835906)

**Email:** [unverdi@yildiz.edu.tr](mailto:unverdi@yildiz.edu.tr)

**Web:** <https://avesis.yildiz.edu.tr/unverdi>

**Address:** Yıldız Teknik Üniversitesi, Elektrik - Elektronik Fakültesi, Elektronik ve Haberleşme Mühendisliği Bölümü, Davutpaşa Kampüsü, 34220 Esenler, İstanbul

### International Researcher IDs

ScholarID: JKfkj44AAAAJ

ORCID: 0000-0002-3995-3410

ScopusID: 15836226200

Yoksis Researcher ID: 205998

### Education Information

Doctorate, Yıldız Technical University, Graduate School Of Natural And Applied Sciences, Turkey 1991 - 1998

Postgraduate, Yıldız Technical University, Graduate School Of Natural And Applied Sciences, Turkey 1989 - 1991

Undergraduate, Yıldız Technical University, Faculty Of Electrical & Electronics, Electronics And Communication Engineering, Turkey 1984 - 1989

### Dissertations

Doctorate, The Effect of Evanescent Fields of Guided Modes and Leaky Modes on Mutual Coupling of Straight and Bent Optical Waveguides, Yıldız Technical University, Graduate School Of Natural And Applied Sciences, 1998

Postgraduate, Investigation of Propagation Properties in Optical Fibers and Analysis of Bending Loss, Yıldız Technical University, Graduate School Of Natural And Applied Sciences, 1991

### Research Areas

Communication Engineering, Optics and Photonics, Passive Circuit Components, Cables, Switches and Connectors, Electromagnetic, Wave Propagation and Remote Sensing, Planar Buildings, Dielectric Materials and Devices, Lasers and Masers, Magnetic Materials and Devices, Optical Materials and Devices, Optoelectronic Materials and Devices, Engineering and Technology

### Academic and Administrative Experience

Bölüm Tanıtım ve Mezunlarla İlişkiler Komisyonu Başkanı, Yıldız Technical University, Faculty Of Electrical & Electronics, Electronics And Communication Engineering, 2016 - 2019

Adaptation/Exemption Committee Member, Yıldız Technical University, Faculty Of Electrical & Electronics, Electronics And Communication Engineering, 2015 - 2016

Bölüm Kalite Komisyonu Üyesi, Yıldız Technical University, Faculty Of Electrical & Electronics, Electronics And Communication Engineering, 2014 - 2015

Internship Committee Member, Yıldız Technical University, Faculty Of Electrical & Electronics, Electronics And

Communication Engineering, 2010 - 2012

Bölüm Tanıtım ve Mezunlarla İlişkiler Komisyonu Üyesi, Yıldız Technical University, Faculty Of Electrical & Electronics, Electronics And Communication Engineering, 2008 - 2010

Internship Committee Member, Yıldız Technical University, Faculty Of Electrical & Electronics, Electronics And Communication Engineering, 2002 - 2005

Internship Committee Member, Yıldız Technical University, Faculty Of Electrical & Electronics, Electronics And Communication Engineering, 1991 - 1993

