

Prof. Ayten Karataş

Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: GKV-1014-2022

ScopusID: 14833494700

Yoksis Researcher ID: 100485

Education Information

Doctorate, Middle East Technical University, Graduate School Of Natural And Applied Sciences, Biyoteknoloji (YI) (Tezli), Turkey 1994 - 2000

Postgraduate, Middle East Technical University, Graduate School Of Natural And Applied Sciences, Biyoteknoloji (YI) (Tezli), Turkey 1991 - 1993

Undergraduate, Middle East Technical University, Faculty Of Arts And Sciences, Department Of Biology, Turkey 1986 - 1991

Foreign Languages

English

Dissertations

Doctorate, Molecular biology and genetics of dipeptide biosynthesis: The system is an essential component of quorum-sensing global regulation, Orta Doğu Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Biyoteknoloji (YI) (Tezli), 2000

Postgraduate, Studies on heavy metal resistance system and accumulation of metals in *Kluyveromyces marxianus*, Orta Doğu Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Biyoteknoloji (YI) (Tezli), 1993

Research Areas

Life Sciences, Biotechnology, Environmental Biotechnology, Microbial Biotechnology, Microbiology, Bacteriology, Molecular Biology and Genetics, Microbial Genetics, Natural Sciences

Academic Titles / Tasks

Professor, Istanbul Technical University, Fen-Edebiyat Fakültesi, Moleküler Biyoloji Ve Genetik Bölümü, 2013 - Continues
Associate Professor, Istanbul Technical University, Fen-Edebiyat Fakültesi, Moleküler Biyoloji Ve Genetik Bölümü, 2008 - 2013

Assistant Professor, Istanbul Technical University, Fen-Edebiyat Fakültesi, Moleküler Biyoloji Ve Genetik Bölümü, 2002 - 2007

Research Assistant, Middle East Technical University, Faculty Of Arts And Sciences, Department Of Biology, 1993 - 2001

Academic and Administrative Experience

İstanbul Teknik Üniversitesi, Fen-Edebiyat Fakültesi, Moleküler Biyoloji Ve Genetik Bölümü, 2016 - Continues

İstanbul Teknik Üniversitesi, Fen-Edebiyat Fakültesi, 2006 - 2008

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Improvement of Bacilysin Production in *Bacillus subtilis* by CRISPR/Cas9-Mediated Editing of the 5'-Untranslated Region of the bac Operon**
Abdulmalek H. W., Karataş A.
Journal of microbiology and biotechnology, vol.33, no.3, pp.410-418, 2023 (SCI-Expanded)
- II. **Combinatorial decolorization performance of *Pycnoporus sanguineus* MUCL 38531 sourced recombinant laccase/mediator systems on toxic textile dyes**
Malci K., Kurt-Gur G., Tamerler C., Yazgan-Karatas A.
International Journal of Environmental Science and Technology, vol.20, no.1, pp.951-966, 2023 (SCI-Expanded)
- III. **Pullulan hydrogel-immobilized bacterial cellulose membranes with dual-release of vitamin C and E for wound dressing applications**
Atila D., Karataş A., KESKİN D., TEZCANER A.
International Journal of Biological Macromolecules, vol.218, pp.760-774, 2022 (SCI-Expanded)
- IV. **Natural origin bilayer pullulan-PHBV scaffold for wound healing applications**
Dalgic A. D., Koman E., Karataş A., TEZCANER A., KESKİN D.
Materials Science and Engineering C, vol.134, 2022 (SCI-Expanded)
- V. **Effect of UV-A-assisted iron-based and UV-C-driven oxidation processes on organic matter and antibiotic resistance removal in tertiary treated urban wastewater**
Arslan Alaton İ., Karataş A., Pehlivan Ö., Koba Uzun O., Ölmez Hancı T.
Catalysis Today, vol.361, pp.152-158, 2021 (SCI-Expanded)
- VI. **A functional coating to enhance antibacterial and bioactivity properties of titanium implants and its performance in vitro**
Doymus B., Kerem G., Yazgan Karatas A., Kök F. N., ÖNDER S.
JOURNAL OF BIOMATERIALS APPLICATIONS, vol.35, no.6, pp.655-669, 2021 (SCI-Expanded)
- VII. **Rapid and sensitive detection of *Salmonella* spp. in raw minced meat samples using droplet digital PCR**
Oz Y. Y., Sonmez O. I., Karaman S., ÖZ E., Unal C. B., Karataş A.
EUROPEAN FOOD RESEARCH AND TECHNOLOGY, vol.246, no.10, pp.1895-1907, 2020 (SCI-Expanded)
- VIII. **Analysis of a bac operon-silenced strain suggests pleiotropic effects of bacilysin in *Bacillus subtilis***
ERTEKİN O., Kutnu M., Taskin A. A., Demir M., Karataş A., ÖZCENGİZ G.
JOURNAL OF MICROBIOLOGY, vol.58, no.4, pp.297-313, 2020 (SCI-Expanded)
- IX. **Elimination of antibiotic resistance in treated urban wastewater by iron-based advanced oxidation processes**
Alaton İ., Karatas A., Pehlivan Ö., Hancı T.
DESALINATION AND WATER TREATMENT, vol.172, pp.235-253, 2019 (SCI-Expanded)
- X. **Bacterial cellulose-reinforced boron-doped hydroxyapatite/gelatin scaffolds for bone tissue engineering**
Atila D., Karataş A., Evcin A., KESKİN D., TEZCANER A.
CELLULOSE, vol.26, no.18, pp.9765-9785, 2019 (SCI-Expanded)

