

# Prof. İSMAİL ÖZBAY

## Personal Information

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**Address:** Kocaeli Üniversitesi/ Mühendislik Fakültesi / Çevre Mühendisliği Bölümü, Umuttepe, 41380, Kocaeli

## International Researcher IDs

ORCID: 0000-0001-6828-3033

Publons / Web Of Science ResearcherID: F-4912-2018

Yoksis Researcher ID: 40551

## Education Information

Doctorate, Kocaeli University, Fen Bilimleri Enstitüsü, Çevre Mühendisliği Anabilim Dalı, Turkey 2005 - 2011

Postgraduate, Kocaeli University, Fen Bilimleri Enstitüsü, Çevre Mühendisliği Anabilim Dalı, Turkey 2002 - 2004

Undergraduate, Kocaeli University, Mühendislik Fakültesi, Çevre Mühendisliği Bölümü, Turkey 1997 - 2001

## Foreign Languages

English, B1 Intermediate

## Dissertations

Doctorate, Balyalanmış evsel katı atıkların depolanma sürecindeki değişiminin ve yanma özelliklerinin incelenmesi, Kocaeli Üniversitesi, Fen Bilimleri Enstitüsü, Çevre Mühendisliği Anabilim Dalı, 2011

Postgraduate, Çevre Kimyasında Karşılaşılan Girişimlerin Belirlenmesi ve Giderilme Yöntemleri, Kocaeli Üniversitesi, Fen Bilimleri Enstitüsü, Çevre Mühendisliği Anabilim Dalı, 2004

## Research Areas

Environmental Engineering, Environmental Technology, Pollution Prevention and Waste Reduction, Soil and Groundwater Pollution and Control, Engineering and Technology

## Academic Titles / Tasks

Professor, Kocaeli University, Mühendislik Fakültesi, Çevre Mühendisliği, 2022 - Continues

Associate Professor, Kocaeli University, Mühendislik Fakültesi, Çevre Mühendisliği, 2016 - 2022

Research Assistant, Kocaeli University, Mühendislik Fakültesi, Çevre Mühendisliği, 2002 - 2016

## Academic and Administrative Experience

Head of Department, Kocaeli University, Mühendislik Fakültesi, Çevre Mühendisliği, 2023 - Continues

Head of Department, Kocaeli University, Mühendislik Fakültesi, Çevre Mühendisliği, 2023 - Continues  
Director of Vocational School, Kocaeli University, Ali Rıza Veziroğlu Meslek Yüksekokulu, 2020 - Continues  
Deputy Head of Department, Kocaeli University, Mühendislik Fakültesi, Çevre Mühendisliği, 2017 - 2020

## Courses

Sürdürülebilir Atık Yönetimi, Doctorate, 2022 - 2023  
Bitirme Çalışması, Undergraduate, 2023 - 2024  
Waste Reuse, Undergraduate, 2023 - 2024  
Design of Water and Wastewater Treatment Plant, Undergraduate, 2022 - 2023  
Çevre Jeolojisi, Undergraduate, 2017 - 2018  
Çevre Mühendisliğinde Fiziksel Kimyasal Arıtım Yöntemleri, Undergraduate, 2016 - 2017  
Arıtma Çamuru ve Bertarafı, Undergraduate, 2016 - 2017  
Su ve Atıksu Arıtma Tesisi Tasarımı, Undergraduate, 2016 - 2017

