

Assoc. Prof. Tuğba ÖZER

Personal Information

Email: tozer@yildiz.edu.tr

Web: <https://avesis.yildiz.edu.tr/tozer>

International Researcher IDs

ORCID: 0000-0002-5928-9940

Publons / Web Of Science ResearcherID: AAZ-4587-2020

ScopusID: 55908284400

Yoksis Researcher ID: 194191

Education Information

Doctorate, Yildiz Technical University, Biyomühendislik, Biyomühendislik, Turkey 2013 - 2018

Postgraduate, Marmara University, Biyomühendislik, Biyomühendislik, Turkey 2011 - 2013

Associate Degree, Anadolu University, Dış Ticaret, Turkey 2008 - 2010

Undergraduate, Marmara University, Faculty Of Engineering, Kimya Mühendisliği, Turkey 2006 - 2010

Dissertations

Doctorate, Fe(II) ve Fe(III)-seçici potansiyometrik sensörler geliştirilmesi ve uygulamaları, Yildiz Technical University, Graduate School of Natural and Applied Sciences, 2018

Postgraduate, Bioinformatics Based Metabolic Network Reconstruction of Levan Producing Halomonas smyrnensis AAD6, Marmara Üniversitesi, Biyomühendislik, Biyomühendislik, 2013

Research Areas

Life Sciences, Chemistry, Analytical Chemistry, Sensors, Natural Sciences

Academic Titles / Tasks

Assistant Professor, Yildiz Technical University, Faculty Of Chemical And Metallurgical Engineering, Department Of Bioengineering, 2022 - Continues

Research Assistant PhD, Yildiz Technical University, Faculty Of Chemical And Metallurgical Engineering, Department Of Bioengineering, 2018 - 2021

Research Assistant, Yildiz Technical University, Faculty Of Chemical And Metallurgical Engineering, Department Of Bioengineering, 2013 - 2018

Academic and Administrative Experience

Courses

Undergraduate

Ayrırma işlemleri Laboratuvarı 1, Undergraduate, 2016 - 2017

Ayrırma İşlemleri Laboratuvarı 2, Undergraduate, 2016 - 2017

Biyomühendislik Laboratuvarı İngilizce, Undergraduate, 2016 - 2017

Ayrırma İşlemleri Laboratuvarı İngilizce, Undergraduate, 2016 - 2017

Biyomühendislik Laboratuvarı 2, Undergraduate, 2016 - 2017

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Label-free electrochemical aptasensor based on cellulose nanocrystal-modified paper-based device for Salmonella Typhimurium detection in food samples**
Jampasa S., Sangthong N., ÖZER T., Panphut W., Naorungroj S., Ngamrojanavanich N., Kaneta T., Chailapakul O., Wonsawat W.
Microchemical Journal, vol.211, 2025 (SCI-Expanded)
- II. **Recent advances and trends in the applications of nanomaterials in optical sensing platforms**
Jampasa S., Khamcharoen W., Wirojsaengthong S., Suea-Ngam A., Traipop S., ÖZER T., Unob F., Puthongkham P., Chailapakul O.
TrAC - Trends in Analytical Chemistry, vol.180, 2024 (SCI-Expanded)
- III. **Peptide nucleic acid probe-assisted paper-based electrochemical biosensor for multiplexed detection of respiratory viruses**
Lomae A., Teekayupak K., Preechakasedkit P., Pasomsub E., ÖZER T., Henry C. S., Citterio D., Vilaivan T., Chailapakul O., Ruecha N.
Talanta, vol.279, 2024 (SCI-Expanded)
- IV. **A smartphone-based sensor for detection of iron and potassium in food and beverage samples**
Kul S. M., Chailapakul O., SAĞDIÇ O., ÖZER T.
Food Chemistry, vol.456, 2024 (SCI-Expanded)
- V. **Optical biosensors for diagnosis of COVID-19: nanomaterial-enabled particle strategies for post pandemic era**
Tekin Y. S., Kul S. M., SAĞDIÇ O., Rodthongkum N., Geiss B., ÖZER T.
Microchimica Acta, vol.191, no.6, 2024 (SCI-Expanded)
- VI. **Water monitoring with an automated smart sensor supported with solar power for real-time and long range detection of ferrous iron**
ÖZER T., Agir I., Borch T.
Analyst, vol.149, no.9, pp.2671-2679, 2024 (SCI-Expanded)
- VII. **EDITORIAL: Biosensors in Diagnostics and Medicinal Applications Part (II)**
ÖZER T.
Current Topics in Medicinal Chemistry, vol.24, no.11, 2024 (SCI-Expanded)
- VIII. **Recent Trends in Nanomaterial Based Electrochemical Sensors for Drug Detection: Considering Green Assessment**
ÖZER T., Henry C. S.
Current Topics in Medicinal Chemistry, vol.24, no.11, pp.952-972, 2024 (SCI-Expanded)
- IX. **Recent advances on nanomaterial-modified film-electrode-based sensors: Approach to clinical purpose**
Jampasa S., Khamcharoen W., Traipop S., Jesadabundit W., ÖZER T., Chailapakul O.
Current Opinion in Electrochemistry, vol.42, 2023 (SCI-Expanded)
- X. **Large-scale fabrication of ion-selective electrodes for simultaneous detection of Na⁺, K⁺, and Ca²⁺ in biofluids using a smartphone-based potentiometric sensing platform**
Teekayupak K., Lomae A., Agir I., Chuaypen N., Dissayabutra T., Henry C. S., Chailapakul O., Ozer T., Ruecha N.
Microchimica Acta, vol.190, no.6, 2023 (SCI-Expanded)
- XI. **Label free electrochemical DNA biosensor for COVID-19 diagnosis**

