

## Doç.Dr. Mustafa Berke Yelten

### Kişisel Bilgiler

İş Telefonu: [+90 212 285 6749](tel:+902122856749)

Fax Telefonu: [+90 212 285 6749](tel:+902122856749)

E-posta: [yeltenm@itu.edu.tr](mailto:yeltenm@itu.edu.tr)

Web: <https://avesis.itu.edu.tr/yeltenm>

### Uluslararası Araştırmacı ID'leri

ScholarID: qsz20YIAAAAJ

ORCID: 0000-0001-7482-0536

Publons / Web Of Science ResearcherID: P-3247-2018

ScopusID: 57201361947

Yoksis Araştırmacı ID: 230993

### Eğitim Bilgileri

Doktora, North Carolina State University, Elektronik Mühendisliği, Amerika Birleşik Devletleri 2008 - 2011

Yüksek Lisans, North Carolina State University, Elektronik Mühendisliği, Amerika Birleşik Devletleri 2006 - 2008

Lisans, Boğaziçi Üniversitesi, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, Türkiye 2003 - 2006

### Yabancı Diller

İngilizce, C1 İleri

Almanca, C1 İleri

### Yaptığı Tezler

Doktora, Variability and reliability in nanoscale circuits: Simulation, design, monitoring, and characterization, North Carolina State University, Elektronik Mühendisliği, 2011

Yüksek Lisans, Theoretical analysis and design methodologies for low noise amplifiers based on tunable matching networks, North Carolina State University, Elektronik Mühendisliği, 2008

### Araştırma Alanları

Elektrik-Elektronik Mühendisliği, Elektronik, Elektronik Devreler , Mikrodalga Devreleri, Nanoteknoloji, Mühendislik ve Teknoloji

### Akademik Unvanlar / Görevler

Doç.Dr., İstanbul Teknik Üniversitesi, Elektrik-Elektronik, Elektronik Ve Haberleşme Mühendisliği, 2020 - Devam Ediyor

Dr.Öğr.Üyesi, İstanbul Teknik Üniversitesi, Elektrik-Elektronik, Elektronik Ve Haberleşme Mühendisliği, 2018 - 2020

Yrd.Doç.Dr., İstanbul Teknik Üniversitesi, Elektrik-Elektronik, Elektronik Ve Haberleşme Mühendisliği, 2015 - 2018

## Akademik İdari Deneyim

Bölüm Başkan Yardımcısı, İstanbul Teknik Üniversitesi, 2020 - Devam Ediyor  
Dekan Yardımcısı, İstanbul Teknik Üniversitesi, 2018 - 2020  
Fakülte Akademik Kurul Üyesi, İstanbul Teknik Üniversitesi, 2015 - 2020

## Verdiği Dersler

Stokastik Modelleme, Lisans, 2017 - 2018  
Electronics II, Lisans, 2017 - 2018  
RF Microelectronics, Lisans, 2017 - 2018  
Semiconductor Devices, Lisans, 2017 - 2018  
Basics of Electrical Circuits, Lisans, 2016 - 2017  
Analog Electronic Circuits, Lisans, 2017 - 2018  
Mikrodalga Mühendisliği, Yüksek Lisans, 2017 - 2018  
Modeling of Semiconductor Devices and Components, Lisans, 2017 - 2018  
Microelectronics Technology, Lisans, 2016 - 2017  
Noise in Electronic Circuits and Systems, Yüksek Lisans, 2015 - 2016

## Yönetilen Tezler

Yelten M. B., YÜKSEK HIZLI BASKI DEVRE KARTLARINDA SİNYAL BÜTÜNLÜĞÜNÜN İNCELENMESİ, Yüksek Lisans, K.AÇELYA(Öğrenci), 2023  
Yelten M. B., CHARACTERIZATION AND MODELING OF NEGATIVE-BIAS TEMPERATURE INSTABILITY IN 40 NM CMOS TECHNOLOGY THROUGH LONG SHORT-TERM MEMORY (LSTM) NETWORKS, Yüksek Lisans, F.BAŞAR(Öğrenci), 2023  
Yelten M. B., A 560 MHz FREQUENCY MULTIPLIER EMPLOYING A NOVEL PSEUDO-DIFFERENTIAL CHARGE-PUMP PLL, Yüksek Lisans, M.EMİN(Öğrenci), 2023  
Yelten M. B., HIGH PERFORMANCE WIDEBAND 0.25  $\mu$ M GAAS PHEMT 6-BIT DIGITAL PHASE SHIFTER DESIGN FOR C-BAND PHASED ARRAY APPLICATIONS, Yüksek Lisans, O.ALTAY(Öğrenci), 2023  
Yelten M. B., BANDGAP REFERENCE AND LOW DROPOUT VOLTAGE REGULATOR DESIGN FOR CAPSULE ENDOSCOPY SYSTEM, Yüksek Lisans, B.BERİL(Öğrenci), 2022  
Yelten M. B., Design of Smart Electronic Adult Diaper, Yüksek Lisans, R.KARAHALİL(Öğrenci), 2022  
Yelten M. B., MODELING OF FM417 NPN TRANSISTOR AVALANCHE BREAKDOWN BEHAVIOUR WITH DISCRETE CIRCUIT COMPONENTS AT TINA ENVIRONMENT, Yüksek Lisans, M.YETKİN(Öğrenci), 2022  
Yelten M. B., Analysis and Design of Cryogenic Bulk-Driven Analog Integrated Circuits, Yüksek Lisans, M.AYTUĞ(Öğrenci), 2022  
Yelten M. B., A design of sub-mW-power 2.4 GHz CMOS cascode low noise amplifier with high linearity, Yüksek Lisans, D.EROL(Öğrenci), 2021  
Yelten M. B., Characterization of time-based degradation effects and machine learning-based modeling of hot carrier injection in 40 NM CMOS transistors, Yüksek Lisans, X.XHAFİ(Öğrenci), 2021  
Yelten M. B., 5G kablosuz iletişim sistemleri için aşağı dönüşüm Gilbert hücre mikser tasarımı, Yüksek Lisans, F.TALAY(Öğrenci), 2021  
Yelten M. B., GAN BASED HIGH POWER MMIC SPDT AND SP8T SWITCH DESIGNS FOR V/UHF FREQUENCIES, Yüksek Lisans, H.YUMUŞ(Öğrenci), 2021  
Yelten M. B., V/UHF BANT CMOS RF GÜÇ DEDEKTÖRÜ TASARIMI, Yüksek Lisans, M.KARAKURT(Öğrenci), 2021  
Yelten M. B., GaN based high efficiency class AB power amplifier design for sub-6GHz 5G transmitter systems, Yüksek Lisans, K.ÜNAL(Öğrenci), 2021  
Yelten M. B., Silver nanowire coated wearable electronics applications, Yüksek Lisans, İ.HALİL(Öğrenci), 2020  
Yelten M. B., Design of 180 nm CMOS LC oscillator for space applications, Yüksek Lisans, Y.UZUN(Öğrenci), 2019

