

Res. Asst. PhD GÜLCAN ŞAHAL

Personal Information

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Education Information

Doctorate, Hacettepe University, Fen Bilimleri Enstitüsü, Biyoloji/Biyoteknoloji, Turkey 2011 - 2016

Postgraduate, Hacettepe University, Fen Bilimleri Enstitüsü, Turkey 2008 - 2011

Undergraduate, Hacettepe University, Fen Fakültesi, Turkey 2004 - 2008

Foreign Languages

English, C1 Advanced

Certificates, Courses and Trainings

Education Management and Planning, Eğitimcilerin Eğitimi Programı, Hacettepe Üniversitesi Yaşam Boyu Öğrenme Merkezi, 2016

Health&Medicine, Deney Hayvanı Kullanımı, Hacettepe Üniversitesi Hayvan Deneyleri Etik Kurulu, 2016

Education Management and Planning, Diksiyon, Hacettepe Üniversitesi, 2013

Health&Medicine, Biyoteknoloji Sektörel İnovasyon Sistemi, Türkiye Teknoloji Geliştirme Vakfı (TTGV), 2013

Health&Medicine, Hibridoma Teknolojisi Ve Antikora Dayalı Tanı Sistemlerinin Geliştirilmesi, TÜBİTAK Marmara Araştırma Merkezi, Gen Mühendisliği Ve Biyoteknoloji Enstitüsü, 2011

Health&Medicine, Türkiye’de Adli Toksikolojinin Bugünü Ve Geleceği, Hacettepe Üniversitesi, 2010

Health&Medicine, Doku Mühendisliği Uygulamalarında: Biyomalzeme-Doku Uyumu, Hacettepe Üniversitesi Tıp Fakültesi, 2009

Education Management and Planning, Temel Biyoinformatik Yöntemleri” Konulu Uygulamalı Eğitim Programı, 1. TÜBİTAK Marmara Araştırma Merkezi, Gen Mühendisliği Ve Biyoteknoloji Enstitüsü, 2008

Research Areas

Life Sciences, Biotechnology, Biomaterial, Industrial Biotechnology, Microbial Biotechnology, Natural Sciences

Academic Titles / Tasks

Research Assistant PhD, Hacettepe University, Fen Fakültesi, Biyoloji Bölümü, 2009 - Continues

Published journal articles indexed by SCI, SSCI, and AHCI

1. Microbial cell-type-based grouping model as a potential indicator of cervicovaginal flora prone to

biofilm formation

DÖNMEZ H. G., ŞAHAL G., BEKSAÇ M. S.

BIOTECHNIC & HISTOCHEMISTRY, 2024 (SCI-Expanded)