- XI. **Diatom shell incorporated PHBV/PCL-pullulan co-electrospun scaffold for bone tissue engineering**
DALGIÇ A. D., Atila D., Karataş A., TEZCANER A., KESKİN D.
MATERIALS SCIENCE & ENGINEERING C-MATERIALS FOR BIOLOGICAL APPLICATIONS, vol.100, pp.735-746, 2019 (SCI-Expanded)
- XII. **Heterologous expression and characterization of a high redox potential laccase from *Coriophila polyzona* MUCL 38443**
Pinar O., Tamerler C., Karataş A.
TURKISH JOURNAL OF BIOLOGY, vol.41, no.2, pp.278-292, 2017 (SCI-Expanded)
- XIII. **Enterobacter Strains Might Promote Colon Cancer**
Yurdakul D., YAZGAN-KARATAS A., Sahin F.
CURRENT MICROBIOLOGY, vol.71, no.3, pp.403-411, 2015 (SCI-Expanded)
- XIV. **In *Bacillus subtilis* lutR is part of the global complex regulatory network governing the adaptation to the transition from exponential growth to stationary phase**
İrigül Ö., Köroğlu T., Öztürk B., AT K., OP K., Karataş A.
MICROBIOLOGY-SGM, vol.160, pp.243-260, 2014 (SCI-Expanded)
- XV. **Tailoring Fluorescence Signatures of GFP-Nanoparticle Complexes**
YÜCA E., Hnilova M., Karataş A., Tamerler C.
NEW BIOTECHNOLOGY, vol.29, 2012 (SCI-Expanded)
- XVI. **Multifunctional protein enabled patterning on arrayed ferroelectric material**
Hnilova M., Xiaoyan L., YÜCA E., Jia C., Gresswell C., Wilson B., Karataş A., Kitamura K., Ohuchi F., Tamerler C.
ACS Appl Mater Interfaces, vol.4, no.4, pp.1865-1871, 2012 (SSCI)
- XVII. **The novel gene *yvfI* in *Bacillus subtilis* is essential for bacilysin biosynthesis**
Koroglu T. E., KURT-GUR G., UNLU E. C., YAZGAN-KARATAS A.
ANTONIE VAN LEEUWENHOEK INTERNATIONAL JOURNAL OF GENERAL AND MOLECULAR MICROBIOLOGY, vol.94, no.3, pp.471-479, 2008 (SCI-Expanded)
- XVIII. **Sporulation specific expression of the *yvgW cadA* gene and the effect of blockage on spore properties in *Bacillus subtilis***
Öykü İ., Karataş A.
GENE, vol.382, pp.71-78, 2006 (SCI-Expanded)
- XIX. **The effects of insertional mutations in *ComQ comP srfA spo0H spo0A* and *abrB* genes on bacilysin biosynthesis in *Bacillus subtilis***
Karataş A., Çetin S., ÖZCENGİZ G.
BBA- gene structure and function, vol.1626, pp.51-56, 2003 (SSCI)
- XX. **Bacilysin biosynthesis by a partially purified enzyme fraction from *B. subtilis***
Karataş A., ÖZCENGİZ G., Erkan Ö., KILINÇ K., Mohamed A M., N Gürdal A.
Enzyme Microb Tech, vol.29, pp.400-406, 2001 (SSCI)
- XXI. **Tn10 insertional mutations of *Bacillus subtilis* that block the biosynthesis of bacilysin**
Yazgan A., ÖZCENGİZ G., MARAHIEL M.
BIOCHIMICA ET BIOPHYSICA ACTA-GENE STRUCTURE AND EXPRESSION, vol.1518, pp.87-94, 2001 (SCI-Expanded)
- XXII. **Multiple drug resistance patterns and plasmid profiles of non typhi *Salmonella* in Turkey**
Karataş A.
Epidemiol Infect, vol.121, pp.303-330, 1998 (SSCI)
- XXIII. **SUBCELLULAR-DISTRIBUTION OF ACCUMULATED HEAVY-METALS IN *SACCHAROMYCES-CEREVISIAE* AND *KLUYVEROMYCES-MARXIANUS***
YAZGAN A., ÖZCENGİZ G.
BIOTECHNOLOGY LETTERS, vol.16, no.8, pp.871-874, 1994 (SCI-Expanded)
- XXIV. **STUDIES ON METAL RESISTANCE SYSTEM IN *KLUYVEROMYCES-MARXIANUS***
YAZGAN A., ÖZCENGİZ G., ALAEDDINOĞLU N.
BIOLOGICAL TRACE ELEMENT RESEARCH, vol.38, no.2, pp.117-127, 1993 (SCI-Expanded)

