

## Asst. Prof. HÜLYA SİLAH

### Personal Information

**Office Phone:** [+90 228 214 1484](tel:+902282141484)

**Email:** hulya.mercan@bilecik.edu.tr

**Web:** <https://avesis.bilecik.edu.tr/hulya.mercan>

### International Researcher IDs

ScholarID: QoRn8l0AAAAJ

ORCID: 0000-0001-9763-2925

ScopusID: 55735883300

Yoksis Researcher ID: 41478

### Education Information

Doctorate, Gazi University, Fen Bilimleri Enstitüsü, Kimya (Dr), Turkey 2006 - 2010

Postgraduate, Gazi University, Fen Bilimleri Enstitüsü, Kimya (YI) (Tezli), Turkey 2004 - 2005

Undergraduate, Akdeniz University, Fen-Edebiyat Fakültesi, Kimya Bölümü, Turkey 1999 - 2003

### Foreign Languages

English, B2 Upper Intermediate

### Dissertations

Doctorate, Triazin grubu pestisitlerin elektrokimyasal davranışlarının incelenmesi ve tayinleri, Gazi University, Fen Bilimleri Enstitüsü, Kimya (Dr), 2010

Postgraduate, Moksifloksasinin polarografik tayini ve moksifloksasin kullanilarak Co(II) tayini, Gazi University, Fen Bilimleri Enstitüsü, Kimya (YI) (Tezli), 2005

### Academic and Administrative Experience

Bilecik Seyh Edebali University, 2015 - Continues

Bilecik Seyh Edebali University, 2012 - 2015

Bilecik Seyh Edebali University, 2010 - 2012

### Courses

Genel Kimya, Undergraduate, 2013 - 2014

Bitirme Ödevi, Undergraduate, 2013 - 2014

Analitik Kimya, Undergraduate, 2013 - 2014

Biyokimya Laboratuari, Undergraduate, 2013 - 2014

Analitik Kimya I, Undergraduate, 2013 - 2014

Analitik Kimya Laboratuari I, Undergraduate, 2013 - 2014

## **Advising Theses**

SİLAH H., Yarış atlarının kan örneklerinde bazı anabolik steroid (testosteron) esterlerinin LC-MS/MS ile tespiti, Postgraduate, L.YATANASLAN(Student), 2023

SİLAH H., POLİMERİK REÇİNELER İLE BOYAR MADDE GİDERİMİ, Postgraduate, A.SARISOYLU(Student), 2023

SİLAH H., Farklı adsorbanlar kullanılarak atık sulardan reaktif boyaların gideriminde adsorpsiyon koşullarının araştırılması, Postgraduate, G.ÖZTÜRK(Student), 2018

SİLAH H., Bazı reaktif boyaların kinetik ve izoterm modellerinin araştırılması, Postgraduate, M.BAŞAR(Student), 2018

SİLAH H., Aktif karbon, amberlyst ve doğal biyokütle kullanılarak bromocresol purple boyasının atık sulardan giderim koşullarının incelenmesi, Postgraduate, C.MERGEN(Student), 2018

SİLAH H., Ticari ve doğal adsorbanlar kullanılarak tekstil boyası giderimine yüzey aktif maddelerin etkisinin incelenmesi, Postgraduate, M.NURİ(Student), 2017

SİLAH H., Biyosorbentler kullanılarak triazin grubu pestisitlerin sulu ortamdan gideriminin incelenmesi, Postgraduate, E.ÖZLÜ(Student), 2016

SİLAH H., Rhizopus arrhizus, aktif karbon ve amberlyst kullanılarak eriochrome black t'nin sulu çözeltiden gideriminin incelenmesi, Postgraduate, K.ÇETİNBAŞ(Student), 2014