Lomae A, Preechakasedkit P, Hanpanich O, ÖZER T, Henry C. S., Maruyama A, Pasomsub E, Phuphuakrat A, Rengpipat S, Vilaivan T, et al.
Talanta, vol.253, 2023 (SCI-Expanded)

- XII. **Recent Advances of Optical Biosensors in Veterinary Medicine: Moving Towards the Point of Care Applications**
Amin N., Almasi A., ÖZER T., Henry C. S., Hosseinzadeh L., Keshavarzi Z.
Current topics in medicinal chemistry, vol.23, no.23, pp.2242-2265, 2023 (SCI-Expanded)
- XIII. **Dual-mode ion-selective electrodes and distance-based microfluidic device for detection of multiple urinary electrolytes**
Phoonsawat K., ÖZER T., Dungchai W., Henry C. S.
ANALYST, vol.147, no.20, pp.4517-4524, 2022 (SCI-Expanded)
- XIV. **Carbon composite thermoplastic electrodes integrated with mini-printed circuit board for wireless detection of calcium ions**
ÖZER T.
ANALYTICAL SCIENCES, vol.38, no.9, pp.1233-1243, 2022 (SCI-Expanded)
- XV. **A smartphone-assisted hybrid sensor for simultaneous potentiometric and distance-based detection of electrolytes**
Phoonsawat K., AĞIR İ., Dungchai W., Ozer T., Henry C. S.
ANALYTICA CHIMICA ACTA, vol.1226, 2022 (SCI-Expanded)
- XVI. **Rapid prototyping of ion-selective electrodes using a low-cost 3D printed internet-of-things (IoT) controlled robot**
ÖZER T., Agir I., Henry C. S.
Talanta, vol.247, 2022 (SCI-Expanded)
- XVII. **Low-cost Internet of Things (IoT)-enabled a wireless wearable device for detecting potassium ions at the point of care**
ÖZER T., AĞIR İ., Henry S. C.
SENSORS AND ACTUATORS B-CHEMICAL, vol.365, 2022 (SCI-Expanded)
- XVIII. **Monitoring microalgal growth of *Chlorella minutissima* with a new all solid-state contact nitrate selective sensor**
Balkanli N. E., Işıldak İ., İnan B., Özer T., Özçimen D.
BIOTECHNOLOGY PROGRESS, vol.38, no.3, 2022 (SCI-Expanded)
- XIX. **Microfluidic-based ion-selective thermoplastic electrode array for point-of-care detection of potassium and sodium ions**
ÖZER T., Henry C. S.
MICROCHIMICA ACTA, vol.189, no.4, 2022 (SCI-Expanded)
- XX. **All-solid-state potassium-selective sensor based on carbon black modified thermoplastic electrode**
Özer T., Henry C. S.
ELECTROCHIMICA ACTA, no.404, pp.139762-139772, 2022 (SCI-Expanded)
- XXI. **Synthesis and Grafting of Diazonium Tosylates for Thermoplastic Electrode Immunosensors**
Mccord C., Özer T., Henry C. S.
Analytical Methods, no.1, pp.1-15, 2021 (SCI-Expanded)
- XXII. **Paper-Based Analytical Devices for Virus Detection: Recent Strategies for Current and Future Pandemics**
Özer T., Henry C. S.
Trac-Trends In Analytical Chemistry, no.116424, pp.1-18, 2021 (SCI-Expanded)
- XXIII. **Microfluidic Paper-Based Analytical Devices: from Design to Applications**
Noviana E., Özer T., Carrell C. S., Link J. S., McMahan C., Jang I., Henry C. S.
Chemical Reviews, vol.1, pp.1-55, 2021 (SCI-Expanded)
- XXIV. **Emerging Point-of-Care Biosensors for Rapid Diagnosis of COVID-19: Current Progress, Challenges and Future Prospects**
Rasmi Y., Li ., Khan J., Özer T., Choi J. R.

