

## Dr.Öğr.Üyesi Onur Ergen

### Kişisel Bilgiler

E-posta: oergen@itu.edu.tr

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

### Araştırma Alanları

Sağlık Bilimleri, Temel Bilimler, Mühendislik ve Teknoloji

### Akademik Unvanlar / Görevler

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

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

- I. **Robust atrial fibrillation monitoring utilizing graphene aerogel-based nano-tattoo**  
Ergen O.  
Materials Letters, cilt.291, 2021 (SCI İndekslerine Giren Dergi)
- II. **Artificial intelligence-based identification of butter variations as a model study for detecting food adulteration**  
Iymen G., Tanriver G., Hayirlioglu Y. Z. , Ergen O.  
INNOVATIVE FOOD SCIENCE & EMERGING TECHNOLOGIES, cilt.66, 2020 (SCI İndekslerine Giren Dergi)
- III. **Real time chemical and mechanical human motion monitoring with aerogel-based wearable sensors**  
Ergen O., Celik E., Unal A. H. , Erdolu M. Y. , Sarac F. E. , Unal U.  
LAB ON A CHIP, cilt.20, sa.15, ss.2689-2695, 2020 (SCI İndekslerine Giren Dergi)
- IV. **Screen Engineered Field Effect Cu & x2082;O Based Solar Cells**  
Ergen O., Celik E., Unal A. H. , Erdolu M. Y.  
IEEE ELECTRON DEVICE LETTERS, cilt.41, sa.7, ss.1138-1140, 2020 (SCI İndekslerine Giren Dergi)
- V. **Hexagonal boron nitride incorporation to achieve high performance Li4Ti5O12 electrodes**  
Ergen O.  
AIP ADVANCES, cilt.10, sa.4, 2020 (SCI İndekslerine Giren Dergi)
- VI. **Effective capacity and outage probability assessment of multiple-relay cognitive communication systems in Nakagami-m and Rayleigh fading channel**  
Zahedi A., Ergen M., Ergen O., Shayea I., El-Saleh A. A.  
TRANSACTIONS ON EMERGING TELECOMMUNICATIONS TECHNOLOGIES, cilt.31, sa.4, 2020 (SCI İndekslerine Giren Dergi)
- VII. **Edge on Wheels With OMNIBUS Networking for 6G Technology**  
Ergen M., Inan F., Ergen O., Shayea I., Tuysuz M. F. , Azizan A., Üre N. K. , Nekovee M.  
IEEE ACCESS, cilt.8, ss.215928-215942, 2020 (SCI İndekslerine Giren Dergi)
- VIII. **Ai Driven Advanced Internet Of Things (Iotx(2)): The Future Seems Irreversibly Connected in Medicine**  
Ergen O., Belcastro K. D.  
ANATOLIAN JOURNAL OF CARDIOLOGY, cilt.22, ss.15-17, 2019 (SCI İndekslerine Giren Dergi)