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

- I. **Combination of electrocoagulation and electrooxidation processes for treatment of real wood processing effluents**  
SAYIN F. E., GENGEÇ E., ÖZBAY B., ÖZBAY İ.  
International Journal of Environmental Science and Technology, 2024 (SCI-Expanded)
- II. **Application of machine learning algorithms and feature selection methods for better prediction of sludge production in a real advanced biological wastewater treatment plant**  
Ekinci E., ÖZBAY B., İLHAN OMURCA S., SAYIN F. E., ÖZBAY İ.  
JOURNAL OF ENVIRONMENTAL MANAGEMENT, vol.348, 2023 (SCI-Expanded)
- III. **Comparative evaluation of alternatives for management of wood wastes by using multi-criteria decision tools**  
Sayın F. E., Topaloğlu G., Özbay B., Özbay İ.  
ENVIRONMENTAL RESEARCH COMMUNICATIONS, vol.5, no.11, 2023 (SCI-Expanded)
- IV. **Polyaniline-coated charcoal ash: a novel high-capacity adsorbent for removal of thiocyanate ions from aqueous solutions**  
Gengec N., Özbay B., Özbay İ., Kobya M., Gengeç E.  
INTERNATIONAL JOURNAL OF ENVIRONMENTAL ANALYTICAL CHEMISTRY, vol.103, no.16, pp.3865-3883, 2023 (SCI-Expanded)
- V. **Treatment of real printing and packaging wastewater by combination of coagulation with Fenton and photo-Fenton processes**  
SAYIN F. E., Karatas O., ÖZBAY İ., GENGEÇ E., Khataee A.  
CHEMOSPHERE, vol.306, 2022 (SCI-Expanded)
- VI. **Towards zero-waste airports: a case study of Istanbul Airport**  
ÖZBAY İ., Gokceviz N. A.  
JOURNAL OF MATERIAL CYCLES AND WASTE MANAGEMENT, vol.24, no.1, pp.134-142, 2022 (SCI-Expanded)
- VII. **Biodrying for fuel recovery from sewage sludge: An integrated evaluation by ultimate and proximate analyses**  
ÖZBAY İ., ÖZBAY B., Akdemir U.  
ENVIRONMENTAL PROGRESS & SUSTAINABLE ENERGY, vol.41, no.1, 2022 (SCI-Expanded)
- VIII. **Electro-oxidation of woodworking wastewater by using boron-doped diamond electrode**  
Özbay İ., Polat N.  
INTERNATIONAL JOURNAL OF ENVIRONMENTAL ANALYTICAL CHEMISTRY, vol.102, no.19, pp.7659-7672, 2020 (SCI-Expanded)

