

## Prof. ZEHRA SEMRA CAN

### Personal Information

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### International Researcher IDs

ScholarID: [vLUpNlgAAAAJ&hl=tr](https://orcid.org/0000-0003-4447-3400)

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### Biography

Prof. Can received her Bachelor of Science degree in Chemistry in 1991 from Marmara University, Istanbul, Turkey. In the same year, she was recruited to Marmara University, Engineering Faculty, Environmental Engineering Department as a Research Assistant. She received her Master of Science degree in Environmental Sciences from Boğaziçi University, Environmental Studies Institute in 1994 Istanbul, Turkey. She received a second Master of Science degree in Environmental Sciences from Drexel University, Philadelphia, USA in 1997, and her PhD degree from the same university in 1999. In 2000, she started teaching at Marmara University, Environmental Engineering Department as an Assistant Professor. During 2004-2005, she taught graduate and undergraduate courses at San Diego State University, Civil and Environmental Engineering Department as a visiting professor. In 2006, she became an associate professor and 2014 full professor at Marmara University, Engineering Faculty, Environmental Engineering Department. Currently, she carries out her teaching and research activities at the same department. Her research interests are oxidation and advanced oxidation techniques, disinfection by-products, micropollutants and emerging contaminants, removal of endocrine disrupting compounds by adsorption.

### Education Information

Doctorate, Drexel University, Environmental Studies Institute, United States Of America 1997 - 1999

Postgraduate, Drexel University, Environmental Studies Institute, United States Of America 1995 - 1997

Postgraduate, Bogazici University, Institute Of Environmental Sciences, Turkey 1992 - 1994

Undergraduate, Marmara University, Ataturk Faculty of Education, Mathematics and Science Education, Turkey 1987 - 1991

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, Formaldehyde Formation During Ozonation of Drinking Water, Drexel University, Environmental Studies Institute, 1999

Postgraduate, The Characteristics and reuse of golden horn surface sediment, Boğaziçi Üniversitesi, Çevre Bilimleri

Enstitüsü, 1994

## Research Areas

Environmental Sciences, Environmental Chemistry, Environmental Technology, Waste Water Collection and Treatment, Ecology and Pollution, Water Pollution and Control, Water Supply and Treatment, Hazardous Waste Management, Engineering and Technology

## Academic Titles / Tasks

Professor, Marmara University, Faculty of Engineering, Environmental Engineering, 2014 - Continues  
Associate Professor, Marmara University, Faculty of Engineering, Environmental Engineering, 2006 - 2014  
Assistant Professor, Marmara University, Faculty of Engineering, Environmental Engineering, 2000 - 2006  
Research Assistant, Marmara University, Faculty of Engineering, Environmental Engineering, 1991 - 2000

## Academic and Administrative Experience

Vice Dean, Marmara University, Faculty of Engineering, 2009 - 2010

## Advising Theses

Can Z. S., Investigation of heavy metal ion removal by cellulose based adsorbents with ionic functional groups, Postgraduate, A.ABDI(Student), 2023  
Can Z. S., Removal of Micropollutants Using BIOMOF, Postgraduate, M.BASHAR(Student), 2022  
CAN Z. S., Adsorption of Endocrine Disrupting Compounds by Magnetic Nanoparticles, Doctorate, G.GÜLENAY(Student), 2019  
CAN Z. S., Copper removal from ammoniacal spent etchant by using magnetic nanoparticles, Postgraduate, O.ALI(Student), 2016  
ÇALLI B., CAN Z. S., CFC-11 amount in polyurethane foam in end-of-life refrigerators, Postgraduate, B.YAZICI(Student), 2012  
ÇALLI B., CAN Z. S., Evaluation of hazardous wastes generated from automotive industry in Turkey and their disposal methods, Postgraduate, B.YAZICI(Student), 2011  
CAN Z. S., Disinfection and oxidation of Paşaköy Advanced Biological Treatment Plant effluent by advanced oxidation techniques, Postgraduate, E.ÇAKIR(Student), 2010  
CAN Z. S., Developing a cost effective technology for the reuse of sewage treatment plant effluent, Postgraduate, Ç.DEMİRCİOĞLU(Student), 2010  
CAN Z. S., Investigation of decentralized wastewater treatment technologies casestudy: Giresun Dereli, Postgraduate, İ.ÜNAT(Student), 2009  
CAN Z. S., Investigation of ozone/ formic acid system by advanced oxidation process, Postgraduate, K.YAPSAKLI(Student), 2002