## **Published journal articles indexed by SCI, SSCI, and AHCI**

- I. **PESTICIDE REMOVAL BY FILAMENTOUS FUNGI USING ELECTROCHEMICAL TECHNIQUES** of 16  
**PESTICIDE REMOVAL BY FILAMENTOUS FUNGI USING ELECTROCHEMICAL TECHNIQUES**  
Gül Ü. D., Silah H.  
ENVIRONMENTAL ENGINEERING AND MANAGEMENT JOURNAL, vol.22, no.3, pp.497-508, 2023 (SCI-Expanded)
- II. **Electrochemical Sensor Design Based on Silver Nanoparticles Modified Multiwalled Carbon Nanotubes Paste Electrode for the Sensitive Determination of Mepivacaine**  
Demir E., Silah H., Erkmen C., Uslu B.  
Combinatorial Chemistry and High Throughput Screening, vol.26, no.15, pp.2644-2655, 2023 (SCI-Expanded)
- III. **Phthalocyanine Modified Electrodes in Electrochemical Analysis**  
Demir E., Silah H., Uslu B.  
Critical Reviews in Analytical Chemistry, vol.52, no.2, pp.425-461, 2022 (SCI-Expanded)
- IV. **Decolorization property of living Lichen Evernia prunastri on textile Acid Red P-2BX dye**  
Ünal D., Gül Ü. D., Silah H.  
International Journal of Environmental Science and Technology, vol.18, no.11, pp.3469-3478, 2021 (SCI-Expanded)
- V. **Modified indium tin oxide electrodes: Electrochemical applications in pharmaceutical, biological, environmental and food analysis**  
Silah H., Erkmen C., Demir E., Uslu B.  
TrAC - Trends in Analytical Chemistry, vol.141, 2021 (SCI-Expanded)
- VI. **Studies of mechanism, kinetic model and determination of bupivacaine and its application pharmaceutical forms**  
Demir E., İnam O., Silah H., Karimi-Maleh H.  
Microchemical Journal, vol.159, 2020 (SCI-Expanded)
- VII. **Development of a new analytical method for determination of veterinary drug oxyclozanide by electrochemical sensor and its application to pharmaceutical formulation**  
Demir E., Silah H.  
Chemosensors, vol.8, no.2, 2020 (SCI-Expanded)
- VIII. **Reinvestigations of the reactions of hexachlorocyclotriphosphazene with difunctional primary amines leading to novel dangler, ansa and bridged derivatives. Spectroscopic studies of the derived products**  
Türe S., Silah H., Tuna M.

- Journal of Molecular Structure, vol.1202, 2020 (SCI-Expanded)
- IX. **Apical extrusion of sodium hypochlorite activated with two laser systems and ultrasonics: A spectrophotometric analysis**  
Helvacloğlu Klvanç B., Deniz Arısu H., Yanar N. Ö., Silah H., İnam R., Görgül G.  
BMC Oral Health, vol.15, no.1, 2015 (SCI-Expanded)
- X. **Comparison of color removal from reactive dye contaminated water by systems containing fungal biosorbent, active carbon and their mixture**  
Gül Ü. D., Silah H.  
Water Science and Technology, vol.70, no.7, pp.1168-1174, 2014 (SCI-Expanded)
- XI. **Synthesis and structural characterization of singly, doubly, and triply bridged derivatives of hexachlorocyclotriphosphazene with bis(2-hydroxyethyl) ether and 2,2-dimethylpropane-1,3-diol**  
Silah H., Türe S.  
Phosphorus, Sulfur and Silicon and the Related Elements, vol.189, no.2, pp.198-214, 2014 (SCI-Expanded)
- XII. **Genotoxicity effects of Flusilazole on the somatic cells of Allium cepa**  
Ozakca D. U., Silah H.  
Pesticide Biochemistry and Physiology, vol.107, no.1, pp.38-43, 2013 (SCI-Expanded)
- XIII. **Square wave adsorptive stripping voltammetric determination of cyromazine insecticide with multi-walled carbon nanotube paste electrode**  
Mercan H., İnam R., Aboul-Enein H. Y.  
Analytical Letters, vol.44, no.8, pp.1392-1404, 2011 (SCI-Expanded)
- XIV. **Determination of cymoxanil fungicide in commercial formulation and natural water by square-wave stripping voltammetry**  
Mercan H., İnam R.  
Clean - Soil, Air, Water, vol.38, no.5-6, pp.558-564, 2010 (SCI-Expanded)
- XV. **Determination of the fungicide anilazine in soil and river water by differential pulse polarography**  
Mercan H., İnam R.  
Clean - Soil, Air, Water, vol.36, no.10-11, pp.913-919, 2008 (SCI-Expanded)
- XVI. **Differential pulse polarographic behaviour of thiazopyr herbicide and application to its determination in fruit juice and soil samples**  
Mercan H., İnam R.  
International Journal of Environmental Analytical Chemistry, vol.88, no.12, pp.879-890, 2008 (SCI-Expanded)
- XVII. **Determination of insecticide pymetrozine by differential pulse polarography/application to lake water and orange juice**  
Mercan H., Yilmaz E., İnam R.  
Journal of Hazardous Materials, vol.141, no.3, pp.700-706, 2007 (SCI-Expanded)
- XVIII. **Differential pulse polarographic determination of moxifloxacin hydrochloride in pharmaceuticals and biological fluids**  
İnam R., Mercan H., Yilmaz E., Uslu B.  
Analytical Letters, vol.40, no.3, pp.529-546, 2007 (SCI-Expanded)
- XIX. **Differential pulse polarographic determination of Co(II) using moxifloxacin**  
İnam R., Mercan H., Yilmaz E., Uslu B.  
Journal of Analytical Chemistry, vol.62, no.6, pp.592-598, 2007 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Adsorption of reactive Orange 16 by Amberlyst A21: Isotherm and kinetic investigations**  
Basar M., Silah H.  
Turkish Journal of Analytical Chemistry (Online), vol.2, no.1, pp.22-28, 2020 (Peer-Reviewed Journal)
- II. **Adsorptive Removal of Remazol Brilliant Blue R from Water by Using a Macroporous Polystyrene Resin: Isotherm and Kinetic Studies**