- IX. Hexagonal boron nitride as a cationic diffusion barrier to form a graded band gap perovskite heterostructure**  
Ergen O., Gilbert S. M., Turner S. J., Zettl A.  
PHYSICA STATUS SOLIDI B-BASIC SOLID STATE PHYSICS, cilt.253, sa.12, ss.2478-2480, 2016 (SCI İndekslerine Giren Dergi)
- X. Metal insulator semiconductor solar cell devices based on a Cu<sub>2</sub>O substrate utilizing h-BN as an insulating and passivating layer**  
Ergen O., Gibb A., Vazquez-Mena O., Regan W. R., Zettl A.  
APPLIED PHYSICS LETTERS, cilt.106, sa.10, 2015 (SCI İndekslerine Giren Dergi)
- XI. Performance Enhancement of a Graphene-Zinc Phosphide Solar Cell Using the Electric Field-Effect**  
Vazquez-Mena O., Bosco J. P., Ergen O., Rasool H. I., Fathalizadeh A., Tosun M., Crommie M., Javey A., Atwater H. A., Zettl A.  
NANO LETTERS, cilt.14, sa.8, ss.4280-4285, 2014 (SCI İndekslerine Giren Dergi)
- XII. Screening-Engineered Field-Effect Solar Cells**  
Regan W., Byrnes S., Gannett W., Ergen O., Vazquez-Mena O., Wang F., Zettl A.  
NANO LETTERS, cilt.12, sa.8, ss.4300-4304, 2012 (SCI İndekslerine Giren Dergi)
- XIII. Molecular monolayers for conformal, nanoscale doping of InP nanopillar photovoltaics**  
Cho K., Ruebusch D. J., Lee M. H., Moon J. H., Ford A. C., Kapadia R., Takei K., Ergen O., Javey A.  
APPLIED PHYSICS LETTERS, cilt.98, sa.20, 2011 (SCI İndekslerine Giren Dergi)
- XIV. Shape-Controlled Synthesis of Single-Crystalline Nanopillar Arrays by Template-Assisted Vapor-Liquid-Solid Process**  
Ergen O., Ruebusch D. J., Fang H., Rathore A. A., Kapadia R., Fan Z., Takei K., Jamshidi A., Wu M., Javey A.  
JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, cilt.132, sa.40, ss.13972-13974, 2010 (SCI İndekslerine Giren Dergi)
- XV. Challenges and Prospects of Nanopillar-Based Solar Cells**  
Fan Z., Ruebusch D. J., Rathore A. A., Kapadia R., Ergen O., Leu P. W., Javey A.  
NANO RESEARCH, cilt.2, sa.11, ss.829-843, 2009 (SCI İndekslerine Giren Dergi)
- XVI. Three-dimensional nanopillar-array photovoltaics on low-cost and flexible substrates**  
Fan Z., Razavi H., Do J., Moriwaki A., Ergen O., Chueh Y., Leu P. W., Ho J. C., Takahashi T., Reichertz L. A., et al.  
NATURE MATERIALS, cilt.8, sa.8, ss.648-653, 2009 (SCI İndekslerine Giren Dergi)
- XVII. Nanoscale doping of InAs via sulfur monolayers**  
Ho J. C., Ford A. C., Chueh Y., Leu P. W., Ergen O., Takei K., Smith G., Majhi P., Bennett J., Javey A.  
APPLIED PHYSICS LETTERS, cilt.95, sa.7, 2009 (SCI İndekslerine Giren Dergi)
- XVIII. Synthesis, Contact Printing, and Device Characterization of Ni-Catalyzed, Crystalline InAs Nanowires**  
Ford A. C., Ho J. C., Fan Z., Ergen O., Altoe V., Aloni S., Razavi H., Javey A.  
NANO RESEARCH, cilt.1, sa.1, ss.32-39, 2008 (SCI İndekslerine Giren Dergi)

## **Diğer Dergilerde Yayınlanan Makaleler**

- I. Graphene Aerogel Based Nanogenerators for Health Monitoring**  
ERGEN O.  
European Journal of Science and Technology, sa.21, ss.665-668, 2021 (Diğer Kurumların Hakemli Dergileri)
- II. Selected Applications of Generative Adversarial Networks: Mini Review**  
İYMEN G., TANRIVER G., ERGEN O.  
COJ Robotics Artificial Intelligence, cilt.1, sa.2, 2020 (Diğer Kurumların Hakemli Dergileri)

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

- I. ZnO Nanowire Embedded Graphene Aerogel Nanogenerators**

- ERGEN O.  
USBIK 2021 Online Uluslararası Fen Bilimleri Kongresi, 26 Şubat 2021
- II. **Cost Effective Grid Edge Management Utilizing Wireless Information**  
ERGEN O.  
1. Uluslararası Mühendislik Bilimleri ve Multidisipliner Yaklaşımlar Kongresi, 23 - 24 Şubat 2021
- III. **A novel direct and cost-effective growth of III—V semiconductors on 2D layered materials**  
ERGEN O.  
XXXII International Winterschool on Electronic Properties of Novel Materials, 17 - 24 Mart 2018
- IV. **High Current, High Efficiency Graded Band Gap Perovskite Solar Cells**  
ERGEN O., GILBERT S. M., THOAM PHAM T., TURNER S. J., TAN M. T., WORSLEY M. A., ZETTL A.  
2016 MRS FALL MEETING & EXHIBIT, 27 Kasım - 02 Aralık 2016
- V. **Li-air, rechargeable, solid-state batteries using graphene and boron nitride aerogel matrices.1**  
ERGEN O., THOAM PHAM T., DEMAIO-TURNER S., ZETTL A.  
MAR16 Meeting of The American Physical Society, 14 - 18 Mart 2016
- VI. **High efficiency graded band gap perovskite solar cells**  
ERGEN O., DEMAIO-TURNER S., THOAM PHAM T., TAN M. T. Z., YUK J., ZETTL A.  
XXX International Winterschool on Electronic Properties of Novel Materials, 13 - 20 Şubat 2016
- VII. **MIS Solar Cell Devices Based on a Cu<sub>2</sub>O Substrate Utilizing h-BN as an Insulating and Passivating Layer**  
ERGEN O., GIBB A., VAZQUEZ-MENA O., REGAN W., ZETTL A.  
APS March Meeting 2015, 2 - 06 Mart 2015
- VIII. **Enhanced Photovoltaic Performance by Using 2D Layer Materials**  
ERGEN O.  
Center of Integrated Nano-mechanical Systems, University of California, Berkeley, CA, 01 Ocak 2014
- IX. **A Novel Architecture for Photovoltaic Devices: Field-effect Solar Cells Using Screening-engineered Nanoelectrodes for Silicon and Earth Abundant Cuprous Oxide**  
Vazquez-Mena O., Regan W., Byrnes S., Ergen O., Gannett W., Wang F., Zettl A.  
39th IEEE Photovoltaic Specialists Conference (PVSC), Tama, Japonya, 16 - 21 Haziran 2013, ss.3284-3286
- X. **A Novel Architecture for Photovoltaic Devices: Field-effect Solar Cells Using Screening-engineered Nanoelectrodes for Silicon and Earth Abundant Cuprous Oxide**  
Vazquez-Mena O., Regan W., Byrnes S., Ergen O., Gannett W., Wang F., Zettl A.  
39th IEEE Photovoltaic Specialists Conference (PVSC), Tama, Japonya, 16 - 21 Haziran 2013, ss.83-86
- XI. **PV Technology Overview and Current Innovations**  
ERGEN O.  
Center of Integrated Nano-mechanical Systems, University of California, Berkeley, CA., 01 Ocak 2012
- XII. **Micro-crystal Based Screen Field Engineering Field-effect Solar Cells**  
ERGEN O.  
PV idea Lab, University of California, Berkeley, CA., 01 Ocak 2011
- XIII. **Shape-Controlled Synthesis of Single-Crystalline Nanopillar Arrays by Template-Assisted Vapor Liquid Solid Process**  
ERGEN O.  
PV Idea Lab, University of California, Berkeley, CA., 01 Ocak 2009