- IX. **Mobility of 2,4-Dichlorophenoxyacetic Acid, Glyphosate, and Metribuzine Herbicides in Terra Rossa-Amended Soil: Multiple Approaches with Experimental and Mathematical Modeling Studies**  
Gürson A. P., Özbay İ., Ozhay B., Akyol G., Akyol N. H.  
WATER AIR AND SOIL POLLUTION, vol.230, no.9, 2019 (SCI-Expanded)
- X. **Effect of waste matrix for the optimization of moisture content and calorific value of biodried material using Taguchi DOE**  
Mohammed M., Özbay İ., Karademir A., Donkor A.  
DRYING TECHNOLOGY, vol.37, pp.1352-1362, 2019 (SCI-Expanded)
- XI. **Optimizing Process Parameters on the Remediation Efforts for the Mass Removal of DNAPL Entrapped in a Porous Media**  
Mohammed M., ÖZBAY İ., Akyol G., AKYOL N. H., ŞAHİN Y., ÖZBAY B., Turkkan S., Karatas T.  
WATER AIR AND SOIL POLLUTION, vol.230, no.7, 2019 (SCI-Expanded)
- XII. **VOC and PAH characterization of petroleum coke at maximum thermal decomposition temperature**  
Inceoglu D. N., ÖZBAY İ., KARADEMİR A.  
ENERGY SOURCES PART A-RECOVERY UTILIZATION AND ENVIRONMENTAL EFFECTS, vol.41, no.11, pp.1305-1314, 2019 (SCI-Expanded)
- XIII. **Optimization of process variables for treatment of food industry effluents by electrocoagulation**  
VELİ S., ÖZBAY İ., ÖZBAY B., ARSLAN A., Cebi E.  
GLOBAL NEST JOURNAL, vol.20, no.3, pp.551-557, 2018 (SCI-Expanded)
- XIV. **Sorption and desorption behaviours of 2,4-D and glyphosate in calcareous soil from Antalya, Turkey**  
ÖZBAY B., AKYOL N. H., AKYOL G., ÖZBAY İ.  
WATER AND ENVIRONMENT JOURNAL, vol.32, no.1, pp.141-148, 2018 (SCI-Expanded)
- XV. **Bio-drying of green waste with high moisture content**  
Mohammed M., ÖZBAY İ., Durmusoglu E.  
PROCESS SAFETY AND ENVIRONMENTAL PROTECTION, vol.111, pp.420-427, 2017 (SCI-Expanded)
- XVI. **Application of O<sub>3</sub>/UV/ H<sub>2</sub>O<sub>2</sub> oxidation and process optimization for treatment of potato chips manufacturing wastewater**  
ARSLAN A., TOPKAYA E., ÖZBAY B., ÖZBAY İ., VELİ S.  
WATER AND ENVIRONMENT JOURNAL, vol.31, no.1, pp.64-71, 2017 (SCI-Expanded)
- XVII. **Photocatalytic activities of polyaniline-modified TiO<sub>2</sub> and ZnO under visible light: an experimental and modeling study**  
Özbay B., Genç N., Özbay İ., Baghaki B., Zor S.  
Clean Technologies and Environmental Policy, vol.18, pp.2591-2601, 2016 (SCI-Expanded)
- XVIII. **Effect of Organic Carbon Fraction on Long-term Atrazine Elution Tailing for Two Heterogeneous Porous Media: Experimental and Modeling Approach**  
AKYOL N. H., ÖZBAY İ., ÖZBAY B.  
WATER AIR AND SOIL POLLUTION, vol.226, no.11, 2015 (SCI-Expanded)
- XIX. **Evaluation of Municipal Solid Waste Management Practices for an Industrialized City**  
Ozbay İ.  
POLISH JOURNAL OF ENVIRONMENTAL STUDIES, vol.24, no.2, pp.637-644, 2015 (SCI-Expanded)
- XX. **Possibility of the most cost efficient choice: A divided process approach to method and location selection for municipal solid waste management**  
KORUCU M. K., CIHAN A., ALKAN A., ÖZBAY İ., KARADEMİR A., ALADAĞ Z.  
WASTE MANAGEMENT & RESEARCH, vol.32, no.11, pp.1073-1082, 2014 (SCI-Expanded)
- XXI. **Application of Taguchi L-32 orthogonal array design to optimize copper biosorption by using Spaghnum moss**  
ÖZDEMİR U., ÖZBAY B., ÖZBAY İ., VELİ S.  
ECOTOXICOLOGY AND ENVIRONMENTAL SAFETY, vol.107, pp.229-235, 2014 (SCI-Expanded)
- XXII. **APPLICATION AND EFFICIENCY OF PACKAGING WASTE COLLECTION PRACTICES IN KOCAELI, TURKEY**  
Ozbay İ.