- Ozturk G., Silah H.  
Environmental Processes, vol.7, no.2, pp.479-492, 2020 (ESCI)
- III. USAGE OF WASTE ACTIVE SLUDGE OBTAINED FROM A MEMBRANE BIOREACTOR SYSTEM AS A LOWCOST BIOSORBENT FOR REMOVAL OF CU (II) IONS**  
Gül Ü. D., Açıkgöz Ç., Silah H.  
International Journal of Applied Biology and Environmental Science, vol.2, no.1, pp.4-8, 2020 (Peer-Reviewed Journal)
- IV. Amberlyst A21 İle Everzol Black Boyasının Adsorpsiyonu: İzoterm ve Kinetik Çalışmalar**  
Silah H., Gül Ü. D.  
SAKARYA UNIVERSITY JOURNAL OF SCIENCE, vol.22, no.3, pp.1063-1070, 2018 (Peer-Reviewed Journal)
- V. TARIMDA KULLANILAN ATRAZİNİN GİDERİMİNDE RHIZOPUS**  
Gül Ü. D., Silah H.  
GIDA, vol.42, no.3, pp.261-267, 2017 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. Principle of enzyme-linked electrochemical sensors**  
Kurbanoglu S., Silah H., Erkmen C., Ünal D. N., Uslu B.  
in: Encyclopedia of Solid-Liquid Interfaces, Klaus Wandelt and Gianlorenzo Bussetti, Editor, Elsevier Science, Oxford/Amsterdam , Amsterdam, pp.589-601, 2024
- II. İlaç Analizlerinde Aptansensör Tasarımları**  
Sadak S., Küçük İ., Silah H., Uslu B.  
in: CUMHURİYETİN 100. YILINDA ECZACILIKTA YENİLİKLER 4 , Prof. Dr. Asuman BOZKIR,Prof. Dr. İlkay YILDIZ, Editor, Ankara Üniversitesi Yayınları, Ankara, pp.39-52, 2023
- III. Electrochemical biosensing for determination of toxic dyes**  
Erkmen C., Silah H., Uslu B.  
in: Novel Nanostructured Materials for Electrochemical Bio-sensing Applications, Jamballi G. Manjunatha, Editor, Elsevier Science, Oxford/Amsterdam , Amsterdam, pp.215-243, 2023
- IV. Electrochemistry of Metal Phosphates and Phosphonates**  
Silah H., Erkmen C., Uslu B.  
in: Metal Phosphates and Phosphonates: Fundamental to Advanced Emerging Applications, Ram K. Gupta, Editor, Springer, London/Berlin , Basel, pp.61-77, 2023
- V. Sensing of phenol and chlorophenols using carbon nanotubes modified glassy carbon electrode**  
Silah H., Erkmen C., Ünal D. N., Uslu B.  
in: Sensing of Deadly Toxic Chemical Warfare Agents, Nerve Agent Simulants, and their Toxicological Aspects, Sangita Das,Sabu Thomas,Partha Pratim Das, Editor, Elsevier Science, Oxford/Amsterdam , Amsterdam, pp.297-329, 2023
- VI. Carbon nanomaterial-based sensors for the development of sensitive sensor platform**  
Silah H., Demir E., Yıldırım S., Uslu B.  
in: Carbon Nanomaterials-Based Sensors, Jamballi G. Manjunatha,Chaudhery Mustansar Hussain, Editor, Elsevier Science, Oxford/Amsterdam , Amsterdam, pp.191-246, 2022
- VII. The Use of Nanomaterials in Modified Electrodes from Past to Present**  
Selçuk Ö., Ünal D. N., Silah H., Uslu B.  
in: Advances in Nanotechnology, Zacharie Bartul,Jerome Trednor, Editor, NOVA Science Publishers Inc. , New York, pp.1-80, 2022
- VIII. Electrochemical Applications for the Antioxidant Sensing in Food Samples Such as Citrus and Its Derivatives, Soft Drinks, Supplementary Food and Nutrients**  
Demir E., Silah H., Aydoğdu N.  
in: Citrus - Research, Development and Biotechnology, Muhammad Sarwar Khan,Iqrar Ahmad Khan, Editor, IntechOpen, London, pp.1-37, 2021