Yelten M. B., A CRYOGENIC CMOS LOW DROPOUT REGULATOR DESIGN FOR SPACE APPLICATIONS, Yüksek Lisans, H.İBRAHİM(Öğrenci), 2019

Yelten M. B., Radiation-induced effects on N-type metal oxide semiconductor field effect transistor devices: Modeling, simulation and optimization, Yüksek Lisans, S.İLİK(Öğrenci), 2019

Yelten M. B., Statistical cryogenic modeling methodology of MOSFET DC characteristics in BSIM3, Yüksek Lisans, A.KABAOĞLU(Öğrenci), 2019

Yelten M. B., A high linearity s-band cryogenic low noise amplifier using 180 nm CMOS technology for space applications, Yüksek Lisans, A.ÇAĞLAR(Öğrenci), 2019

Yelten M. B., KÜP UYDULAR İÇİN, VHF/UHF BANDI AKTARICI TASARIMI VE GERÇEKLEMESİ, Yüksek Lisans, H.Onur(Öğrenci), 2018

Yelten M. B., A 0.18  $\mu$ m CMOS X-BAND LOW NOISE AMPLIFIER FOR SPACE APPLICATIONS, Yüksek Lisans, N.Şahin(Öğrenci), 2017

## Verdiği Kurs ve Eğitimler

Yelten M. B., STEAM-Maker Uzman Liderlik Sertifika Programı, 2019 - 2019

## SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

- I. **A Resonant Pulley Rotary Actuator for Scanning Capsule Endoscopy**  
Tekin E., Erten A. C., Yelten M. B., Ferhanoglu O.  
IEEE Photonics Technology Letters, cilt.35, sa.16, ss.891-894, 2023 (SCI-Expanded)
- II. **Radiation-aware analog circuit design via fully-automated simulation environment**  
Muhikanci O. Y., Ozanoglu K., Afacan E., Yelten M. B., Dündar G.  
Integration, cilt.90, ss.81-89, 2023 (SCI-Expanded)
- III. **Total Ionizing Dose (TID) Impact on Basic Amplifier Stages**  
İlik S., Yelten M. B.  
IEEE Transactions on Device and Materials Reliability, cilt.23, sa.1, ss.51-57, 2023 (SCI-Expanded)
- IV. **A highly-linear, sub-mW LNA at 2.4 GHz in 40 nm CMOS process**  
As D. E., Yelten M. B.  
INTEGRATION-THE VLSI JOURNAL, cilt.88, ss.278-285, 2023 (SCI-Expanded)
- V. **A 3D-printed spiral actuator for focus adjustment in circumferential scanning endomicroscopy**  
Zöğ İ. S., Gürcüoğlu O., Özdemir Ö., Yelten M. B., Ferhanoglu O.  
Journal of Micromechanics and Microengineering, cilt.33, sa.1, 2023 (SCI-Expanded)
- VI. **A fully-differential, flipped-voltage-follower-based (FVF) transimpedance design for optical receivers with large-area photodetectors**  
Gungordu A. D., Comertoglu I., Yelten M. B.  
ANALOG INTEGRATED CIRCUITS AND SIGNAL PROCESSING, cilt.113, sa.2, ss.241-248, 2022 (SCI-Expanded)
- VII. **High-linearity Gilbert-cell mixer design for cryogenic applications**  
Altuner E., Ozoguz I. S., Yelten M. B.  
ANALOG INTEGRATED CIRCUITS AND SIGNAL PROCESSING, cilt.113, sa.2, ss.249-256, 2022 (SCI-Expanded)
- VIII. **An ISM-band direct down-conversion double-balanced mixer for biomedical applications**  
Yesil E., Ferhanoglu O., Yelten M. B.  
ANALOG INTEGRATED CIRCUITS AND SIGNAL PROCESSING, cilt.113, sa.2, ss.231-239, 2022 (SCI-Expanded)
- IX. **Holistic Device Modeling: Toward a Unified MOSFET Model Including Variability, Aging, and Extreme Operating Conditions**  
Yelten M. B.  
IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS II-EXPRESS BRIEFS, cilt.69, sa.6, ss.2635-2640, 2022 (SCI-Expanded)