- II. **Chemical characterization of *Thymus zygis* L. (thyme) and *Elettaria cardamomum* L. (cardamom) essential oils and investigation of their inhibitory potentials against cervicovaginal *Escherichia coli* isolates**
Şahal G., Donmez H. G., Beksac M. S.
EUROPEAN JOURNAL OF INTEGRATIVE MEDICINE, vol.68, no.102366, pp.1-10, 2024 (SCI-Expanded)
- III. **Evaluation of glycyl-arginine and lysyl-aspartic acid dipeptides for their antimicrobial, antibiofilm, and anticancer potentials.**
Sevim Akan H., Şahal G., Karaca T. D., Gürpınar Ö. A., Maraş M., Çetin A.
Archives of microbiology, vol.205, no.12, pp.365, 2023 (SCI-Expanded)
- IV. **Cervicovaginal *Bacillus velezensis* Isolate: A Potential Probiotic and an Antagonist Against *Candida* and *Staphylococcus***
ŞAHAL G., DÖNMEZ H. G., BEKSAÇ M. S.
Current Microbiology, vol.80, no.10, 2023 (SCI-Expanded)
- V. **Thyme essential oil as an antimicrobial and biofilm inhibitory agent against abscesses with *P. mirabilis* Infections**
Beksac K., ŞAHAL G., DÖNMEZ H. G.
JOURNAL OF HERBAL MEDICINE, vol.28, 2021 (SCI-Expanded)
- VI. **The relationship between the presence of HPV infection and biofilm formation in cervicovaginal smears**
DÖNMEZ H. G., ŞAHAL G., AKGÖR U., ÇAĞAN M., ÖZGÜL N., BEKSAÇ M. S.
INFECTİON, vol.48, no.5, pp.735-740, 2020 (SCI-Expanded)
- VII. **Electrospun essential oil-polycaprolactone nanofibers as antibiofilm surfaces against clinical *Candida tropicalis* isolates**
ŞAHAL G., NASSERI B., EBRAHIMI A., BILKAY I. S.
BIOTECHNOLOGY LETTERS, vol.41, pp.511-522, 2019 (SCI-Expanded)
- VIII. **Antifungal and biofilm inhibitory effect of *Cymbopogon citratus* (lemongrass) essential oil on biofilm forming by *Candida tropicalis* isolates; an in vitro study**
ŞAHAL G., Woerdenbag H. J., Hinrichs W. L. J., Visser A., Tepper P. G., Quax W. J., van der Mei H. C., Bilkay I. S.
JOURNAL OF ETHNOPHARMACOLOGY, vol.246, 2019 (SCI-Expanded)
- IX. **Distribution of clinical isolates of *Candida* spp. and antifungal susceptibility of high biofilm-forming *Candida* isolates**
ŞAHAL G., BILKAY I. S.
REVISTA DA SOCIEDADE BRASILEIRA DE MEDICINA TROPICAL, vol.51, no.5, pp.644-650, 2018 (SCI-Expanded)
- X. **Higher Biofilm Formation by Multi-Drug Resistant *K-pneumoniae* and *K-rhinoscleromatis* Strains and Effects of Lemon and Ginger Essential Oils on Biofilm Formation**
ŞAHAL G., AVCIOĞLU N. H., BILKAY I. S.
INDIAN JOURNAL OF PHARMACEUTICAL EDUCATION AND RESEARCH, vol.50, no.2, 2016 (SCI-Expanded)
- XI. **ANTIBIOFILM EFFECTS of *Citrus limonum* and *Zingiber officinale* Oils on BIOFILM FORMATION of *Klebsiella ornithinolytica*, *Klebsiella oxytoca* and *Klebsiella terrigena* SPECIES**
AVCIOĞLU N. H., ŞAHAL G., BILKAY I. S.
AFRICAN JOURNAL OF TRADITIONAL COMPLEMENTARY AND ALTERNATIVE MEDICINES, vol.13, no.6, pp.61-67, 2016 (SCI-Expanded)
- XII. **Anti-biofilm effect of nanometer scale silver (NmSAg) coatings on glass and polystyrene surfaces against *P-mirabilis*, *C-glabrata* and *C-tropicalis* strains**
ŞAHAL G., NASSERI B., BILKAY I. S., PISKIN E.
JOURNAL OF APPLIED BIOMATERIALS & FUNCTIONAL MATERIALS, vol.13, no.4, 2015 (SCI-Expanded)
- XIII. **Multidrug resistance by biofilm-forming clinical strains of *Proteus mirabilis***
ŞAHAL G., Bilkay I. S.