**IX. Electrochemical Analysis of Pesticide in Food Samples**

Demir E., Silah H., Aydoğdu N.

in: Medicine & Health 2021, Hüseyin Kafadar,Hakan Kaya, Editor, Efe Akademi Yayınlar, İstanbul, pp.213-234, 2021

**Refereed Congress / Symposium Publications in Proceedings**

- I. DETERMINATION OF SOME ANABOLIC STEROID (TESTOSTERONE) ESTERS IN RACE HORSE BLOOD SAMPLES BY LC-MS/MS  
YATANASLAN L., SİLAH H.  
CUKUROVA 10th INTERNATIONAL SCIENTIFIC RESEARCHES CONFERENCE, Adana, Turkey, 02 April 2023
- II. 'ERIOCHROME BLACK T BOYASININ GİDERİMİNDE YÜZYEY AKTİF MADDELER İLE MODİFYE EDİLMİŞ FİLTRE KAHVE ATIĞININ KULLANILMASI  
SİLAH H.  
AKDENİZ 9th INTERNATIONAL CONFERENCE ON APPLIED SCIENCES, Adana, Turkey, 01 April 2023
- III. Rafoxanide laç Etkn Maddesinin Elektrokimyasal Davranışının Modifiye Elektrotla İncelenmesi  
DEMİR E., SİLAH H., AYDOĞDU N., SARIKÜRKCÜ C., AÇIKGÜL M. B.  
3rd International Coference on Food, Agriculture and Veterinary, İzmir, Turkey, 19 June 2021
- IV. Adsorption Of Methyl RedBy Using A MacroporousPolystyrene Resin:Isotherm And KineticStudies  
SİLAH H.  
5th International Turkic World Conference on Chemical Sciences and Technologies, Sakarya, Turkey, 25 - 29 October 2019
- V. Oksiklozanidinin voltametrik yöntemlerle elektrokimyasal özelliklerin incelenmesi ve analitik uygulaması  
DEMİR E., SİLAH H.  
2nd International Eurasian Conference on Biological and Chemical Sciences, Turkey, 28 - 29 June 2019
- VI. Reinvestigations of the reactions of cyclotriphosphazene with difunctional primary amines leading to novel dangler, ansa and bridged derivatives. Spectroscopic studies of the derived products  
TÜRE S., SİLAH H.  
Yalova, 4th International Scientific Research Congress (UBAK), 14 - 17 February 2019
- VII. Isotherm and kinetic studies on adsorption of reactive orange 16 using by different adsorbents  
SİLAH H., basar m.  
6th International Molecular Biology and Biotechnology Congress Molbiotech, 22 - 25 December 2017
- VIII. Treatment of Herbicide Contaminated Water  
GÜL Ü. D., SİLAH H.  
ANCON 2017, 5 - 07 October 2017
- IX. INVESTIGATION OF REMOVAL OF REACTIVE DYES FROM AQUEOUS SOLUTIONS USING BY DIFFERENT ADSORBENTS  
SİLAH H., GÜL Ü. D., ÖZTÜRK G.  
ICAS 2017, 13 - 15 September 2017
- X. The effect of dodecyltrimethylammoniumbromide on Ni biosorption property of white rod fungi  
Gül Ü. D., Silah H.  
2nd International Conference on Advances in Natural and Applied Sciences, ICANAS 2017, Antalya, Turkey, 18 - 21 April 2017, vol.1833
- XI. Comparison of nickel biosorption properties of living and dead Rhizopus arrhizus biosorbent  
Silah H., Gül Ü. D.  
2nd International Conference on Advances in Natural and Applied Sciences, ICANAS 2017, Antalya, Turkey, 18 - 21 April 2017, vol.1833
- XII. Bioremoval of Atrazine from Aqueous Solutions by Growing Aspergillus versicolor Culture  
GÜL Ü. D., SİLAH H.  
2nd International Conference on Advances in Natural and Applied Sciences, ICANAS 2017 Antalya Turkey, 18 - 21