Articles Published in Other Journals

I. Development of a nucleic acid-based lateral flow device as a reliable diagnostic tool for respiratory viral infections

Akalın P., Karataş A.

MethodsX, vol.11, 2023 (ESCI)

Supported Projects

Karataş A., Genç H. N., Project Supported by Higher Education Institutions, Basilisini yüksek üreten Bacillus subtilis HWA suşunda hücre içi bac operonunun mRNA düzeyinde karakterizasyonu ve fizyolojik özellikleri, 2022 - Continues

Karataş A., Koman E., KOMAN E., Project Supported by Higher Education Institutions, Yeni Antimikrobial Ajanların Karakterizasyonu, 2022 - Continues

Karataş A., Tartar G., Project Supported by Higher Education Institutions, AbrB Yokluğunun Basilisin Yüksek Üreticisi B subtilis HWA Suşundaki Etkilerinin İncelenmesi, 2022 - Continues

Karataş A., Pehlivan Ö., Project Supported by Higher Education Institutions, Coriolopsis polyzona kaynaklı recombinant Laccase CpLcc2'nin heterolok ifade edilmesi ve potansiyel biyoteknolojik uygulamaları, 2021 - Continues

Karataş A., TUBİTAK Project, Diatom Silika İskeletleri ile Güçlendirilmiş Polihidroksibutirat kohidroksivalerat Pullulan Üç Boyutlu Doku İskelelerinin Kemik Doku Mühendisliğinde Kullanılabilirliğinin Araştırılması TÜBİTAK 215M893 254ç453 Araştırmacı, 2016 - Continues

Karataş A., Project Supported by Higher Education Institutions, Aspergillus Niger da Heterolok Enzim Üretimi, 2015 - Continues

Karataş A., Project Supported by Higher Education Institutions, Developmnet of an Inexpensive and Practical Nucleic Acid Selection Probe Based on Magnetic Nanoparticles, 2014 - Continues

Kürkçüoğlu Levitas A. Ö., Sungur F. A., Kök F. N., Karataş A., Demirci H., TUBİTAK Project, Designing Antibiotics for The Orthosteric and Allosteric Regions of the Bacterial Ribosome in silico, Testing Their Activity in vitro and Monitoring Their Structures in Cryo-Electron Microscopy , 2021 - 2024