## Desteklenen Projeler

Ergen O., UFUK 2020 Projesi, Smart-WiFi, 2020 - 2022

Ergen O., TÜBİTAK Projesi, Organik Ve inorganik Tabanlı Boşluk Taşıyıcı Malzemeler Yardımıyla Yüksek Kararlılığa Sahip Perovskit Hücrelerinin Geliştirilmesi, 2018 - 2021

Ergen O., TÜBİTAK Projesi, Yazılım odaklı ağ yapılarıyla (SDN) kablosuz internet (Wi-Fi) erişiminde verimlilik artışı sağlayan algoritma (SON) ve ürün tasarımı, 2017 - 2020

## Patent

Ergen O., Method and System for Providing Silica Networked Hybrid, Gel Polymer, Hexagonal Boron Nitride (h-BN) Electrolyte for Use with Liquid Organic Electrolyte Structures, Patent, BÖLÜM G Fizik, Buluşun Başvuru Numarası: 63147780 , Standart Tescil, 2021

Ergen O., Method and System for Forming an Electrolyte Separator Using a Silica Network Incorporated with Hexagonal Boron Nitride, Patent, BÖLÜM G Fizik, Buluşun Başvuru Numarası: 63147778 , Standart Tescil, 2021

Ergen O., Method and System for Application of Protective Boundary on Capacitor Walls to Prevent Loss of Hydrogen at High Temperatures and/or High Voltages in Electrical Storage Devices, Patent, BÖLÜM G Fizik, Buluşun Başvuru Numarası: 63147781 , Standart Tescil, 2021

Ergen O., Method and System for Hexagonal Boron Nitride Incorporation to Achieve High-Performance Lithium-Based Electrodes, Patent, BÖLÜM G Fizik, Buluşun Başvuru Numarası: 63147776 , Standart Tescil, 2021

Ergen O., Method and System for Forming an Electrolyte Separator with Additive Boron Nitride Structures, Using Acid-Stable Plasticizer, Patent, BÖLÜM G Fizik, Buluşun Başvuru Numarası: 63147779 , Standart Tescil, 2021

Ergen O., High temperature Li-ion battery cells utilizing boron nitride aerogels and boron nitride nanotubes, Patent, BÖLÜM G Fizik, Buluşun Tescil No: 10686227 , Standart Tescil, 2020

Ergen O., Artificial Intelligence-Based Food Fraud/Adulteration Identification Utilizing Simple Sound Vibrations, Patent, BÖLÜM G Fizik, Buluşun Başvuru Numarası: 63090231 , Standart Tescil, 2020

Ergen O., Method and System for Contact Tracing Using a Software Development Kit (SDK) Integrated into Client Devices, Patent, BÖLÜM G Fizik, Buluşun Başvuru Numarası: 16900484 , Standart Tescil, 2020

Ergen O., Method and System for Sharing Wi-Fi in a Wi-Fi Network Using a Cloud Platform, Patent, BÖLÜM G Fizik, Buluşun Başvuru Numarası: 16900525 , Standart Tescil, 2020

Ergen O., Graded Band Gap Perovskite Solar Cells, Patent, BÖLÜM G Fizik, Buluşun Tescil No: 10403708 , Standart Tescil, 2019

## Atıflar

Toplam Atıf Sayısı (WOS):1312

h-indeksi (WOS):9