## Courses

Optical Communications, Postgraduate, 2021 - 2022

Communication Theory, Undergraduate, 2021 - 2022

Communication Technologies, Postgraduate, 2021 - 2022

Optical Waveguides, Doctorate, 2020 - 2021

Optical Communication Systems, Undergraduate, 2021 - 2022

## Taught Courses And Trainings

Ünverdi N. Ö., Kablolü ve Kablosuz İletişim Teknolojileri, 2019 - 2019

Ünverdi N. Ö., Haberleşme Teknolojileri, 2018 - 2018

## Articles Published in Other Journals

- I. **ANALYSIS AND APPLICATIONS OF THE HYBRID WDM/TDM PASSIVE OPTICAL NETWORKS**  
Koman E., Ünverdi N. Ö.  
SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI, vol.37, no.4, pp.1059-1069, 2019 (ESCI)
- II. **AMPLIFIER ANALYSIS OF RADIO OVER FIBER COMMUNICATION SYSTEMS**  
Kazancili U. U., Ünverdi N. Ö.  
SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI, vol.37, no.3, pp.723-736, 2019 (ESCI)
- III. **Performance analysis and applications of passive optical networks**  
Güre Ö., Ünverdi N. Ö.  
Istanbul University - Journal of Electrical and Electronics Engineering, vol.14, no.2, pp.1843-1848, 2015 (Scopus)
- IV. **Optik Doğrultu Kuplörlerinde Performans Analizi**  
Ünverdi N. Ö., Ünverdi N. A.  
Dicle Üniversitesi Mühendislik Fakültesi Mühendislik Dergisi, vol.1, no.1, pp.21-30, 2010 (Peer-Reviewed Journal)
- V. **Asansör Sistemlerindeki İletişim Mekanizması**  
Ünverdi N. Ö., Ünverdi N. A.  
Mühendis ve Makina, vol.51, no.611, pp.23-29, 2010 (Peer-Reviewed Journal)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Investigation of Optical Communication Systems Used in Different Media Farkli Ortamlarda Kullanılan Optik Haberleşme Sistemlerinin İncelenmesi**  
Kose A. H., ÜNVERDİ N. Ö.  
30th Signal Processing and Communications Applications Conference, SIU 2022, Safranbolu, Turkey, 15 - 18 May 2022

- II. **Benchmarking on Performances of Active and Passive Optical Networks**  
Korkmaz E., ÜNVERDİ N. Ö.  
29th IEEE Conference on Signal Processing and Communications Applications (SIU), ELECTR NETWORK, 9 - 11 June 2021
- III. **Modeling of Gigabit Passive Optical Networks**  
Burhan Sert A., ÜNVERDİ N. Ö.  
29th IEEE Conference on Signal Processing and Communications Applications (SIU), ELECTR NETWORK, 9 - 11 June 2021
- IV. **Comparison of Doped Optical Fiber Amplifiers**  
Kose A. H., ÜNVERDİ N. Ö.  
29th IEEE Conference on Signal Processing and Communications Applications (SIU), ELECTR NETWORK, 9 - 11 June 2021
- V. **Pulse Generator Applications in Radio Over Fiber Communication Systems**  
Kazancili U. U., ÜNVERDİ N. Ö.  
29th IEEE Conference on Signal Processing and Communications Applications (SIU), ELECTR NETWORK, 9 - 11 June 2021
- VI. **Comparison of Optical Filters in Free Space Optical Communication Systems under Various Weather Conditions**  
ATABAY Ş., ÜNVERDİ N. Ö.  
11th International Conference on Electrical and Electronics Engineering, ELECO 2019, Bursa, Turkey, 28 - 30 November 2019, pp.422-426
- VII. **Feasibility of applying pattern search optimization to optical couplers Örüntü tarama optimizasyonunun optik kuplörlere uygulanabilirliği**  
ÖZKAN BAKBAK P., ÜNVERDİ N. Ö.  
26th IEEE Signal Processing and Communications Applications Conference, SIU 2018, İzmir, Turkey, 2 - 05 May 2018, pp.1-4
- VIII. **Applications of FTTX technology in optical communication systems Optik Haberleşme Sistemlerinde FTTX Teknolojisi Uygulamaları**  
Kiyicioglu D., ÜNVERDİ N. Ö.  
26th IEEE Signal Processing and Communications Applications Conference, SIU 2018, İzmir, Turkey, 2 - 05 May 2018, pp.1-4
- IX. **Analysis and applications of fiber Bragg gratings Fiber Bragg Izgaraların Analizi ve Uygulamaları**  
Alkocak S., ÜNVERDİ N. Ö.  
26th IEEE Signal Processing and Communications Applications Conference, SIU 2018, İzmir, Turkey, 2 - 05 May 2018, pp.1-4
- X. **Analysis and Applications of Fiber Bragg Gratings**  
Alkocak S., ÜNVERDİ N. Ö.  
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018
- XI. **Feasibility of Applying Pattern Search Optimization to Optical Couplers**  
Ozkan-Bakbak P., ÜNVERDİ N. Ö.  
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018
- XII. **Applications of FTTX Technology in Optical Communication Systems**  
Kiyicioglu D., ÜNVERDİ N. Ö.  
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018
- XIII. **FTTX Analysis and Applications**  
Akgun T., ÜNVERDİ N. Ö.  
24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016, pp.2237-2240
- XIV. **Applications of Optical Fiber Bragg Grating Sensors in Optical Communication Systems**  
Balci S., ÜNVERDİ N. Ö.  
23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, 16 - 19 May 2015,