- Analytical And Bioanalytical Chemistry, vol.1, pp.1-20, 2021 (SCI-Expanded)
- XXV. **Review-Recent Advances in Sensor Arrays for the Simultaneous Electrochemical Detection of Multiple Analytes**
Ozer T., Henry C. S.
JOURNAL OF THE ELECTROCHEMICAL SOCIETY, vol.168, no.5, 2021 (SCI-Expanded)
- XXVI. **Thermoplastic Electrodes for Detection of Escherichia coli**
Özer T., Mccord C., Geiss B., Dandy D., Henry C. S.
Journal Of The Electrochemical Society, vol.168, no.4, pp.47509-47519, 2021 (SCI-Expanded)
- XXVII. **Advances in Paper-Based Analytical Devices**
Özer T., McMahan C., Henry C. S.
Annual Review Of Analytical Chemistry, vol.13, pp.1, 2020 (SCI-Expanded)
- XXVIII. **Electrochemiluminescence methods using CdS quantum dots in aptamer-based thrombin biosensors: a comparative study**
IŞILDAK İ., Navaeipour F., Afsharan H., Kanberoglu G. S., AĞIR İ., ÖZER T., Annabi N., Totu E. E., Khalilzadeh B.
MICROCHIMICA ACTA, vol.187, no.1, 2020 (SCI-Expanded)
- XXIX. **Review-Chemical and Biological Sensors for Viral Detection**
Özer T., Geiss B. J., Henry C. S.
JOURNAL OF THE ELECTROCHEMICAL SOCIETY, vol.167, no.3, 2019 (SCI-Expanded)
- XXX. **A New Fe (III)-Selective Membrane Electrode Based on Fe (II) Phthalocyanine**
Özer T., Işıldak İ.
JOURNAL OF ELECTROCHEMICAL SCIENCE AND TECHNOLOGY, vol.10, pp.321-328, 2019 (SCI-Expanded)
- XXXI. **Potentiometric Studies of a New Solid-state Contact Iron(III)-Selective Electrode Based on Morin-Fe²⁺ Schiff Base Complex.**
Özer T., Işıldak İ.
INTERNATIONAL JOURNAL OF ELECTROCHEMICAL SCIENCE, vol.13, pp.11375-11387, 2018 (SCI-Expanded)
- XXXII. **The genome-based metabolic systems engineering to boost levan production in a halophilic bacterial model**
Özer T., Aydın B., Toksoy Öner E., Arğa K. Y.
OmicS-A Journal Of Integrative Biology, vol.22, no.3, pp.198-209, 2018 (SCI-Expanded)
- XXXIII. **Genomic analysis reveals the biotechnological and industrial potential of levan producing halophilic extremophile, Halomonas smyrnensis AAD6T**
Diken E., Ozer T., Arikani M., Emrence Z., Oner E. T., Ustek D., Arğa K. Y.
SPRINGERPLUS, vol.4, 2015 (SCI-Expanded)
- XXXIV. **Metabolic network reconstruction and modelling of nitrogen fixation in Azotobacter paspali**
Özer T., Işıldak İ.
Febs Journal, no.281, pp.628, 2014 (SCI-Expanded)
- XXXV. **Brevibacillus thormoruber: a promising microbial cell factory for exopolysaccharide production**
Yildiz S. Y., Anzelmo G., Ozer T., Radchenkova N., Genç S., Di Donato P., Nicolaus B., Öner E., Kambourova M.
JOURNAL OF APPLIED MICROBIOLOGY, vol.116, pp.314-324, 2014 (SCI-Expanded)
- XXXVI. **Rheological characteristics of exopolysaccharides (EPSs) produced by Brevibacillus thormoruber**
Yıldız S. Y., Özer T., Radchenkova N., Genç S., Toksoy Öner E., Kambourova M.
New Biotechnology, no.29, pp.63-64, 2012 (SCI-Expanded)