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

- Olive industry liquid waste from trash to metal adsorbent for wastewater purification**  
Ishraydeh I., Hamed O., Deghles A., Jodeh S., Azzaoui K., Hasan A., Assali M., Jaseer A., Mansour W., HACIOSMANOĞLU G. G., et al.  
BMC Chemistry, vol.18, no.1, 2024 (SCI-Expanded)

- II. **Efficient removal of methyl orange from aqueous solutions using ulexite**  
HACIOSMANOĞLU G. G., GENÇ S., CAN Z. S.  
ENVIRONMENTAL TECHNOLOGY & INNOVATION, vol.22, 2021 (SCI-Expanded)
- III. **Phosphate recovery from sewage sludge supernatants using magnetic nanoparticles**  
Gulyás A., Genç S., Can Z. S., Semerci N.  
Journal of Water Process Engineering, vol.40, 2021 (SCI-Expanded)
- IV. **Assessment of water quality classes using self-organizing map and fuzzy C-means clustering methods in Ergene River, Turkey**  
ORAK E., AKKOYUNLU A., CAN Z. S.  
ENVIRONMENTAL MONITORING AND ASSESSMENT, vol.192, no.10, 2020 (SCI-Expanded)
- V. **Evaluation of Cytotoxicity and Mutagenicity of Wastewater from Istanbul: Data from Hospitals and Advanced Wastewater Treatment Plant**  
Cevik M., DARTAN G., Ulker M., Bezci K., Deliorman G., Cagatay P., LAÇİN T., CİNEL İ. H., Aksu B., KESKİN Y., et al.  
BULLETIN OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY, vol.104, no.6, pp.852-857, 2020 (SCI-Expanded)
- VI. **Adsorptive removal of bisphenol A from aqueous solutions using phosphonated levan**  
Haciosmanoğlu G. G., Doğruel T., Genç S., Oner E. T., Can Z. S.  
JOURNAL OF HAZARDOUS MATERIALS, vol.374, pp.43-49, 2019 (SCI-Expanded)
- VII. **Halomonas smyrnensis as a cell factory for co-production of PHB and levan**  
Tohme S., Haciosmanoğlu G. G., Eroğlu M. S., Kasavi C., Genç S., Can Z. S., Oner E. T.  
INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES, vol.118, pp.1238-1246, 2018 (SCI-Expanded)
- VIII. **Use of theoretical waste inventories in planning and monitoring of hazardous waste management systems**  
Yilmaz O., CAN Z. S., Toröz İ., Dogan O., Oncel S., ALP E., DİLEK F. B., Karanfil T., YETİŞ Ü.  
WASTE MANAGEMENT & RESEARCH, vol.32, no.8, pp.763-771, 2014 (SCI-Expanded)
- IX. **Prediction of future disposal of end-of-life refrigerators containing CFC-11**  
Yazici B., CAN Z. S., Calli B.  
WASTE MANAGEMENT, vol.34, no.1, pp.162-166, 2014 (SCI-Expanded)
- X. **Evaluation of different wastewater treatment techniques in three WWTPs in Istanbul for the removal of selected EDCs in liquid phase**  
CAN Z. S., Firlak M., KERÇ A., Evcimen S.  
ENVIRONMENTAL MONITORING AND ASSESSMENT, vol.186, no.1, pp.525-539, 2014 (SCI-Expanded)
- XI. **Treatability of Organic Constituents in the Pasakoy Wastewater Treatment Plant Effluent by O<sub>3</sub> and O<sub>3</sub>/H<sub>2</sub>O<sub>2</sub>**  
Can Z. S., Cakir E.  
OZONE-SCIENCE & ENGINEERING, vol.32, pp.209-214, 2010 (SCI-Expanded)
- XII. **Impact of Surface Properties of Granular Activated Carbon and Preozonation on Adsorption and Desorption of Natural Organic Matter**  
Yapsakli K., ÇEÇEN F., Aktas O., CAN Z. S.  
ENVIRONMENTAL ENGINEERING SCIENCE, vol.26, no.3, pp.489-500, 2009 (SCI-Expanded)
- XIII. **Interaction of ozone with formic acid: A system which suppresses the scavenging effect of HCO<sub>3</sub><sup>-</sup>/CO<sub>3</sub><sup>2-</sup>**  
Yapsakli K., Can Z. S.  
WATER QUALITY RESEARCH JOURNAL OF CANADA, vol.39, no.2, pp.140-148, 2004 (SCI-Expanded)
- XIV. **Formaldehyde formation during ozonation of drinking**  
Can Z. S., Gurol M.  
OZONE-SCIENCE & ENGINEERING, vol.25, no.1, pp.41-51, 2003 (SCI-Expanded)
- XV. **Effect of bromide ions on formaldehyde formation during ozonation of drinking waters**  
Can Z. S., Gürol M.  
Water Science and Technology-Water Supply, vol.1, no.4, pp.119-124, 2001 (SCI-Expanded)
- XVI. **The dewaterability, heavy metal release and reuse characteristics of Golden Horn surface sediment**