- ENVIRONMENTAL ENGINEERING AND MANAGEMENT JOURNAL, vol.13, no.3, pp.713-721, 2014 (SCI-Expanded)
- XXIII. **Application of economical models for dye removal from aqueous solutions: cash flow, cost-benefit, and alternative selection methods**  
ÖZDEMİR U., ÖZBAY İ., ÖZBAY B., VELİ S.  
CLEAN TECHNOLOGIES AND ENVIRONMENTAL POLICY, vol.16, no.2, pp.423-429, 2014 (SCI-Expanded)
- XXIV. **Optimizing Dye Adsorption Onto a Waste-Derived (Modified Charcoal Ash) Adsorbent Using Box-Behnken and Central Composite Design Procedures**  
GENGEÇ E., ÖZDEMİR U., ÖZBAY B., ÖZBAY İ., VELİ S.  
WATER AIR AND SOIL POLLUTION, vol.224, no.10, 2013 (SCI-Expanded)
- XXV. **Kinetic, thermodynamic, and equilibrium studies for adsorption of azo reactive dye onto a novel waste adsorbent: charcoal ash**  
ÖZBAY İ., ÖZDEMİR U., ÖZBAY B., VELİ S.  
DESALINATION AND WATER TREATMENT, vol.51, pp.6091-6100, 2013 (SCI-Expanded)
- XXVI. **Energy content of municipal solid waste bales**  
ÖZBAY İ., Durmusoglu E.  
WASTE MANAGEMENT & RESEARCH, vol.31, no.7, pp.674-683, 2013 (SCI-Expanded)
- XXVII. **Temporal variation of decomposition gases from baled municipal solid wastes**  
ÖZBAY İ., Durmusoglu E.  
BIORESOURCE TECHNOLOGY, vol.112, pp.105-110, 2012 (SCI-Expanded)
- XXVIII. **Investigation of Interferences Effecting Environmental Chemistry Experiments**  
ÖZBAY İ., Kavaklı M.  
ASIAN JOURNAL OF CHEMISTRY, vol.22, no.8, pp.6580-6588, 2010 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Port waste reception facilities in iron-steel industry: A case study from Türkiye**  
ÖZBAY İ., Aksoy C., ÖZBAY B., SAYIN F. E.  
SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI, no.3, pp.845-853, 2024 (ESCI)
- II. **Inter-continental differences in waste management in developing countries: Turkey and Ghana**  
Mohammed M., ÖZBAY İ., Donkor A. K., Olalekan I. E., Nyankson E. A., Bayitse R., Mohammed L., Fahanwi A. N.  
PROCEEDINGS OF THE INSTITUTION OF CIVIL ENGINEERS-WASTE AND RESOURCE MANAGEMENT, vol.175, no.1, pp.14-28, 2022 (ESCI)
- III. **Elektrokoagülasyon prosesi İle Gıda Endüstrisi Atıksuyunun Arıtımında Optimum Koşulların Belirlenmesi**  
Veli S., Özbay B., Özbay İ., Arslan A., Çebi Ş. E.  
Süleyman Demirel Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.22, pp.932-936, 2018 (Peer-Reviewed Journal)
- IV. **Sorption Desorption Behavior of Atrazine for Calcareous Soil from Antalya Turkey**  
AKYOL N. H., ÖZBAY İ., AKYOL G., ÖZBAY B.  
Transactions on Environment and Development, 2016 (Peer-Reviewed Journal)
- V. **Fermentative Hydrogen Production in Batch Experiments Using Molasses Potato Processing Industry Wastewater and Chocolate Waste Influence of Acidic Hydrolyzation**  
GENÇ N., ÖZBAY İ.  
Asian Journal Of Chemistry, vol.27, pp.2184-2188, 2015 (Scopus)
- VI. **Evsel Katı Atıkların Depolanmasında Balyalama Teknolojisi ve Çevresel Etkileri**  
ÖZBAY İ., DURMUŞOĞLU E.  
Çevre Bilim ve Teknoloji, vol.4, pp.69-77, 2012 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. **Bio-Drying of Biodegradable Waste for Use as SolidFuel: A Sustainable Approach for Green WasteManagement**

Mohammed M., Donkor A., ÖZBAY İ.

in: Agricultural Waste and Residues, Aladjadjiyan Anna, Editor, Intech Open, pp.89-104, 2018