Articles Published in Other Journals

- I. **Low-cost Pencil-Graphite Multi-electrodes for Simultaneous Detection of Iron and Copper**
Özer T.
Journal of the Turkish Chemical Society Section A: Chemistry, vol.9, no.1, pp.1-12, 2022 (Scopus)
- II. **Diazonyum Tuzu Kullanılarak Elektrokimyasal Olarak Modifiye Edilmiş Karbon Kompozit Elektrot**
Özer T.

Books

- I. **Gıda Zehirlenmelerine ve Hastalıklara Sebep Olan Salmonella Bakterisinin Tespiti**
Özer T.
in: INSAC Advances in Health Sciences, Doç. Dr. Mehmet Dalkılıç, Editor, Duvar Yayınları, Ankara, pp.227-250, 2021
- II. **Bioethanol Production Bioprocess from Microalgae**
Özçimen D., Koçer A. T., İnan B., Özer T.
in: Handbook of Microalgae-based Processes and Products: Fundamentals and advances in energy, food, feed, fertilizer and bioactive compounds, EDUARDO JACOB-LOPES, Editor, Elsevier Science, Oxford/Amsterdam , Amsterdam, pp.1, 2020

Papers Published in Refereed Scientific Meetings

- I. **Metabolic systems analysis of Halomonas smyrnensis AAD6 for enhanced levan biosynthesis**
ÖZER T., Arga K. Y.
10th Carbohydrate Bioengineering Meeting 2013, 01 April 2013
- II. **Analysis of Levan Production Capabilities of Halomonas smyrnensis AAD6 via Stoichiometric Metabolic Modeling**
ÖZER T., Söğütçü E., Turhan Y., Arga K. Y.
2. Ulusal Moleküler Biyoloji ve Biyoteknoloji Kongresi, 01 November 2012
- III. **Bioinformatics based reconstruction of genome-scale metabolic network for levan producing halophilic bacterium, Halomonas smyrnensis AAD6**
ÖZER T., Söğütçü E., Turhan Y., Arga K. Y.
The 13th International Conference on Systems Biology, 01 August 2012

Other Publications

- I. **BIOINFORMATICS BASED METABOLIC NETWORK RECONSTRUCTION OF LEVAN PRODUCING Halomonas smyrnensis AAD6**
ÖZER T.
Other, 2013