pp.2678-2681

- XV. **PERFORMANCES OF SOME APPLICATIONS IN PASSIVE OPTICAL NETWORKS**  
Catalbas C., ÜNVERDİ N. Ö.  
22nd IEEE Signal Processing and Communications Applications Conference (SIU), Trabzon, Turkey, 23 - 25 April 2014, pp.2261-2264
- XVI. **Wavelength division multiplexing applications in optical communication systems Optik haberleşme sistemlerinde dalgaboyu bölmeli Çoğullama uygulamaları**  
Boz I., ÜNVERDİ N. Ö.  
2013 21st Signal Processing and Communications Applications Conference, SIU 2013, Haspolat, Turkey, 24 - 26 April 2013
- XVII. **Wavelength Division Multiplexing Applications in Optical Communication Systems**  
Boz I., ÜNVERDİ N. Ö.  
21st Signal Processing and Communications Applications Conference (SIU), CYPRUS, 24 - 26 April 2013
- XVIII. **Gain analysis of Erbium and Ytterbium doped optical fiber amplifiers Erbiyum ve İterbiyum katkili optik fiber kuvvetlendiricilerin kazanç analizi**  
Küçükarslan T., ÜNVERDİ N. Ö.  
2012 20th Signal Processing and Communications Applications Conference, SIU 2012, Fethiye, Mugla, Turkey, 18 - 20 April 2012
- XIX. **Optical communication systems and applications in railway transportation systems Rayli ulaşımında optik haberleşme sistemleri ve uygulamaları**  
ÜNVERDİ N. Ö., Ünverdi N. A.  
2012 20th Signal Processing and Communications Applications Conference, SIU 2012, Fethiye, Mugla, Turkey, 18 - 20 April 2012
- XX. **Gain flattening in a Raman amplifier Raman kuvvetlendiricide kazancın düzleşti rilmesi**  
ÜNAL M., Hacisalihoğlu Y., ÜNVERDİ N. Ö.  
2011 IEEE 19th Signal Processing and Communications Applications Conference, SIU 2011, Antalya, Turkey, 20 - 22 April 2011, pp.1204-1207
- XXI. **Artificial neural network model for optical waveguides Optik dalga kılavuzunun yapay sinir ağı ile modellenmesi**  
Bakbak P., ÜNVERDİ N. Ö.  
18th IEEE Signal Processing and Communications Applications Conference, SIU 2010, Diyarbakır, Turkey, 22 - 24 April 2010, pp.228-231
- XXII. **Analysis of the service quality on MPLS networks**  
Gure O., Boyacı B., ÜNVERDİ N. Ö.  
5th European Conference on Circuits and Systems for Communications, ECCSC'10, Belgrade, Serbia, 23 - 25 November 2010, pp.43-46
- XXIII. **Data analysis in optical circuit elements Optik devre elemanlarında veri analizi**  
ÜNVERDİ N. Ö., Ünverdi N. A.  
18th IEEE Signal Processing and Communications Applications Conference, SIU 2010, Diyarbakır, Turkey, 22 - 24 April 2010, pp.244-247
- XXIV. **Modelling - Simulation and gain flattening improvements for an erbium doped fiber amplifier**  
Altiner B., ÜNVERDİ N. Ö.  
ISOT 2009 - International Symposium on Optomechatronic Technologies, İstanbul, Turkey, 21 - 23 September 2009, pp.451-454
- XXV. **Performance analysis of erbium doped fiber amplifiers Erbiyum katkili fiber kuvvetlendiricilerde performans analizi**  
Akça G. E., Arisan B., Koyuncu O., ÜNVERDİ N. Ö.  
2009 IEEE 17th Signal Processing and Communications Applications Conference, SIU 2009, Antalya, Turkey, 9 - 11 April 2009, pp.792-795
- XXVI. **Data transmission in optical communication systems Optik haberleşme sistemlerinde veri iletimi**  
ÜNVERDİ N. Ö., Ünverdi N. A.

