

Asst. Prof. AYŞE EZGİ ÜNLÜ BÜYÜKTOPCU

Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: AAH-3364-2020

ScopusID: 26539072600

Yoksis Researcher ID: 168961

Education Information

Doctorate, Ankara University, Fen Bilimleri Enstitüsü, Kimya Mühendisliği (Dr), Turkey 2005 - 2012

Postgraduate, Ankara University, Fen Bilimleri Enstitüsü, Kimya Mühendisliği (YI) (Tezli), Turkey 2002 - 2005

Undergraduate, Ankara University, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, Turkey 1997 - 2002

Foreign Languages

English, C1 Advanced

Dissertations

Postgraduate, Rasemik naproksen esterden Candida rugosa lipazı ile (S)-naproksen üretiminde enzime uygulanan önışlemlerin enantiyoseçimlilik, aktivite ve kararlılık üzerine etkisi, Ankara University, Fen Bilimleri Enstitüsü, Kimya Mühendisliği (YI) (Tezli), 2005

Doctorate, Farklı stres koşullarında Rhodotorula glutinis'xten antioksidan üretimi için biyoproses koşullarının geliştirilmesi, Ankara University, Fen Bilimleri Enstitüsü, Kimya Mühendisliği (Dr), 1950

Research Areas

Chemical Engineering and Technology, Biotechnology, Engineering and Technology

Academic Titles / Tasks

Assistant Professor, Ankara University, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, 2021 - Continues

Research Assistant PhD, Ankara University, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, 2012 - 2021

Research Assistant, Ankara University, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, 2005 - 2012

Academic and Administrative Experience

Deputy Head of Department, Ankara University, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, 2023 - Continues

Courses

Isı Aktarımı, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022
Kimya Mühendisliği Lab I, Undergraduate, 2023 - 2024, 2022 - 2023
Kimya Mühendisliği Matematiği, Postgraduate, 2023 - 2024
Chemical Reaction Engineering, Undergraduate, 2022 - 2023, 2021 - 2022
Kimya Mühendisliği Lab II, Undergraduate, 2023 - 2024, 2022 - 2023
Chemical Engineering Lab II, Undergraduate, 2023 - 2024, 2022 - 2023
Fundamentals of Biochemical Engineering, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022
Chemical Engineering Lab III, Undergraduate, 2022 - 2023
Akışkanlar Mekaniği, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021
Graduation Thesis I, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022
Heat Transfer, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022
Mathematical Modelling, Undergraduate, 2022 - 2023, 2021 - 2022
Kimya Mühendisliği Laboratuvarı III, Undergraduate, 2022 - 2023, 2021 - 2022
Kimya Mühendisliği Matematiği, Undergraduate, 2022 - 2023
Uzmanlık Alan Dersi, Postgraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022
Graduation Thesis II, Undergraduate, 2022 - 2023, 2021 - 2022
Chemical Engineering Lab I, Undergraduate, 2021 - 2022
Biyokimya Mühendisliğinin Temelleri, Undergraduate, 2022 - 2023, 2021 - 2022
Araştırma Teknikleri I, Undergraduate, 2021 - 2022
Orientation Programming To The University Life, Undergraduate, 2021 - 2022

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **The effect of natural deep eutectic solvents on laccase activity and oligomerization of rutin**
Ünlü A. E., Prasad B., Anavekar K., Bubenheim P., Liese A.
BIOCATALYSIS AND BIOTRANSFORMATION, vol.41, no.5, pp.353-366, 2023 (SCI-Expanded)
- II. **Utilization of olive mill wastewater for selective production of lipids and carotenoids by *Rhodotorula glutinis***
Keskin A., Ünlü A. E., Takaç Z. S.
APPLIED MICROBIOLOGY AND BIOTECHNOLOGY, vol.107, no.15, pp.4973-4985, 2023 (SCI-Expanded)
- III. **Ultrasound-assisted natural deep eutectic solvent extraction of phenolic compounds from apple pomace**
Deniz S., Unlu A. E., Takac S.
SEPARATION SCIENCE AND TECHNOLOGY, vol.58, no.2, pp.302-313, 2023 (SCI-Expanded)
- IV. **Green and Non-conventional Extraction of Bioactive Compounds from Olive Leaves: Screening of Novel Natural Deep Eutectic Solvents and Investigation of Process Parameters**
ÜNLÜ BÜYÜKTOPCU A. E.
WASTE AND BIOMASS VALORIZATION, vol.12, no.10, pp.5329-5346, 2021 (SCI-Expanded)
- V. **Deep eutectic solvent-assisted synthesis of polyaniline by laccase enzyme**
Altundag A., ÜNLÜ BÜYÜKTOPCU A. E., Takac S.
JOURNAL OF CHEMICAL TECHNOLOGY AND BIOTECHNOLOGY, vol.96, no.4, pp.1107-1115, 2021 (SCI-Expanded)
- VI. **Remarkable effects of deep eutectic solvents on the esterification of lactic acid with ethanol over Amberlyst-15**
ÜNLÜ BÜYÜKTOPCU A. E., Arikaya A., Altundag A., Takac S.
KOREAN JOURNAL OF CHEMICAL ENGINEERING, vol.37, no.1, pp.46-53, 2020 (SCI-Expanded)
- VII. **Use of deep eutectic solvents in the enzyme catalysed production of ethyl lactate**
Ankaya A., ÜNLÜ BÜYÜKTOPCU A. E., Takac S.
PROCESS BIOCHEMISTRY, vol.84, pp.53-59, 2019 (SCI-Expanded)