ASIAN BIOMEDICINE, vol.9, no.4, pp.535-541, 2015 (SCI-Expanded)

- XIV. **Multi drug resistance in strong biofilm forming clinical isolates of Staphylococcus epidermidis**
ŞAHAL G., Bilkay I. S.
BRAZILIAN JOURNAL OF MICROBIOLOGY, vol.45, no.2, pp.539-544, 2014 (SCI-Expanded)
- XV. **Determination of biofilm formation in clinical strains of Proteus mirabilis**
ŞAHAL G., BILKAY I. S.
NEW BIOTECHNOLOGY, vol.29, 2012 (SCI-Expanded)

Articles Published in Other Journals

- I. **Antimicrobial, Antibiofilm and Anticancer Potentials of Glycine and Glycyl-Glycine; an in vitro study**
ŞAHAL G., SEVİM AKAN H., KARACA T. D.
Hacettepe Journal of Biology and Chemistry, vol.52, no.4, pp.273-283, 2024 (Peer-Reviewed Journal)
- II. **Accelerating the environmental biodegradation of poly-3-hydroxybutyrate (PHB) via plasma surface treatment**
Akdoğan E., Şirin H. T., Şahal G., Deniz Z., Kaya A., Çökeliler D.
Bioresource Technology Reports, vol.25, pp.1-11, 2023 (Peer-Reviewed Journal)
- III. **ANTIMICROBIAL PIGMENT FROM FUSARIUM GRAMINEARUM: OPTIMIZING CONDITIONS AND UTILIZING AGRO-INDUSTRIAL RESIDUES**
Dag T., ŞAHAL G., Bilkay I. S.
Journal of Microbiology, Biotechnology and Food Sciences, vol.13, no.2, 2023 (ESCI)
- IV. **Candida Biofilm Formation Assay on Essential Oil Coated Silicone Rubber**
ŞAHAL G., Woerdenbag H. J., Hinrichs W. L. J., Visser A., van der Mei H. C., SEYİS BİLKAY I.
BIO-PROTOCOL, vol.11, no.5, 2021 (ESCI)
- V. **Investigation of Biofilm Formation in Clinically Acquired Escherichia coli Strains**
AVCIOĞLU N. H., ŞAHAL G., SEYİS BİLKAY I.
HACETTEPE JOURNAL OF BIOLOGY AND CHEMISTRY, vol.43, no.1, pp.43-48, 2015 (Peer-Reviewed Journal)
- VI. **Determination of Antibiotic Resistance and Plasmid DNA Profiles of Escherichia coli Strains Isolated from Clinical Materials**
Şahal G., Avcioğlu N. H., Seyis Bilkay I.
INTERNATIONAL JOURNAL OF AGRICULTURE AND BIOLOGY, vol.12, no.5, pp.724-728, 2010 (Scopus)

Refereed Congress / Symposium Publications in Proceedings

- I. **Influence of E. coli cell density on antibiotic resistance**
ŞAHAL G.
5th International Euroasian Conference on Biological and Chemical Sciences, Ankara, Turkey, 23 - 25 November 2022
- II. **Belirli Uçucu Yağların E. coli İzolatlarına Karşı Antimikrobiyal Etkilerinin Araştırılması**
ŞAHAL G.
5.Ulusal Uygulamalı Biyolojik Bilimler Kongresi, Adana, Turkey, 29 October 2022
- III. **Determination and distribution of biofilm forming cervicovaginal polymicrobial cultures**
Şahal G., Dönmez H. G.
Determination and distribution of biofilm forming cervicovaginal polymicrobial cultures, Ankara, Turkey, 16 December 2020 - 18 November 2023, pp.82
- IV. **Importance of biofilm formation during the management of cytolytic vaginosis; Necessity of essential oils**
Şahal G., Dönmez H. G.
3rd International Eurasian Conference on Biological and Chemical Sciences, Ankara, Turkey, 19 - 20 March 2020,