- X. **Monitoring modal shape of miniaturized dynamic structures via laser triangulation and stroboscopy**  
Erdem Y. E., Yelten M. B., Ferhanoğlu O.  
MICROSYSTEM TECHNOLOGIES-MICRO-AND NANOSYSTEMS-INFORMATION STORAGE AND PROCESSING SYSTEMS, cilt.27, sa.10, ss.3751-3756, 2021 (SCI-Expanded)
- XI. **A meandered dual loop antenna for wireless capsule endoscopy**  
Gures E., Yelten M. B., Özdemir Ö., Ferhanoğlu O.  
AEU-INTERNATIONAL JOURNAL OF ELECTRONICS AND COMMUNICATIONS, cilt.137, 2021 (SCI-Expanded)
- XII. **A switchable DC offset cancellation circuit for time-based degradation correction**  
Erol D., Güngördü A. D., Dundar G., Yelten M. B.  
ANALOG INTEGRATED CIRCUITS AND SIGNAL PROCESSING, cilt.106, sa.3, ss.485-491, 2021 (SCI-Expanded)
- XIII. **Design and validation of an artificial neural network based on analog circuits**  
Gencer F. B., Xhafa X., Inam B. B., Yelten M. B.  
ANALOG INTEGRATED CIRCUITS AND SIGNAL PROCESSING, cilt.106, sa.3, ss.475-483, 2021 (SCI-Expanded)
- XIV. **A wide-temperature range (77-400 K) CMOS low-dropout voltage regulator system**  
Kayihan H. I., Inam B. B., Dogan B., Yelten M. B.  
ANALOG INTEGRATED CIRCUITS AND SIGNAL PROCESSING, cilt.106, sa.3, ss.501-510, 2021 (SCI-Expanded)
- XV. **An Automated Setup for the Characterization of Time-Based Degradation Effects Including the Process Variability in 40-nm CMOS Transistors**  
Xhafa X., Güngördü A. D., Erol D., Yavuz Y., Yelten M. B.  
IEEE TRANSACTIONS ON INSTRUMENTATION AND MEASUREMENT, cilt.70, 2021 (SCI-Expanded)
- XVI. **Design of a tunable LNA and its variability analysis through surrogate modeling**  
Xhafa X., Yelten M. B.  
INTERNATIONAL JOURNAL OF NUMERICAL MODELLING-ELECTRONIC NETWORKS DEVICES AND FIELDS, cilt.33, sa.6, 2020 (SCI-Expanded)
- XVII. **Experimental and modeling studies of automotive-qualified OLEDs under electrical stress**  
Guney A., Yelten M. B., Ferhanoğlu O., KAHRAMAN N.  
MICROELECTRONICS RELIABILITY, cilt.111, 2020 (SCI-Expanded)
- XVIII. **A 180-nm X-Band Cryogenic CMOS LNA**  
Caglar A., Yelten M. B.  
IEEE MICROWAVE AND WIRELESS COMPONENTS LETTERS, cilt.30, sa.4, ss.395-398, 2020 (SCI-Expanded)
- XIX. **Reliability Testing of 3D-Printed Polyamide Actuators**  
Kasap G., Gokdel Y. D., Yelten M. B., Ferhanoğlu O.  
IEEE TRANSACTIONS ON DEVICE AND MATERIALS RELIABILITY, cilt.20, sa.1, ss.152-156, 2020 (SCI-Expanded)
- XX. **Design of Cryogenic LNAs for High Linearity in Space Applications**  
Caglar A., Yelten M. B.  
IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS I-REGULAR PAPERS, cilt.66, sa.12, ss.4619-4627, 2019 (SCI-Expanded)
- XXI. **Variability-aware cryogenic models of mosfets: validation and circuit design**  
Kabaoglu A., Sahin-Solmaz N., Ilik S., Uzun Y., Yelten M. B.  
SEMICONDUCTOR SCIENCE AND TECHNOLOGY, cilt.34, sa.11, 2019 (SCI-Expanded)
- XXII. **Modeling of Total Ionizing Dose Degradation on 180-nm n-MOSFETs Using BSIM3**  
İlik S., Kabaoglu A., Solmaz N. S., Yelten M. B.  
IEEE TRANSACTIONS ON ELECTRON DEVICES, cilt.66, sa.11, ss.4617-4622, 2019 (SCI-Expanded)
- XXIII. **On Chip Reconfigurable CMOS Analog Circuit Design and Automation Against Aging Phenomena: Sense and React**  
AFACAN E., DÜNDAR G., Baskaya F., PUSANE A. E., Yelten M. B.  
ACM TRANSACTIONS ON DESIGN AUTOMATION OF ELECTRONIC SYSTEMS, cilt.24, sa.4, 2019 (SCI-Expanded)
- XXIV. **Radiation tolerance impact of trap density near the drain and source regions of a MOSFET**  
İlik S., Gencer F. B., Solmaz N. S., Çağlar A., Yelten M. B.  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS, cilt.449, ss.1-5, 2019 (SCI-Expanded)