Karataş A., Abdulmalek H. W. A., Project Supported by Higher Education Institutions, IMPROVEMENT OF BACILYSIN BIOSYNTHESIS IN BACILLUS SUBTILIS PY79 VIA CRISPR/CAS9 TECHNOLOGY, 2020 - 2023

Karataş A., Project Supported by Higher Education Institutions, Basilisin Üreticisi B. subtilis PY79 Suşu ile Luria Broth Zengin Besi Yerinde Karşılaştırmalı Transkriptom Analizleri, 2018 - 2021

Karataş A., Ergün D., Project Supported by Higher Education Institutions, Bacillus subtilis'de Basilisin ve Sürfaktin Biyosentezi Arasındaki Moleküler ilişki, 2019 - 2020

Arslan Alaton İ., Karataş A., Ölmez Hancı T., Project Supported by Higher Education Institutions, Kentsel Nitelikli Atıksularda Antibiyotik Direncinin Demir Bazlı Homojen ve Heterojen İleri Oksidasyon Prosesleri ile Kontrolü, 2018 - 2019

Karataş A., Project Supported by Higher Education Institutions, B subtilisde Olgunlaşmış Biyofilm Yapısında Basilisin Üreten Hücrelerin Belirlenmesi, 2017 - 2019

Karataş A., Project Supported by Higher Education Institutions, Enzimatik Uygulamalar ile Tekstil Boya Giderimi, 2016 - 2018

Karataş A., Project Supported by Higher Education Institutions, B. subtilis'de Transkripsiyonel Faktör SinR'ın Basilisin Biyosentetik Operonu Üzerine Etkisi, 2016 - 2018

Karataş A., Project Supported by Higher Education Institutions, Coriolopsis polyzona CpLcc3 Lakkazına ait tam boy cDNA nın elde edilmesi ve maya ekspresyon vektörüne klonlanması, 2016 - 2018

Karataş A., Project Supported by Higher Education Institutions, Bacillus Subtilis Biyofim Oluşumunda, GntR Tip Transkripsiyonel Factor Lutr In Regülasyonel Rolü, 2014 - 2018

Karataş A., Project Supported by Higher Education Institutions, Coplex Regulatory Systems O:perating in Bacilysin Biosnthesis in Subtilis, 2012 - 2018

Karataş A., Project Supported by Higher Education Institutions, B.SUBTİLİS TE PHR PEPTİTLERİNİN YVFL GEN EKSPRESYONU ÜZERİNE OLAN ETKİLERİ, 2010 - 2018

Karataş A., Project Supported by Higher Education Institutions, Corioloopsis Polyzona'dan Lakkaz Cdna'larının Klonlanması, Pichia Pastoris Suşunda İfade Edilmesi ve Rekombinant Lakkazların Karakterizasyonu, 2012 - 2017

Karataş A., Project Supported by Higher Education Institutions, Corioloopsis polyzona MUCL 38443 Suşunda, tam boy Cplcc2 Lakkaz cDNA sının izolasyonu ve Pishia pastoris ekspresyon vektörüne klonlanması, 2015 - 2016

Karataş A., Project Supported by Higher Education Institutions, Bacillus Subtilis'te Yvfl Transkripsiyonel Faktörünün Direkt Kontrollü Altındaki Genlerin EMSA ve Kromatin İmmünüpresipitation Metodu İle Belirlenmesi, 2011 - 2015

Karataş A., Project Supported by Higher Education Institutions, Enterobacter Grubu Mikroorganizmaların Kolon Kanseri Kanseri Üzerindeki Etkileşimlerinin Araştırılması, 2010 - 2015

Karataş A., Project Supported by Higher Education Institutions, Pycnopus Sanguineus MUCL 38531 suşunda Lakkaz Kodlayan IccI Geni Üzerinde Gerçekleştirilen Nokta Mutasyon Çalışmaları, 2013 - 2013

Karataş A., Project Supported by Higher Education Institutions, Basilisin Bacillus Subtilis Saf Suşu 3610 Üzerine Etkileri, 2011 - 2013

Karataş A., TUBITAK Project, B. Subtilis'te Mikroarray Analizi İle Basilisin Yokluğunda İstatiksel Olarak Anlamlı Ölçüde Etkilendiği Ortaya Çıkarılan Farklı Gen/Operon Sistemlerine Ait Bulguların RT-qPCR Metodu İle Doğrulanması, 2011 - 2012