- V. **Effect of Lemongrass Oil Containing Polycaprolactone Nanofibers on Biofilm Formation of *Proteus mirabilis***
ŞAHAL G., NASSERI B., EBRAHİMİ A. A., SEYİS BİLKAY I.
18th International Conference on Bioinformatics, Biomedicine, Biotechnology and Computational Biology, 15 - 16 August 2016
- VI. **Effects of Cinnamon Lemon and Lemongrass Essential Oils on Biofilm Formation of *Candida tropicalis* upon Polyethylene Polytetrafluoroethylene and Glass Surfaces**
ŞAHAL G., Van der MEI H., SEYİS BİLKAY I.
W.J. Kolff Conference, 29 - 31 March 2015
- VII. **Anti Biofilm Effect of Nanometer Scale Silver NmsAg Coatings on Glass and Polystyrene Surfaces Against Clinical *P. mirabilis*, *C. glabrata* and *C. tropicalis* Strains**
ŞAHAL G., BEHZAD N., SEYİS BİLKAY I., PİŞKİN E.
20th International Symposium on Biomedical Science and Technology, 23 - 26 August 2014
- VIII. ***Escherichia coli* Suşlarında Antibiyotik Dirençliliğinin ve Biyofilm Oluşumunun Araştırılması**
ŞAHAL G., AVCIOĞLU N. H., SEYİS BİLKAY I.
22. Ulusal Biyoloji Kongresi, Turkey, 23 - 27 June 2014
- IX. **Klinik *Proteus mirabilis* Suşlarının Cam Malzeme Üzerindeki Biyofilm Oluşumlarının Araştırılması**
ŞAHAL G., SEYİS BİLKAY I.
22. Ulusal Biyoloji Kongresi, Turkey, 23 - 27 June 2014
- X. **Klinik *Klebsiella ornithinolytica*, *Klebsiella oxytoca* ve *Klebsiella terrigena* izolatlarında biyofilm oluşumunun araştırılması**
AVCIOĞLU N. H., ŞAHAL G., SEYİS BİLKAY I.
22. Ulusal Biyoloji Kongresi, Turkey, 23 - 27 June 2014
- XI. **Klinik *Klebsiella ornithinolytica*, *Klebsiella oxytoca* Ve *Klebsiella terrigena* İzolatlarında Biyofilm Oluşumunun Araştırılması**
AVCIOĞLU N. H., ŞAHAL G., SEYİS BİLKAY I.
22. Ulusal Biyoloji Kongresi, Eskişehir, Turkey, 23 - 27 June 2014, pp.825
- XII. **Determination of Biofilm Formation in Different Clinical *Candida* Species and Investigation of Effects of Some Plant Substances on These Biofilms**
ŞAHAL G., SEYİS BİLKAY I.
International Conference on Agricultural, Biotechnology, Biological and Biosystems Engineering, 15 - 16 May 2014
- XIII. **Investigation of Biofilm Formation in Clinical Strains of *Klebsiella pneumoniae* and *Klebsiella rhinoscleromatis***
ŞAHAL G., AVCIOĞLU N. H., SEYİS BİLKAY I.
International Conference on Agricultural, Biotechnology, Biological and Biosystems Engineering, 15 - 16 May 2014
- XIV. ***Staphylococcus epidermidis*, *Proteus mirabilis* ve *Candida albicans* Suşlarında Antibiyotik Dirençliliğinin Araştırılması**
ŞAHAL G., SEYİS BİLKAY I.
1. Antibiyotik Farkındalık Sempozyumu, Turkey, 20 - 22 November 2012
- XV. **Determination of Biofilm Formation in Clinical Strains of *Proteus mirabilis***
ŞAHAL G., SEYİS BİLKAY I.
15th European Congress on Biotechnology (ECB15) 23-26 Eylül 2012, İstanbul, 170-171., 23 - 26 September 2012
- XVI. **Determination of Biofilm Formation and Antifungal Resistance in *Candida albicans* and *Candida glabrata*.**
Şahal G.
Biofilms in Nosocomial Fungal Infections, Paris, France, 31 January - 01 February 2011, pp.82
- XVII. **İdrar Yolu Enfeksiyonlarından İzole Edilen *Escherichia coli* Suşlarının Antibiyotik Dirençliliği ve Plazmid Profillerinin Belirlenerek Karşılaştırılması**
ÜRKMEZ N. H., ŞAHAL G., SEYİS BİLKAY I.
XVI. Ulusal Biyoteknoloji Kongresi, Turkey, 13 - 16 December 2009