- VIII. **Use of deep eutectic solvents as catalyst: A mini-review**
ÜNLÜ BÜYÜKTÖPCÜ A. E., Arikaya A., Takac S.
GREEN PROCESSING AND SYNTHESIS, vol.8, no.1, pp.355-372, 2019 (SCI-Expanded)
- IX. **The kinetics of Rhodotorula glutinis growth and the enhancement of catalase activity in glycerol containing media**
Unul A. E., Takac S.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.33, no.2, pp.487-494, 2018 (SCI-Expanded)
- X. **Improvement of superoxide dismutase activity using experimental design and radical promoters**
Unlue A. E., Takac S.
BIOTECHNOLOGY & BIOTECHNOLOGICAL EQUIPMENT, vol.31, no.5, pp.1046-1054, 2017 (SCI-Expanded)
- XI. **Investigation of a green process for the polymerization of catechin**
ÜNLÜ BÜYÜKTÖPCÜ A. E., Prasad B., Anavekar K., Bubenheim P., Liese A.
PREPARATIVE BIOCHEMISTRY & BIOTECHNOLOGY, vol.47, no.9, pp.918-924, 2017 (SCI-Expanded)
- XII. **Investigation of the simultaneous production of superoxide dismutase and catalase enzymes from Rhodotorula glutinis under different culture conditions**
ÜNLÜ BÜYÜKTÖPCÜ A. E., Takac S.
ARTIFICIAL CELLS BLOOD SUBSTITUTES AND BIOTECHNOLOGY, vol.40, no.5, pp.338-344, 2012 (SCI-Expanded)
- XIII. **Oxygen transfer strategy modulates the productions of lipase and esterase enzymes by Candida rugosa**
Takac S., ÜNLÜ BÜYÜKTÖPCÜ A. E., Erdem B.
JOURNAL OF MOLECULAR CATALYSIS B-ENZYMATIC, vol.64, no.3-4, pp.150-154, 2010 (SCI-Expanded)
- XIV. **Impact of Inoculation Strategy on the Progress of Candida rugosa Cultivation**
Takac S., Erdem B., ÜNLÜ BÜYÜKTÖPCÜ A. E.
ARTIFICIAL CELLS BLOOD SUBSTITUTES AND BIOTECHNOLOGY, vol.37, no.3, pp.130-137, 2009 (SCI-Expanded)
- XV. **Effects of Alcohol and Buffer Treatments on the Activity and Enantioselectivity of Candida rugosa Lipase**
Takac S., Uenlue A. E.
PREPARATIVE BIOCHEMISTRY & BIOTECHNOLOGY, vol.39, no.2, pp.124-141, 2009 (SCI-Expanded)

Articles Published in Other Journals

- I. **Screening of Natural Deep Eutectic Solvents for the Recovery of Valuable Phenolics From Waste of Shalgam Juice Process**
Toprak P., Ünlü A. E.
TURKISH JOURNAL OF AGRICULTURE: FOOD SCIENCE AND TECHNOLOGY, vol.11, no.10, pp.1784-1790, 2023 (Peer-Reviewed Journal)
- II. **Valorization of shalgam juice plant waste for the production of carotenoids by Rhodotorula glutinis**
Keskin A., Firat M., Ünlü A. E.
International Journal of Agriculture, Environment and Food Sciences, vol.7, no.1, pp.79-81, 2023 (Peer-Reviewed Journal)

Books & Book Chapters

- I. **Use of Deep Eutectic Solvents in the Treatment of Agro-Industrial Lignocellulosic Wastes for Bioactive Compounds**
Ünlü Büyüktopcu A. E., Takaç Z. S.
in: Agroecosystems – Very Complex Environmental Systems, Marcelo L. Larramendy, Sonia Soloneski, Editor, Intech Open, London, pp.1-25, 2021