- XXV. **Silver nanowire coated knitted wool fabrics for wearable electronic applications**  
Gürarlan A., Ozdemir B., Bayat I. H., Yelten M. B., Karabulut Kurt G. Z.  
JOURNAL OF ENGINEERED FIBERS AND FABRICS, cilt.14, 2019 (SCI-Expanded)
- XXVI. **Statistical MOSFET Modeling Methodology for Cryogenic Conditions**  
KABAOĞLU A., Solmaz N. S., İlik S., UZUN Y., Yelten M. B.  
IEEE TRANSACTIONS ON ELECTRON DEVICES, cilt.66, sa.1, ss.66-72, 2019 (SCI-Expanded)
- XXVII. **Time-dependent dielectric breakdown (TDDB) reliability analysis of CMOS analog and radio frequency (RF) circuits**  
SANIÇ M. T., Yelten M. B.  
ANALOG INTEGRATED CIRCUITS AND SIGNAL PROCESSING, cilt.97, sa.1, ss.39-47, 2018 (SCI-Expanded)
- XXVIII. **Surrogate modeling and variability analysis of on-chip spiral inductors**  
AKSO E., SOYSAL I. B., Yelten M. B.  
INTERNATIONAL JOURNAL OF NUMERICAL MODELLING-ELECTRONIC NETWORKS DEVICES AND FIELDS, cilt.31, sa.5, 2018 (SCI-Expanded)
- XXIX. **Reliability Testing of 3D-printed Electromechanical Scanning Devices**  
Gönültaş B. M., SAVAŞ J., Khayatzaheh R., Aygün S., ÇİVİTÇİ F., GÖKDEL Y. D., YELTEN M. B., FERHANOĞLU O.  
Journal Of Electronic Testing-Theory And Applications, 2018 (SCI-Expanded)
- XXX. **Aging signature properties and an efficient signature determination tool for online monitoring**  
Afacan E., Dundar G., Pusane A. E., Yelten M. B., Baskaya F.  
INTEGRATION-THE VLSI JOURNAL, cilt.58, ss.496-503, 2017 (SCI-Expanded)
- XXXI. **Comparison of modeling techniques in circuit variability analysis**  
Yelten M. B., Franzon P. D., Steer M. B.  
INTERNATIONAL JOURNAL OF NUMERICAL MODELLING-ELECTRONIC NETWORKS DEVICES AND FIELDS, cilt.25, sa.3, ss.288-302, 2012 (SCI-Expanded)
- XXXII. **Analog Negative-Bias-Temperature-Instability Monitoring Circuit**  
Yelten M. B., Franzon P. D., Steer M. B.  
IEEE TRANSACTIONS ON DEVICE AND MATERIALS RELIABILITY, cilt.12, sa.1, ss.177-179, 2012 (SCI-Expanded)
- XXXIII. **Demystifying Surrogate Modeling for Circuits and Systems**  
Yelten M. B., Zhu T., KOZIEL S., Franzon P. D., Steer M. B.  
IEEE CIRCUITS AND SYSTEMS MAGAZINE, cilt.12, sa.1, ss.45-63, 2012 (SCI-Expanded)
- XXXIV. **Surrogate-Model-Based Analysis of Analog Circuits-Part I: Variability Analysis**  
Yelten M. B., Franzon P. D., Steer M. B.  
IEEE TRANSACTIONS ON DEVICE AND MATERIALS RELIABILITY, cilt.11, sa.3, ss.466-473, 2011 (SCI-Expanded)
- XXXV. **Surrogate-Model-Based Analysis of Analog Circuits-Part II: Reliability Analysis**  
Yelten M. B., Franzon P. D., Steer M. B.  
IEEE TRANSACTIONS ON DEVICE AND MATERIALS RELIABILITY, cilt.11, sa.3, ss.458-465, 2011 (SCI-Expanded)

## **Diğer Dergilerde Yayınlanan Makaleler**

- I. **Cryogenic DC Characteristics of Low Threshold Voltage (V<sub>TH</sub>) n-channel MOSFETs**  
YELTEN M. B.  
Balkan Journal of Electrical and Computer Engineering, cilt.7, ss.362-365, 2019 (Hakemli Dergi)

## **Kitap & Kitap Bölümleri**

- I. **Surrogate Modeling of High-Frequency Electronic Circuits**  
Xhafa X., Yelten M. B.  
Surrogate Modeling for High-Frequency Design - Recent Advances, Slawomir Koziel, Anna Pietrenko-Dabrowska, Editör, World Scientific Publishing , Singapore, ss.381-404, 2022

## II. **Modelling Methodologies in Analogue Integrated Circuit Design**

Dündar G. (Editör), Yelten M. B. (Editör)

The Institution of Engineering and Technology (IET), London, 2020

## III. **Variation-Aware Circuit Macromodeling and Design Based on Surrogate Models**

Zhu T., YELTEN M. B., Steer M., Franzon P.

Simulation and Modeling Methodologies Technologies and Applications, , Editör, Springer, ss.255-269, 2013

## IV. **Surrogate-Based Modeling and Optimization**

Zhu T., YELTEN M. B., Steer M., Franzon P.

Model Based Variation Aware Integrated Circuit Design, , Editör, Springer, ss.171-188, 2013