- 2009 IEEE 17th Signal Processing and Communications Applications Conference, SIU 2009, Antalya, Turkey, 9 - 11 April 2009, pp.796-799
- XXVII. **Data Transmission in Optical Communication Systems**  
ÜNVERDİ N. Ö., Unverdi N. A.  
IEEE 17th Signal Processing and Communications Applications Conference, Antalya, Turkey, 9 - 11 April 2009, pp.1006-1007
- XXVIII. **Performance Analysis of Erbium Doped Fiber Amplifiers**  
Akca G. E., Arisan B., Koyuncu O., Uenverdi N. Ö.  
IEEE 17th Signal Processing and Communications Applications Conference, Antalya, Turkey, 9 - 11 April 2009, pp.1002-1005
- XXIX. **Modeling the boundary conditions of guided modes of an optical waveguide with artificial neural networks Optik dalga kılavuzunda iletilen kılavuzlanmış modlardaki sinir koşullarının yapay sinir ağı (YSA) ile modellenmesi**  
Bakbak P. Ö., ÜNVERDİ N. Ö.  
2008 IEEE 16th Signal Processing, Communication and Applications Conference, SIU, Aydın, Turkey, 20 - 22 April 2008
- XXX. **Data Transmission in an Optical Directional Coupler**  
Uenverdi N. Ö., Uenverdi N. A.  
IEEE 16th Signal Processing and Communications Applications Conference, Aydın, Turkey, 20 - 22 April 2008, pp.908-910
- XXXI. **Modeling the Boundary Conditions of Guided Modes of an Optical Waveguide with Artificial Neural Networks**  
Bakbak P. O., Uenverdi N. Ö.  
IEEE 16th Signal Processing and Communications Applications Conference, Aydın, Turkey, 20 - 22 April 2008, pp.894-897
- XXXII. **Loss analysis of optical directional couplers Optik doğrultu kuplörlerinde kayıp analizi**  
ÜNVERDİ N. Ö., Ünverdi N. A.  
2007 IEEE 15th Signal Processing and Communications Applications, SIU, Eskişehir, Turkey, 11 - 13 June 2007
- XXXIII. **The effect of temperature to the performance of coupled bent optical waveguides Sicaklığın kuple bükülmüş optik dalga kılavuzlarının performansına etkisi**  
ÜNVERDİ N. Ö., Ünverdi N. A., Canbay C.  
2007 IEEE 15th Signal Processing and Communications Applications, SIU, Eskişehir, Turkey, 11 - 13 June 2007
- XXXIV. **The effect of temperature to the performance of coupled bent optical waveguides**  
Uenverdi N. Ö., Uenverdi N. A., Canbay C.  
IEEE 15th Signal Processing and Communications Applications Conference, Eskişehir, Turkey, 11 - 13 June 2007, pp.67-68
- XXXV. **Loss analysis of optical directional couplers**  
Uenverdi N. Ö., Uenverdi N. A.  
IEEE 15th Signal Processing and Communications Applications Conference, Eskişehir, Turkey, 11 - 13 June 2007, pp.64-65
- XXXVI. **Performance analysis in optical networks Optik ağlarda performans analizi**  
ÜNVERDİ N. Ö., Ünverdi N. A.  
2006 IEEE 14th Signal Processing and Communications Applications, Antalya, Turkey, 17 - 19 April 2006, vol.2006
- XXXVII. **Propagation analysis in optical fiber interferometric sensors Optik fiber interferometrik sensörlerde propagasyon analizi**  
ÜNVERDİ N. Ö., Türkmen Ö.  
2006 IEEE 14th Signal Processing and Communications Applications, Antalya, Turkey, 17 - 19 April 2006, vol.2006
- XXXVIII. **Performance analysis in optical networks**  
ÜNVERDİ N. Ö., Unverdi N. A.  
IEEE 14th Signal Processing and Communications Applications, Antalya, Turkey, 16 - 19 April 2006, pp.908-909
- XXXIX. **Propagation analysis in optical fiber interferometric sensors**

ÜNVERDİ N. Ö., Turkmen O.