Karataş A., Project Supported by Higher Education Institutions, Titanyum İmplant Malzemelerin Biyolojik Aktivitelerinde Pepitlerin Bağlayıcı Olarak Kullanılması, 2010 - 2012

Karataş A., Project Supported by Higher Education Institutions, B. Subtilis'de comK geninin bacA yvfH ile yvfl gen ekspresyonları Üzerindeki Düzenleyici Mekanizmasının belirlenmesi, 2010 - 2012

Karataş A., Project Supported by Higher Education Institutions, Electrophoretic Mobility shift Assay" bMetodu İle , yvfH geni üzerindeki Hlobal regülasyon Mekanizmasının belirlenmesi, 2010 - 2012

Karataş A., Project Supported by Higher Education Institutions, B.Subtilis'de yvfl Geninin Genom Ölçeğinde Analizi, 2009 - 2012

Karataş A., Project Supported by Higher Education Institutions, B.Subtilis'de Dipeptid Basilisin Biyosentezinin Genom Ölçeğinde Analizi, 2009 - 2012

Karataş A., Project Supported by Higher Education Institutions, Bacillus Subtilis'te bacA Mutant Sporların Karakterizasyonu, 2010 - 2011

Karataş A., Project Supported by Higher Education Institutions, BACİLLUS SUBTİLİS'TE YVFL MUTANT SPORLARIN KARAKTERİZAASYONU, 2010 - 2011

Karataş A., Other International Funding Programs, Identification of global regulatory mechanism on the bacilysin biosynthetic operon bacABCDE with electrophoretic mobility shift assay method, 2009 - 2010

Karataş A., Other International Funding Programs, Enhancement of chemical resonance energy transfer between photoproteins and fluorescent proteins, 2007 - 2009

Karataş A., Other International Funding Programs, Genome and Proteome wide analysis of transcriptional regulator yvfl gene activity and dipeptide bacilysin biosynthesis in Bacillus, 2007 - 2009

Karataş A., Project Supported by Higher Education Institutions, TN10 Manganez Metodu ile Bacilysin Biyosentezi ile İlgili Tüm Genlerin Belirlenmesi, 2004 - 2008

Karataş A., EU Framework Program Project, Novel Sustainable bioprocesses for the European colour industries, 2004 - 2008

Karataş A., TUBITAK Project, Structural and functional characterization of a noval gene related with sporulation in B. subtilis, 2004 - 2006

Activities in Scientific Journals

Turkish Journal Of Biology, Editor, 2018 - 2018

Turkish Journal of Biology, Editor, 2011 - 2011

Scientific Refereeing

TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Istanbul Technical University, Turkey, September 2020
TUBITAK Project, March 2019
TUBITAK Project, March 2019
TUBITAK Project, August 2018
TUBITAK Project, August 2018
TUBITAK Project, April 2018
TUBITAK Project, March 2018
TUBITAK Project, March 2018
TUBITAK Project, February 2018
TUBITAK Project, October 2017
TUBITAK Project, August 2017
TUBITAK Project, August 2017
TUBITAK Project, June 2017
TUBITAK Project, June 2017
Applied Microbiology and Biotechnology, SCI Journal, May 2017
TUBITAK Project, May 2017
TUBITAK Project, April 2017
August 2016
TUBITAK Project, August 2016
TUBITAK Project, August 2016
August 2016
TUBITAK Project, June 2016
TUBITAK Project, April 2016
TUBITAK Project, June 2015
TUBITAK Project, April 2015
TUBITAK Project, August 2009
TUBITAK Project, August 2009

Scientific Consultations

IONTEK İlaç Biyoteknoloji Ürünleri, Scientific Consultancy, Istanbul Technical University, Fen-Edebiyat Fakültesi, Moleküler Biyoloji Ve Genetik Bölümü, Turkey, 2014 - 2015

Metrics

Publication: 69
Citation (WoS): 139
Citation (Scopus): 281
H-Index (WoS): 7
H-Index (Scopus): 9

Non Academic Experience

Orta Doğu Teknik Üniversitesi