## **Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar**

- I. **A 560 MHz Frequency Multiplier Employing a Novel Pseudo-Differential Charge-Pump PLL**  
Kisa M. E., Kelleci B., Yelten M. B.  
18th International Conference on Ph.D Research in Microelectronics and Electronics, PRIME 2023, Valencia, İspanya, 18 - 21 Haziran 2023, ss.81-84
- II. **Modeling the Avalanche Breakdown of the FM417 NPN BJT in the TINA Environment**  
Yetkin M., Yelten M. B.  
19th International Conference on Synthesis, Modeling, Analysis and Simulation Methods, and Applications to Circuit Design, SMACD 2023, Funchal, Portekiz, 3 - 05 Temmuz 2023
- III. **A 432 MHz Class-D Power Amplifier with 60% Power Efficiency for Wireless Capsule Endoscopy**  
Ozturk F., Ferhanoğlu O., Yelten M. B.  
19th International Conference on Synthesis, Modeling, Analysis and Simulation Methods, and Applications to Circuit Design, SMACD 2023, Funchal, Portekiz, 3 - 05 Temmuz 2023
- IV. **High-Performance Wideband 0.25  $\mu$ m GaAs pHEMT 6-Bit Digital Phase Shifter Design for C-Band Phased Array Applications**  
Genc O. A., Gundel A., Yelten M. B.  
19th International Conference on Synthesis, Modeling, Analysis and Simulation Methods, and Applications to Circuit Design, SMACD 2023, Funchal, Portekiz, 3 - 05 Temmuz 2023
- V. **Shunt-Shunt Feedback Inverter Transimpedance Amplifier Design for Capsule Endoscopy**  
Peker E., Ferhanoğlu O., Yelten M. B.  
19th International Conference on Synthesis, Modeling, Analysis and Simulation Methods, and Applications to Circuit Design, SMACD 2023, Funchal, Portekiz, 3 - 05 Temmuz 2023
- VI. **A Power-Efficient Magnetic Actuator Driver Design**  
KEBAPCIOĞLU B., FERHANOĞLU O., YELTEN M. B.  
2022 29th IEEE International Conference on Electronics, Circuits and Systems (ICECS), Glasgow, İngiltere, 24 - 26 Ekim 2022
- VII. **40 nm CMOS Sureci Transistörlerinin Akım-Gerilim Karakteristiklerinin Oda Sıcaklığında ve Kriyojenik Koşullarda İncelenmesi**  
Gencer F. B., İLİK S., GÜNGÖRDÜ A. D., Xhafa X., YELTEN M. B.  
ELEKTRİK-ELEKTRONİK ve BİYOMEDİKAL MÜHENDİSLİĞİ KONFERANSI (ELECO), Bursa, Türkiye, 24 - 26 Kasım 2022
- VIII. **Down-Conversion Gilbert Cell Mixer Design for 5G Wireless Communications Systems**  
TALAY F., YELTEN M. B.  
2022 24th International Microwave and Radar Conference (MIKON), Gdansk, Polonya, 12 - 14 Eylül 2022
- IX. **A 3D Printed Rotational MEMS Actuator for Scanning Capsule Endoscopy**  
Tekin E., ERTEN A. C., YELTEN M. B., FERHANOĞLU O.  
2022 INTERNATIONAL CONFERENCE ON OPTICAL MEMS AND NANOPHOTONICS (OMN), 12 - 15 Eylül 2022
- X. **A Noise-Canceling TIA Topology Compatible With Large-Area Photodetectors in 40 nm CMOS Process**  
GÜNGÖRDÜ A. D., YELTEN M. B.

IEEE 65th International Midwest Symposium on Circuits and Systems (MWSCAS), Fukuoka, Japonya, 7 - 10 Ağustos 2022, ss.1-4

- XI. **Responsivity Comparison of Different Photodiode Structures**  
İLİK S., FERHANOĞLU O., YELTEN M. B.  
2022 18th International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design (SMACD), Villasimius, İtalya, 12 - 15 Haziran 2022, ss.1-4
- XII. **A Simulation Tool for Space Applications: RadiSPICE**  
Muhikancı Ö. Y., OZANOĞLU K., AFACAN E., YELTEN M. B., DÜNDAR G.  
2022 18th International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design (SMACD), Villasimius, İtalya, 12 - 15 Haziran 2022, ss.1-4
- XIII. **The Supply Modulation Circuit for Dynamic Drain Voltage of the Sub-amplifiers in the Doherty Topology**  
Tunç A., YELTEN M. B.  
2022 9th International Conference on Electrical and Electronics Engineering (ICEEE), Antalya, Türkiye, 29 Mart 2022, ss.6-9
- XIV. **Design of a 432 MHz Direct Down-Conversion Gilbert Mixer for Biomedical Applications**  
Yeşil E., FERHANOĞLU O., YELTEN M. B.  
2021 13th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Türkiye, 25 - 27 Kasım 2021, ss.527-530
- XV. **GaN-Based High-Efficiency Class AB Power Amplifier Design for Sub-6 GHz 5G Transmitter Systems**  
ÜNAL K., YELTEN M. B.  
2021 13th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Türkiye, 25 - 27 Kasım 2021, ss.90-93
- XVI. **Gamma Ray Effects on Organic Light-Emitting Diodes (OLEDs)**  
İLİK S., Dülger C. Ö., Güney A., FERHANOĞLU O., YELTEN M. B.  
2021 13th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Türkiye, 25 Kasım 2021, ss.1-4
- XVII. **Design of a High-Linearity Gilbert-Cell Mixer at 5 GHz**  
ALTUNER E., ÖZOĞUZ İ. S., YELTEN M. B.  
2021 13th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Türkiye, 25 - 27 Kasım 2021, ss.102-105
- XVIII. **Ultra Low Power Transimpedance Amplifier Design for Receivers with Large-Area Photodetectors**  
GÜNGÖRDÜ A. D., YELTEN M. B.  
2021 13th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Türkiye, 25 - 27 Kasım 2021, ss.98-101
- XIX. **The Design Overview of the Hybrid Doherty-Outphasing Technique**  
Tunç A., YELTEN M. B.  
2021 13th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Türkiye, 25 - 27 Kasım 2021, ss.1-4
- XX. **A Theoretical Efficiency Analysis of Doherty Power Amplifiers built with Different Amplifier Classes**  
Tunç A., YELTEN M. B.  
2021 29th Telecommunications Forum (TELFOR), Belgrade, Sırbistan, 23 Kasım 2021
- XXI. **A 3D-Printed Archimedean Actuator for Focus adjustment in Endoscopes**  
Salaheldin-Zöğ İ., Gürcüoğlu O., ÖZDEMİR Ö., YELTEN M. B., FERHANOĞLU O.  
European Conferences on Biomedical Optics 2021 (ECBO), Almanya, 21 - 24 Haziran 2021, ss.1-3
- XXII. **A Phase Error Correction Algorithm for RF Energy Harvesters Using Two Antennas**  
GÜNGÖRDÜ A. D., EROL D., ÇAĞLAR A., YELTEN M. B.  
International Conference on Synthesis, Modeling, Analysis and Simulation Methods, and Applications to Circuit Design, Erfurt, Almanya, 19 - 21 Temmuz 2021, ss.100-103
- XXIII. **An ISM-Band Multi-Phase Injection-Locked Ring Oscillator**  
Berk M. S., Inam B. B., Yelten M. B.