Refereed Congress / Symposium Publications in Proceedings

- I. **Recovery of Caffeine From a Domestic Waste**
Ünlü Büyüktopcu A. E.
International Conference on Studies in Engineering, Science, and Technology (ICSEST), 20 - 23 October 2023, pp.119
- II. **Green extraction of spent tea waste**
ÜNLÜ BÜYÜKTOPCU A. E., kırca e., Albayrak E., Oral İ. F., Keskin A.
5th International Eurasian Conference on Biological and Chemical Sciences EurasianBiochem 2022, Turkey, 22 - 25 November 2022
- III. **The Effect of Olive Mill Wastewater Concentration on the Productions of Microbial Lipid and Carotenoid**
Keskin A., Ünlü Büyüktopcu A. E., Takaç Z. S.
2nd International Conference on Applied Engineering and Natural Science, 10 - 13 March 2022, pp.326
- IV. **The extraction of biophenolics from olive leaf using green solvents**
ÜNLÜ BÜYÜKTOPCU A. E., TAKAÇ Z. S., ARIKAYA A.
EuroSciCon Congress on Enzymology and Molecular Biology, Paris, France, 13 August 2019 - 14 August 2018
- V. **Enzymatic ethyl lactate synthesis in a green reaction medium**
ÜNLÜ BÜYÜKTOPCU A. E., TAKAÇ Z. S., ARIKAYA A.
EuroSciCon Congress on Enzymology and Molecular Biology, 13 - 14 August 2018
- VI. **The effect of deep eutectic solvents on the lipase catalyzed esterification of lactic acid**
ARIKAYA A., ÜNLÜ BÜYÜKTOPCU A. E., TAKAÇ Z. S.
International Congress On Chemistry And Materials Science, 5 - 07 October 2017
- VII. **Optimisation of catalase activity by Rhodotorula glutinis using experimental design**
ÜNLÜ BÜYÜKTOPCU A. E., TAKAÇ Z. S.
2nd International Conference on Enzymology and Molecular Biology, 20 - 21 March 2017
- VIII. **The effect of natural deep eutectic solvent on laccase catalyzed polycatechin synthesis**
ÜNLÜ BÜYÜKTOPCU A. E., Prasad B., Anavekar K., Bubenheim P., Liese A.
2nd International Conference on Enzymology and Molecular Biology (Enzymology Mol. Biology 2017), roma, Italy, 20 - 21 March 2017
- IX. **The effects of pH and temperature on the production of antioxidant enzymes by Rhodotorula glutinis**
ÜNLÜ BÜYÜKTOPCU A. E., Takac S.
European Biotechnology Congress, İstanbul, Turkey, 28 September - 01 October 2011, vol.22
- X. **Oxygen Transfer Strategy Modulates The Productions Of Lipase And Esterase Enzymes by Candida rugosa**
ÜNLÜ BÜYÜKTOPCU A. E., TAKAÇ Z. S.
International Enzyme Engineering Symposium, İzmir, Turkey, 1 - 05 October 2008
- XI. **Effect of pH in the 2-propanol treatment of Candida rugosa lipase on its enantioselectivity in the hydrolysis of racemic Naproxen methyl ester**
Takac S., ÜNLÜ BÜYÜKTOPCU A. E.
12th European Congress on Biotechnology (ECB 12), Copenhagen, Denmark, 21 - 24 August 2005, vol.118

Supported Projects

Ünlü Büyüktopcu A. E., TUBITAK Project, Atık kuşburnu çekirdeğinden yeşil çözücülerle lipit ekstraksiyonu ve katma değeri yüksek nano-kozmesötik ürün geliştirilmesi-, 2023 - 2024

Ünlü Büyüktopcu A. E., Technopark, "Yaşlanma KarşıtıEtkili Maya Ekstresi ve in vitro Özelliklerinin İncelenmesi, 2022 - 2024

Ünlü Büyüktopcu A. E., Kırca E., TUBITAK Project, Demlenmiş Çay Posası Atığından Katma Değeri Yüksek Bileşenlerin

Çevre Dostu Yöntemlerle Geri Kazanımı, 2021 - 2022

Ünlü Büyüktopcu A. E., TUBITAK Project, ZEYTİN SUYU MAYASINDANANTİOKSİDAN MADDE EKSTRAKSİYONU VE YAŞLANMAKARŞITI KOZMETİK ÜRÜN ÜRETİMİ, 2020 - 2022

Ünlü Büyüktopcu A. E., Takaç Z. S., TUBITAK Project, Yeni Ve Çevre Dostu Bir Ekstraktif Reaksiyon Prosesi Ile Etil Laktat Üretimi, 2017 - 2018

Takaç Z. S., Ünlü Büyüktopcu A. E., TUBITAK Project, Proteomiks Teknikleri Kullanılarak Endüstriyel Bir Enzimin Üretimi İçin Biyoteknolojik Proses Koşullarının Geliştirilmesi, 2005 - 2007

Metrics

Publication: 30

Citation (WoS): 194

Citation (Scopus): 203

H-Index (WoS): 7

H-Index (Scopus): 6

Scholarships

BIOCATALYZED POLYMER PRODUCTION IN NON-CONVENTIONAL MEDIA, TUBITAK, 2014 - 2015