Supported Projects

- ÖZER T., GEİSS B. J., HENRY C. S., BALDO T. A., RUSSO M. J., Project Supported by Higher Education Institutions, Solunum Yolu Enfeksiyonlarına Yol Açan Viral Hastalıkların Hızlı ve Kantitatif Tespitine Yönelik Yeni Bir Elektrokimyasal Biyosensör Geliştirilmesi, 2023 - 2024
- ÖZER T., CLARK K. M., MCMAHON K., MCCORD C., HENRY C., Project Supported by Higher Education Institutions, Salmonella Tayini İçin Yeni Bir Biyosensör Geliştirilmesi, 2021 - 2022
- İŞILDAK İ., ÖZER T., Project Supported by Higher Education Institutions, FE(II) VE FE(III)-SEÇİCİ POTANSİYOMETRİK SENSÖRLERİN GELİŞTİRİLMESİ VE UYGULAMALARI, 2016 - 2019
- İŞILDAK İ., ÖZER T., NİĞDE M., AĞIR İ., TAVUKÇUOĞLU Ö., YILDIRIM R., Project Supported by Higher Education Institutions, Potansiyometrik mikro sensor dizilerinin tasarımı ve uygulamaları, 2015 - 2018
- Arğa K. Y., TUBITAK Project, 110M613, Mikrobiyal Biyopolimer Üretiminin Sistem Bazlı Optimizasyonu, 2011 - 2014
- Özer T., Arğa K. Y., Project Supported by Higher Education Institutions, LEVAN ÜRETEN Halomonas smyrnensis AAD6 İÇİN BİYOİNFORMATİK TEMELLİ METABOLİK AĞYAPI OLUŞTURULMASI, 2013 - 2013

Toksoy Öner E., TUBITAK Project, 111T016, Termofilik Mikroorganizmalardan Ekzopolisakkarit Üretimi, 2011 - 2012

Activities in Scientific Journals

CURRENT TOPICS IN MEDICINAL CHEMISTRY, Special Issue Editor, 2021 - Continues

FRONTIERS IN CHEMISTRY, Editor, 2021 - Continues

Peer Reviews in Scientific Publications

ANALYTICA CHIMICA ACTA, SCI Journal, September 2022

TALANTA, SCI Journal, August 2022

ACS SENSORS, SCI Journal, July 2022

ACS SUSTAINABLE CHEMISTRY & ENGINEERING, SCI Journal, October 2021

ANALYTICA CHIMICA ACTA, SCI Journal, June 2021

BIOSENSORS & BIOELECTRONICS, SCI Journal, June 2021

ANALYTICA CHIMICA ACTA, SCI Journal, April 2021

ANALYTICA CHIMICA ACTA, SCI Journal, February 2021

ANALYTICA CHIMICA ACTA, SCI Journal, January 2021

ANALYTICA CHIMICA ACTA, SCI Journal, December 2020

ANALYTICA CHIMICA ACTA, SCI Journal, December 2020

ANALYTICA CHIMICA ACTA, SCI Journal, December 2020

ANALYTICA CHIMICA ACTA, SCI Journal, November 2020

ANALYTICA CHIMICA ACTA, SCI Journal, September 2020

ANALYTICA CHIMICA ACTA, SCI Journal, August 2020

ANALYTICA CHIMICA ACTA, SCI Journal, August 2020

ANALYTICA CHIMICA ACTA, SCI Journal, July 2020

TALANTA, SCI Journal, May 2020

ANALYTICA CHIMICA ACTA, SCI Journal, April 2020

Analytica Chimica Acta, SCI Journal, April 2020

ANALYTICA CHIMICA ACTA, SCI Journal, March 2020

ANALYTICA CHIMICA ACTA, SCI Journal, February 2020

ANALYTICA CHIMICA ACTA, SCI Journal, December 2019

ANALYTICAL LETTERS, Journal Indexed in SCI-E, November 2019

Omics Integrative Biology, SCI Journal, April 2019

Scientific Project Refereeing

Research Project of the Presidency of Turkey Health Institutes (TÜSEB), September 2022

Research Project of the Presidency of Turkey Health Institutes (TÜSEB), August 2022

Mobility Activity

Post Doc, Post Doc, Colorado State University, United States Of America, 2019 - 2020

Metrics

Publication: 62

Citation (WoS): 183

Citation (Scopus): 305

H-Index (WoS): 6

H-Index (Scopus): 9

Scholarships

National Institute of Health Postdoctoral Fellow, Official Institutions of Foreign Countries, 2019 - 2020

2214-A Yurtdışı Doktora Sırası Araştırma Bursu, TÜBİTAK, 2017 - 2018

2211-A Genel Yurtiçi Doktora Bursu, TÜBİTAK, 2014 - 2017

Non Academic Experience

Chulalongkorn University, Ziyaretçi arařtırmacı

Colorado State University, Ziyaretçi arařtırmacı

Colorado State University, Doktora sonrası arařtırmacı

Colorado State University, Ziyaretçi arařtırmacı