- 12th IEEE Latin America Symposium on Circuits and System (LASCAS), ELECTR NETWORK, 22 - 25 Şubat 2021
- XXIV. **Design of a Constant Current Laser Driver for Biomedical Applications**  
Temel O. D., Ferhanoğlu O., Yelten M. B.
- 12th IEEE Latin America Symposium on Circuits and System (LASCAS), ELECTR NETWORK, 22 - 25 Şubat 2021
- XXV. **A High Performance TIA Design in 40 nm CMOS**  
GÜNGÖRDÜ A. D., DÜNDAR G., YELTEN M. B.
- 2020 IEEE International Symposium on Circuits and Systems (ISCAS), Sevilla, İspanya, 12 - 14 Ekim 2020
- XXVI. **An Offset Cancellation Set-up for Amplifiers Subject to Aging**  
Erol D., GÜNGÖRDÜ A. D., DÜNDAR G., YELTEN M. B.
- 11th International Conference on Electrical and Electronics Engineering, 28 - 30 Kasım 2019
- XXVII. **Design of a LC-based Voltage-Controlled Oscillator for Space Applications in C - Band**  
Uzun Y., Kabaoğlu A., YELTEN M. B.
- 11th International Conference on Electrical and Electronics Engineering, 28 - 30 Kasım 2019
- XXVIII. **Design of an Analog Circuit-Based Artificial Neural Network**  
Gencer F. B., Xhafa X., İnam B. B., YELTEN M. B.
- 11th International Conference on Electrical and Electronics Engineering, Bursa, Türkiye, 28 - 30 Kasım 2019
- XXIX. **A Cryogenic CMOS Low Dropout Voltage Regulator Design for Space Applications**  
Kayhan H. İ., Kabaoğlu A., YELTEN M. B.
- 11th International Conference on Electrical and Electronics Engineering, Bursa, Türkiye, 28 - 30 Kasım 2019
- XXX. **Comparison of ELTs with different shapes and a regular layout transistor in 180 nm CMOS process**  
İLİK S., ŞAHİN N., Kabaoğlu A., YELTEN M. B.
- 2019 16th International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design (SMACD), Lausanne, Switzerland, İsviçre, 15 - 18 Temmuz 2019, ss.21-24
- XXXI. **A Cryogenic LC VCO Utilizing Cryogenic Models of Active Devices**  
GÜLEÇ H. O., YELTEN M. B.
- 2019 6th International Conference on Electrical and Electronics Engineering (ICEEE), İstanbul, Türkiye, 16 - 17 Nisan 2019, ss.220-224
- XXXII. **Hysteretic Buck-Boost Converter for Wearable Applications**  
Ozanoğlu K., Cavallini P., YELTEN M. B., DÜNDAR G.
- 2019 15th Conference on Ph.D Research in Microelectronics and Electronics (PRIME), Lausanne, Switzerland, İsviçre, 15 - 18 Temmuz 2019, ss.45-48
- XXXIII. **Elyaf Bazlı Elektronik Tekstilde Veri Aktarımı**  
Bayat İ. H., İLİK S., GÜRARSLAN A., YELTEN M. B.
- Elektrik-Elektronik ve Biyomedikal Mühendisliği Konferansı (ELECO 2018), Bursa, Türkiye, 30 Kasım - 01 Aralık 2018
- XXXIV. **Design of a LC Voltage-Controlled Oscillator for Space Applications in C-Band**  
Uzun Y., Kabaoglu A., Yelten M. B.
- 11th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Türkiye, 28 - 30 Kasım 2019, ss.388-391
- XXXV. **Yüksek Verimli Geniş Bant J Sınıfı Güç Kuvvetlendiricisi Tasarımı**  
Çağdaş E., Kızılbey O., YAZGI M., PALAMUTÇUOĞULLARI O., YELTEN M. B.
- ELECO 2018, Elektrik-Elektronik ve Biyomedikal Mühendisliği Konferansı, Bursa, Türkiye, 30 Kasım - 01 Aralık 2018
- XXXVI. **Impact of transistor scaling on the time-dependent dielectric breakdown (TDDB) reliability of analog circuits**  
SANIÇ M. T., YELTEN M. B.
- 2017 10th International Conference on Electrical and Electronics Engineering (ELECO), 30 Kasım 2017 - 02 Aralık 2018
- XXXVII. **Elyaf Bazlı Elektronik Tekstillerde Veri Aktarımı**  
BAYAT H. İ., İLİK S., GÜRARSLAN A., YELTEN M. B.
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- XXXVIII. **Yüksek Verimli Geniş Bant J Sınıfı Güç Kuvvetlendirici Tasarımı**  
ÇAĞDAŞ E., KIZILBEY O., YAZGI M., PALAMUTÇUOĞULLARI O., YELTEN M. B.  
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- XXXIX. **A High Speed 180 NM CMOS Cryogenic SAR ADC**  
SUNA A., ÇEVİK İ., YELTEN M. B.  
2018 18th Mediterranean Microwave Symposium (MMS), İstanbul, Türkiye, 31 Ekim - 02 Kasım 2018
- XL. **Cryogenic Measurement of Low Threshold Voltage MOSFETs**  
YELTEN M. B.  
International Congress on Semiconductor Material and Devices, Ardahan, Türkiye, 28 - 30 Ağustos 2018
- XLI. **A Novel Multiple Membership Function Generator for Fuzzy Logic Systems**  
KHAYATZADEH R., Yelten M. B.  
15th International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design, SMACD 2018, Prague, Çek Cumhuriyeti, 2 - 05 Temmuz 2018, ss.101-104
- XLII. **Design of Logic Gates by Using a Four-Gate Thin Film Transistor (FG TFT)**  
İlik S., GENCER F. B., Yelten M. B.  
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- XLIII. **A rare event based yield estimation methodology for analog circuits**  
ODABAŞI I. Ç., Yelten M. B., AFACAN E., Baskaya F., Pusane A. E., Dündar G.  
21st IEEE International Symposium on Design and Diagnostics of Electronic Circuits and Systems, DDECS 2018, Budapest, Macaristan, 25 - 27 Nisan 2018, ss.33-38
- XLIV. **A test-bed based guideline for multi-source energy harvesting**  
DAVUT E., KAZANCI O., ÇAĞLAR A., ALTINEL D., YELTEN M. B., KARABULUT KURT G. Z.  
2017 10th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Türkiye, 30 Kasım - 02 Aralık 2017, ss.1-4
- XLV. **A 0.18 mu m CMOS X-BAND Low Noise Amplifier for Space Applications**  
Sahin N., Yelten M. B.  
1st New Generation of CAS Conference (NGCAS ), Genoa, İtalya, 6 - 09 Eylül 2017, ss.205-208
- XLVI. **A high linearity LNA using 180 nm CMOS technology for S-Band**  
Çağlar A., Berke Yelten M. B.  
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- XLVII. **Reliability of 3D-printed dynamic scanners**  
GÖNÜLTAŞ B. M., AYGÜN S., KHAYATZADEH R., Çivitci F., Gökdel Y. D., Yelten M. B., Ferhanoğlu O.  
22nd IEEE International Mixed-Signals Test Workshop, IMSTW 2017, Thessaloniki, Yunanistan, 3 - 05 Temmuz 2017
- XLVIII. **A cryogenic modeling methodology of MOSFET I-V characteristics in BSIM3**  
KABAOĞLU A., Berke Yelten M. B.  
14th International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design, SMACD 2017, Giardini Naxos, Taormina, İtalya, 12 - 15 Haziran 2017
- XLIX. **Review: Analog design methodologies for reliability in nanoscale CMOS circuits**  
Afacan E., Berke Yelten M. B., Dundar G.  
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- L. **A Heuristic Sensitivity Analysis Technique for High-Dimensional Systems**  
Yelten M. B.  
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- LI. **A variability analysis algorithm for spiral inductors using enhanced single- $\pi$  model**  
SOYSAL I. B., AKSO E., YELTEN M. B.  
2016 National Conference on Electrical, Electronics and Biomedical Engineering (ELECO), Bursa, Türkiye, 1 - 03 Aralık 2016