## Refereed Congress / Symposium Publications in Proceedings

- I. **Ağaç İşleme Atıksularının İleri Oksidasyon Yöntemleri İle Arıtılması**  
POLAT N., GENGEÇ E., ÖZBAY İ.  
1. Uluslararası Çevre Mühendisliği Kongresi, 10 - 12 October 2019
- II. **EVSEL ÇAMURLARDAN BİYOKURUTMA YÖNTEMİ İLE YAKIT NİTELİKLİ ÜRÜN ELDE EDİLMESİ**  
Akdemir U., ÖZBAY İ., ÖZBAY B.  
1. Uluslararası Çevre Mühendisliği Kongresi, 10 - 12 October 2019
- III. **Atıktan türetilmiş Yakıt Üretim Tesislerinde İşletme Sorunları ve Çözüm Yaklaşımları**  
ÖZBAY İ., Angın V. O., GENGEÇ E., ÖZBAY B.  
International Congress of Energy Economy and Security (ENSCON), İstanbul, Turkey, 10 - 11 November 2018
- IV. **Investigation of PCB Levels in Biodried Green Wastes**  
ASLAN KILAVUZ S., ÖZBAY İ., Mohammed M.  
1. International Conference on Life and Engineering Sciences, 2 - 06 September 2018
- V. **Yüksek Fırın ve Çelikhane Çamurlarından Hidrometalurjik Yöntemle Çinkonun Uzaklaştırılması**  
Nedret İnceoğlu D., ÖZBAY İ., ÖZBAY B.  
Uluslararası Madencilik ve Çevre Sempozyumu, 27 - 29 September 2017
- VI. **Metalurjik Yakıt Hazırlama Prosesinde Atık Yönetimi:Kok Üretim Tesisi Örneği**  
Aksoy C., ÖZBAY B., Nedret İnceoğlu D., ÖZBAY İ.  
Uluslararası Madencilik ve Çevre Sempozyumu (ISME-2017), 27 - 29 September 2017
- VII. **Effect of Enhanced-Solubilization Agents on Mass Removal and Mass Discharge Reduction for TCE Source Zones in Heterogeneous Porous Media**  
AKYOL N. H., TURKKAN S., ASLAN KILAVUZ S., ÖZBAY İ., ÖZBAY B.  
ICENS, 3 - 07 May 2017
- VIII. **Sorption behavior of 2,4D in a natural soil from Antalya, Turkey**  
AKYOL N. H., ÖZBAY B., ÖZBAY İ., AKYOL G.  
ICENS, 3 - 07 May 2017
- IX. **Sorption behavior of 2,4D in a natural soil from Antalya, Turkey**  
AKYOL N. H., ÖZBAY B., ÖZBAY İ., AKYOL G.  
ICENS-2017, Budapest, Hungary, 3 - 07 May 2017
- X. **Effect of Enhanced-Solubilization Agents on Mass Removal and Mass Discharge Reduction in Heterogeneous Porous Media**  
AKYOL N. H., türkkan s., ASLAN KILAVUZ S., ÖZBAY İ., ÖZBAY B.  
ICENS-2017, Budapest, Hungary, 3 - 07 May 2017
- XI. **Pre-treatment and utilization of food waste as energy source by bio-drying process**  
Mohammed M., ÖZBAY İ., KARADEMİR A., Isleyen M.  
International Scientific Conference on Environmental and Climate Technologies (CONNECT ), Riga, Latvia, 10 - 12 May 2017, vol.128, pp.100-107
- XII. **Biohydrogen production from molasses Effect of photooxidation to molasses**  
GENÇ N., ÖZBAY İ., DURNA E.  
International Conference on Environmental Science and Technology, Belgrade, Serbia And Montenegro, 28 September - 02 October 2016
- XIII. **Treatability of Food Industry Wastewater by O<sub>3</sub> UV H<sub>2</sub>O<sub>2</sub> Advanced Oxidation Processes**

TOPKAYA E., ARSLAN A., ÖZBAY B., ÖZBAY İ., VELİ S.

International Science and Technology conference, viyana, Austria, 13 - 15 July 2016

**XIV. Bio drying of Green Wastes**

DURMUŞOĞLU E., Mohammed M., ÖZBAY İ.