- XVIII. İdrar Enfeksiyonlarından İzole Edilen *Escherichia coli* Suşlarının Antibiyotik Dirençliliği ve Plazmid Profillerinin Belirlenerek Karşılaştırılması
AVCIOĞLU N. H., ŞAHAL G., SEYİS BİLKAY I.
XVI. Ulusal Biyoteknoloji Kongresi, Antalya, Turkey, 14 - 16 December 2009, pp.75

Supported Projects

- ŞAHAL G., DÖNMEZ H. G., SÜTEKİN S. D., KARAHİSAR TURAN S., SEYİS BİLKAY I., GÜVEN O., TANER A., Project Supported by Higher Education Institutions, Bitkisel madde içerikli hidrojel ve mikrobiyal selülozların antimikrobiyal ve antibiyofilm etkileri ile sitotoksik potansiyellerinin araştırılması, 2020 - 2023
ŞAHAL G., SEYİS BİLKAY I., Project Supported by Higher Education Institutions, Çeşitli Esansiyel Yağlar içeren Polikaprolakton Nanofiberlerin Farklı *Candida* Türleri Üzerindeki Antibiyofilm Etkilerinin Araştırılması, 2017 - 2018
ŞAHAL G., Project Supported by Higher Education Institutions, Limonotu Yağı içeren Polikaprolakton Nanofiberlerinin, *Proteus mirabilis*'in Biyofilm Oluşumuna Etkisi, 2016 - 2016
SEYİS BİLKAY I., ŞAHAL G., Project Supported by Higher Education Institutions, Farklı Klinik *Candida* Suşlarının Çeşitli Malzemeler Üzerinde Oluşturdukları Biyofilmlerin Ve Bu Biyofilmler Üzerine Etkisi Olan Farklı Bitkisel Maddelerin Araştırılması, 2016 - 2016

Scientific Refereeing

Journal of International Research in Medical and Pharmaceutical Sciences, Other Indexed Journal, December 2016

Metrics

- Publication: 39
Citation (WoS): 37
Citation (Scopus): 33
H-Index (WoS): 3
H-Index (Scopus): 4

Congress and Symposium Activities

- 18th International Conference on Bioinformatics, Biomedicine, Biotechnology and Computational Biology, Attendee, Kobenhavn, Denmark, 2016
W.J. Kolff Conference, Attendee, Groningen, Netherlands, 2015
The 5th Thesinge Biofilm Meeting, Attendee, Groningen, Netherlands, 2014
20th International Symposium on Biomedical Science and Technology, Attendee, Muğla, Turkey, 2014
22. Ulusal Biyoloji Kongresi, Attendee, Eskişehir, Turkey, 2014
International Conference on Agricultural, Biotechnology, Biological and Biosystems Engineering, Attendee, Amsterdam, Netherlands, 2014
10. Ulusal Çevre Mühendisliği Kongresi, Attendee, Ankara, Turkey, 2013
10. Ulusal Çevre Mühendisliği Kongresi, Attendee, Ankara, Turkey, 2013
International Conference on Environmental Science and Technology (ICOEST 2013), Attendee, Nevşehir, Turkey, 2013
1. Antibiyotik Farkındalık Sempozyumu, Attendee, Kırıkkale, Turkey, 2012
21. Ulusal Biyoloji Kongresi, Attendee, İzmir, Turkey, 2012
15th European Congress on Biotechnology (ECB15), Attendee, İstanbul, Turkey, 2012
Biofilms In Nosocomial Fungal Infections, Attendee, Paris, France, 2011
XVI. Ulusal Biyoteknoloji Kongresi, Attendee, Denizli, Turkey, 2010

4. Kk Hcre Sempozyumu, Attendee, Ankara, Turkey, 2009

Non Academic Experience

Hacettepe niversitesi