- LII. **A Variability Analysis Algorithm for Spiral Inductors Using Enhanced Single- $\pi$  Model**  
Soysa I. B., Akso E., Yelten M. B.  
National Conference on Electrical, Electronics and Biomedical Engineering (ELECO), Bursa, Türkiye, 1 - 03 Aralık 2016, ss.442-446
- LIII. **Efficient signature selection tool for sense & react systems**  
Afacan E., Dündar G., Pusane A. E., Başkaya F., Yelten M. B.  
13th International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design, SMACD 2016, Lisbon, Portekiz, 27 - 30 Haziran 2016
- LIV. **Scalable and Efficient Analog Parametric Fault Identification**  
Yelten M. B., NATARAJAN S., XUE B., GOTETİ P.  
32nd IEEE/ACM International Conference on Computer-Aided Design (ICCAD), San-Jose, Kostarika, 18 - 21 Kasım 2013, ss.387-392
- LV. **Variation-Aware Circuit Macromodeling and Design Based on Surrogate Models**  
Zhu T., Yelten M. B., Steer M. B., Franzon P. D.  
1st International Conference on Simulation and Modeling Methodologies, Technologies and Applications (SIMULTECH 2011), Noordwijkerhout, Hollanda, 29 - 31 Temmuz 2011, cilt.197, ss.255-269
- LVI. **Process Mismatch Analysis based on Reduced-Order Models**  
Yelten M. B., Franzon P. D., Steer M. B.  
13th International Symposium on Quality Electronic Design (ISQED), Santa-Clara, Küba, 19 - 21 Mart 2012, ss.648-655
- LVII. **APPLICATION OF SURROGATE MODELING IN VARIATION-AWARE MACROMODEL AND CIRCUIT DESIGN**  
Zhu T., Yelten M. B., Steer M. B., Franzon P. D.  
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- LVIII. **Theoretical Analysis and Characterization of the Tunable Matching Networks in Low Noise Amplifiers**  
Yelten M. B., Gard K. G.  
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- LIX. **A novel design procedure for tunable low noise amplifiers**  
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## **Desteklenen Projeler**

Yelten M. B., Güngördü A. D., Baltacı M. A., Yükseköğretim Kurumları Destekli Proje, Uzun ve Kısa Kanal CMOS Teknolojilerinde Plastik Optik Fiber ve Görünür Işık Haberleşmesi İçin Düşük-Güç Düşük-Gürültüye Sahip Tümüleşik Optik Algılayıcı ve Alıcı Devre Tasarımı, 2022 - Devam Ediyor

Yelten M. B., Aslan A. R., Karabulut Kurt G. Z., TÜBİTAK Projesi, Kriyojenik Haberleşme Elektronikleri İçin Önce-Karıştırıcı Türü Bir Alıcının Tasarlanması Ve Gerçekleştirilmesi , 2021 - 2024