8. International Conference on Environmental Science and Technology, 6 - 10 October 2016

**XV. In Situ Remediation of Chlorinated Solvents in Heterogeneous Porous Media by Cyclodextrine**

TURKKAN S., AKYOL N. H., KARATAS T., ÖZBAY İ., ÖZBAY B.

ICENS , Sarajevo, Bosnia And Herzegovina, 23 - 28 May 2016

**XVI. Non ideal transport of atrazine in two natural porous media**

AKYOL N. H., ÖZBAY İ., ÖZBAY B., AKYOL G.

Fifth International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE 2015) and SECOTOX Conference, Greece, 14 - 18 June 2015

**XVII. Ambalaj Atık Yönetiminde Yönetmelik Değişikliğinin Uygulama Verimine Etkisi Kocaeli Örneği**

ÖZBAY İ., DURMUŞOĞLU E., KAHRAMAN N., KILIÇ H., TAVŞAN S., KARAGÖZ L.

6. Ulusal Katı Atık Yönetimi Kongresi, Van, Turkey, 1 - 04 September 2014, vol.1, pp.152-157

**XVIII. Tıbbi Atıkların Yönetiminde Karşılaşılan Sorunlar ve Çözüm Önerileri Kocaeli Örneği**

ÖZBAY İ., DURMUŞOĞLU E., KAHRAMAN N., KILIÇ H., TAVŞAN S., KARAGÖZ L.

6. Ulusal Katı Atık Yönetimi Kongresi, Van, Turkey, 1 - 04 September 2014, vol.1, pp.293-299

**XIX. Hava Kirliliği Tahmininde Çok Katmanlı Algılayıcı Modellerin Kullanımı Üzerine Bir Değerlendirme**

ÖZDEMİR U., ÖZBAY B., ÖZBAY İ.

5. Hava Kirliliği ve Kontrolü Sempozyumu, Eskişehir, Turkey, 18 - 20 September 2013, vol.1, pp.593-600

**XX. Reaktif Azo Boyaların Giderilmesinde Atık Malzemelerin Kullanılabilirliğinin Araştırılması**

ÖZDEMİR U., ÖZBAY B., ÖZBAY İ., VELİ S.

Türkiye'de Çevre Kirlenmesi Öncelikleri Sempozyumu VII, Turkey, 22 - 23 November 2012

## Supported Projects

ÖZBAY B., ÖZBAY İ., AKYOL N. H., Project Supported by Higher Education Institutions, ANTALYA BÖLGESİNDEKİ TARIM TOPRAKLARINDA 2,4 D VE GLAYPHOSATE HERBİSİTLERİNİN TAŞINMA VE TUTUNMA DAVRANIŞLARININ İNCELENMESİ, 2016 - 2017

AKYOL N. H., ÖZBAY İ., ÖZBAY B., Project Supported by Higher Education Institutions, Heterojen gözenekli ortamlarda depolanan klorlu solventlerin kompleks şeker (MCD) ile ıslahı, 2015 - 2016

ÖZBAY İ., Project Supported by Higher Education Institutions, SIVI ÇÖZELTİLERDEN ATRAZİN GİDERİMİNDE ADSORBENT OLARAK PANİ İLE KAPLANMIŞ KÜLÜN KULLANILABİLİRLİĞİNİN İNCELENMESİ, 2015 - 2016

ÖZBAY İ., Project Supported by Higher Education Institutions, EKONOMİK ANALİZ ve DENEYSEL TASARIM MODELLERİNİN BOYANIN AKTİVE EDİLMİŞ KÜL İLE GİDERİMİNDE UYGULANMASI, 2012 - 2014

## Metrics

Publication: 55

Citation (WoS): 326

Citation (Scopus): 353

H-Index (WoS): 11

H-Index (Scopus): 11

## Invited Talks

Sıfır Atık Yönetiminde Karşılaşılan Güçlükler ve Sürdürülebilir Çözümler Çalıştayı , Workshop, Marmara Belediyeler

Birliđi, Turkey, November 2023