- April 2017
- XIII. **Investigation of Removal of Bromocresol Purple Using by Commercial and Natural Adsorbents**  
SİLAH H., GÜL Ü. D., Mergen c.  
2nd International Conference on Advances in Natural and Applied Sciences, ICANAS 2017 Antalya Turkey, 18 - 21 April 2017
- XIV. **Optimization of Amylase Production and Purification of the Enzyme from Rhizopus arrhizus**  
KESKİN Ş., GÜL Ü. D., keskin m., SİLAH H.  
INTERNATIONAL CONFERENCE ON BIOLOGICAL SCIENCES (ICBS), 21 - 23 October 2016
- XV. **Investigation of effects of surfactants on removal of textile dye using by commercial and natural adsorbents**  
SİLAH H., GÜL Ü. D., Şahin M. N.  
International Conference on Biological Sciences, 21 - 23 October 2016
- XVI. **TRİAZİN GRUBU İNSEKTİSLERİN BİYOSORBENTLER KULLANILARAK GİDERİMİNİN İNCELENMESİ**  
SİLAH H., GÜL Ü. D., ÖZLU E., ÖZAKÇA D.  
ESAN Eser Analiz Çalıştayı 2016, Sakarya, Turkey, 19 - 22 May 2016
- XVII. **Investigation of removal of methyl orange from aqueous solutions using by Rhizopus arrhizus active carbon and amberlyst**  
SİLAH H., GÜL Ü. D., dağdelen e.  
International Conference on Advances in Natural and Applied Sciences, 21 - 23 April 2016
- XVIII. **Removal of 2,4-Dichlorophenoxyacetic Acid from Agricultural Wastewaters**  
GÜL Ü. D., SİLAH H., Has M.  
ICANAS, Turkey, 21 - 23 April 2016
- XIX. **Development of a new electrochemical determination method for 2,4-D and fungal biosorption**  
SİLAH H., GÜL Ü. D., dağdelen e.  
International Conference on Advances in Natural and Applied Sciences, 21 - 23 April 2016
- XX. **Removal of 2,4-Dichlorophenoxyacetic acid from Agricultural wastewaters by fungi**  
GÜL Ü. D., SİLAH H., has m.  
ICANAS 2016, 21 - 23 April 2016
- XXI. **The effect of surfactant on pollutant biosorption of Trametes versicolor**  
Gül Ü. D., Silah H., Akbaş H., Has M.  
International Conference on Advances in Natural and Applied Sciences, ICANAS 2016, Antalya, Turkey, 21 - 23 April 2016, vol.1726
- XXII. **Copper adsorption in waste waters by novel adsorbents powdered common blue mussel shell and dried fungus in comparison to activated carbon**  
ÖZCAN S., GÜL Ü. D., SİLAH H.  
14th International Conference on Environmental Science And Technology 3-5 September 2015, Rhodes, Greece, 3 - 05 September 2015
- XXIII. **Electrochemical Investigation of Some Triazine Pesticides**  
İNAM R., SİLAH H., SARIGÜL T.  
8th International Electrochemistry Meeting in TURKEY, 8 - 11 October 2009
- XXIV. **Determination of Cyromazine by Square Wave stripping Voltammetry with Glassy Carbon and Multi Wall Carbon Nanotubes Paste Electrode**  
SİLAH H., İNAM R.  
9th International Symposium on Pharmaceutical Sciences, 23 - 26 June 2009
- XXV. **Determination of Fungicide Cymoxanil by Square wave Adsorptive Stripping Voltammetry/Application to Commercial Formulations and Natural Water**  
MERCAN H., İNAM R.  
6th Aegean Analytical Chemistry Days, 9 - 12 October 2008
- XXVI. **Study and Determination of the Herbicide Cyclosulfamuron by Square Wave Adsorptive Stripping Voltammetry**  
sarigül t., SİLAH H., İNAM R.

6th Aegean Analytical Chemistry Days (AACD), Denizli, TURKEY 9-12 October 2008, 9 - 12 October 2008

XXVII. **Electrochemical behaviour of the Antibacterial Drug Moxifloxacin and its Differential Polarographic Estimation in Bulk Form and Biological Fluids**

İNAM R., MERCAN H., YILMAZ E., USLU B.

11th Meeting on Recent Developments in Pharmaceutical Analysis (RDPA), 25 - 28 September 2005, pp.153