Ferhanoglu O., Yelten M. B., Özdemir Ö., TÜBİTAK Projesi, Lazer Taramalı Kablosuz Kapsül Endoskopi Cihazının Geliştirilmesi , 2020 - 2023

Karaçuha E., Akıncı M. N., Karaçuha K., Yelten M. B., Temeltaş H., Acar M. H., GÖSE E., ŞAHİNTÜRK H., Şeker Ş. S., Yılmaz Abdolsaheb T., TÜBİTAK Projesi, SAVA120, 2020 - 2022

Yelten M. B., YAVUZ Y., ÇAKMAK C., KARADEMİR J., PEKER E., KORKMAZ F. S., Yükseköğretim Kurumları Destekli Proje, Experimental Determination of Gate-Oxide Breakdown of CMOS Transistors at Cryogenic Temperatures, 2020 - 2022

Yelten M. B., Zayim E., DÜNDAR G., Hacıyakupoğlu S., TÜBİTAK Projesi, Nesnelerin İnterneti, Savunma ve Yenilikçi Hesaplama Yöntemlerindeki Analog Devre Uygulamaları için 40 nm Transistör Teknolojisinin Zamana Bağlı Yıpranma, Kriyojenik Ortam ve Işınım Etkilerine Yönelik Ölçeklendirilebilir Modellemesi, 2018 - 2022

Akgül T., Ferhanoğlu O., Yelten M. B., Yükseköğretim Kurumları Destekli Proje, Yüksek Hızlı Kamera Görüntülerinin Elde Edilmesi ve Analizi, 2018 - 2022

Yelten M. B., Rivera A., AB Destekli Diğer Projeler, CA17126 - Towards understanding and modelling intense electronic excitation, 2018 - 2022

Yelten M. B., Karabulut Kurt G. Z., Güngördü A. D., Yükseköğretim Kurumları Destekli Proje, Kablosuz Enerji Hasatlaması İçin Tümüleşik Devre Çözümleri, 2018 - 2021

Yelten M. B., Ferhanoğlu O., TÜBİTAK Projesi, Lazer Taramalı Endoskoplara Yönelik Hibrit Uyarma Mekanizmalı ve Yekpare 3-Boyutlu Tarayıcı Sistemi, 2018 - 2020

Yelten M. B., Dabak S., TÜBİTAK Projesi, 320x240 Piksel RGB AMOLED Aviyonik Ekran Geliştirilmesi, 2015 - 2020

Yelten M. B., İlik S., Yükseköğretim Kurumları Destekli Proje, Metal-Oksit-Yarıiletken-Alan-Etkili-Transistörlerinde Işınım Etkilerinin İncelenmesi ve Modellenmesi, 2017 - 2019

Yelten M. B., Aslan A. R., Hacıyakupoğlu S., TÜBİTAK Projesi, Uzay Araştırmaları İçin Analog Ve Radyo Frekansı Metal Oksit Yarıiletken Alan Etkili Transistör Mosfet Modellemesi Ve Tümüleşik Devre Tasarımı, 2016 - 2019

Yelten M. B., Yükseköğretim Kurumları Destekli Proje, Yonga Üstü Tümüleşik İndükleçlerin Modellenmesi, 2016 - 2018

Yelten M. B., Yükseköğretim Kurumları Destekli Proje, Metal-Oksit-Yarıiletken-Alan-Etkili-Transistörlerinde (MOSFET'lerde) Kriyojenik Sıcaklık, Işınım, Zamana Bağlı Yıpranma ve Proses Değişkenliği Etkilerinin Kapsamlı Modellenmesi, 2016 - 2017

Yelten M. B., TÜBİTAK Projesi, Çok Boyutlu Sistemler İçin Çevrimiçi Öğrenmeye Dayalı Hassasiyet Analizi, 2016 - 2017

## **Bilimsel Dergilerdeki Faaliyetler**

IEEE Transactions On Device And Materials Reliability, Editör, 2021 - Devam Ediyor

## **Bilimsel Kuruluşlardaki Üyelikler / Görevler**

TÜBİTAK ARDEB EEEAG, Danışma Kurulu Üyesi, 2022 - Devam Ediyor , Türkiye

## **Metrikler**

Yayın: 99

Atıf (WoS): 222

Atıf (Scopus): 460

H-İndeks (WoS): 7

H-İndeks (Scopus): 10

## **Kongre ve Sempozyum Katılımı Faaliyetleri**

ELECO 2019, Moderatör, Bursa, Türkiye, 2019

SMACD 2019, Moderatör, Lausanne, İsviçre, 2019

ICEEE 2019, Çalışma Grubu, İstanbul, Türkiye, 2019

ELECO 2018, Çalışma Grubu, Bursa, Türkiye, 2018

MMS 2018, Moderatör, İstanbul, Türkiye, 2018

SMACD 2018, Katılımcı, Praha, Çek Cumhuriyeti, 2018

DDECS 2018, Katılımcı, Budapest, Macaristan, 2018

ELECO 2017, Katılımcı, Bursa, Türkiye, 2017

ICSMD 2018, Katılımcı, Ardahan, Türkiye, 2017

SMACD 2017, Katılımcı, Catania, İtalya, 2017

ELECO 2016, Katılımcı, Bursa, Türkiye, 2016

ICECS 2016, Katılımcı, Monte Carlo, Monako, 2016

## **Akademi Dışı Deneyim**

Ticari Kuruluş (özel), Intel Corporation

Intel Corporation (Hillsboro, Oregon, ABD)

North Carolina State University

North Carolina State University