IEEE 14th Signal Processing and Communications Applications, Antalya, Turkey, 16 - 19 April 2006, pp.900-901

**XL. Coupling analysis in optical directional couplers Optik doğrultu kuplörlerinde kuplaj analizi**

ÜNVERDİ N. Ö., Ünverdi N. A., Bayir N.

IEEE 13th Signal Processing and Communications Applications Conference, SIU 2005, Kayseri, Turkey, 16 - 18 May 2005, vol.2005, pp.609-612

**XLI. Mutual coupling analysis between bent optical fibers**

ÜNVERDİ N. Ö., Canbay C.

Proceedings of the 1996 8th Mediterranean Electrotechnical Conference, MELECON'06. Part 3 (of 3), Bari, Italy, 13 - 16 May 1996, vol.2, pp.697-700

## Supported Projects

ÜNVERDİ N. Ö., Öztürk İ., Project Supported by Higher Education Institutions, Optik Haberleşme Sistemlerinin Optimizasyonu, 2022 - Continues

ÜNVERDİ N. Ö., Duralı A., Project Supported by Higher Education Institutions, Havacılıkta Kullanılan Haberleşme Sistemlerinin Analizi ve Uygulamaları, 2022 - Continues

ÜNVERDİ N. Ö., ÜNVERDİ N. A., Project Supported by Higher Education Institutions, Fiber Optik Kabloların Mukavemet ve Veri İletimi Performansı, 2022 - Continues

Ünverdi N. Ö., Erpolat T. B., Bayrakçı E., TÜBİTAK Project, Use of Free Space Optical Communication Technology in Communication Between Low and High Orbit Satellites, 2022 - 2023

Ünverdi N. Ö., Kapçık A., Özseser E., Industrial Thesis Project, Design of Redundancy Ring Structures in the Scope of the Payload Subsystem of Communication Satellites, 2022 - 2023

Ünverdi N. Ö., Bayrakçı E., Erpolat T. B., Yazıcı A. B., Industrial Thesis Project, Effect of Deblurring Process on Mtf (Modulation Transfer Function) Value of Electro-Optical Satellite Images, 2022 - 2023

Ünverdi N. Ö., Yıldız U., Okumuş M. E., Seven M., Aykış B., Sürkit İ. F., Industrial Thesis Project, Angle of Attack and Angle of Slip Estimation Methods, 2022 - 2023

Ünverdi N. Ö., Kaya Ş. Y., Yüce A. Y., Nayir B. K., Industrial Thesis Project, Developing Herd UAV Concept Test Software, 2022 - 2023

Ünverdi N. Ö., Kaya Y., Seven M., Okumuş M. E., TÜBİTAK Project, Analysis and Optimization of Radio Communications over Fiber, 2022 - 2023

Ünverdi N. Ö., Özgün Ö., Sarıtaş M., Industrial Thesis Project, Usability Analysis of FBG Sensors in Fuel Level Monitoring, 2021 - 2022

ÜNVERDİ N. Ö., Project Supported by Higher Education Institutions, Farklı Ortamlardaki Optik Haberleşme Sistemlerinin Karşılaştırmalı Performans Analizi, 2012 - 2015

ÜNVERDİ N. Ö., Project Supported by Higher Education Institutions, Pasif Optik Ağların Analizi ve Uygulamaları, 2011 - 2013

## Activities in Scientific Journals

TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, Editor, 2015 - Continues

SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES, Editor, 2015 - Continues

## Metrics

Publication: 46

Citation (Scopus): 15

H-Index (Scopus): 2