Karpuzcu M., Buktel D., Aydin Z. S.

WATER SCIENCE AND TECHNOLOGY, vol.34, pp.365-374, 1996 (SCI-Expanded)

## Articles Published in Other Journals

### I. **Copper Removal From Ammoniacal Spent Etchant by Using Magnetic Nanoparticles**

Yassin O. A., Can Z. S., Genç S., Toksoy Öner E., Haciosmanoğlu G. G.

Environmental Research and Technology, vol.1, pp.38-42, 2018 (Peer-Reviewed Journal)

## Books & Book Chapters

### I. **PESTLE Analizi**

Edin İ., Bakoğlu R., Can Z. S., Küçükgül Ş. G., Özel S., Dumludağ D., Bulut Moya E.

in: Üniversitelerde Strateji Geliştirme Sürecinde Uygulamalı Durum Analizleri, Refika Bakoğlu, Leyla Müge Yıldız, Editor, Beta Basım Yayım Dağıtım, İstanbul, pp.101-122, 2017

### II. **PESTLE Analizi**

Edin İ., Bakoğlu R., Can Z. S., Küçükgül Ş. G., Özel S., Dumludağ D., Bulut Moya E.

in: Üniversitelerde Strateji Geliştirme Sürecinde Uygulamalı Durum Analizleri, Bakoğlu Refika, Yıldız Müge Leyla, Editor, Beta Basım Yayım Dağıtım, İstanbul, pp.101-122, 2016

## Refereed Congress / Symposium Publications in Proceedings

### I. **EVALUATION OF HEAVY METAL SORPTION CAPACITIES OF CELLULOSE BASED ADSORBENTS WITH IONIC FUNCTIONAL GROUPS – AQUEOUS COBALT (II) ION REMOVAL –**

Hashi A. A., Erdoğan B., Kuzucu Y., Şam S., Haciosmanoğlu G. G., Deghles A., Hamed O. A., Can Z. S.

IWA DIPCON 2022, İstanbul, Turkey, 24 - 28 October 2022, no.92, pp.217-223

### II. **Synthesis and Characterization of Magnetic Metal Organic Framework (MOF) for Methyl Orange Removal from Aqueous Solutions**

KARAKAYA B., KIRAN YILDIRIM B., CAN Z. S., HACIOSMANOĞLU G. G., ŞAM S., GENÇ S.

1 st International Conference on Advances in Engineering, Architecture, Science and Technology, Turkey, 15 - 17 December 2021

### III. **Study on Adsorption Performance of MIL-101(Cr) for Ibuprofen Uptake from Aqueous Media**

Faisal M., Engel H. B., Haciosmanoğlu G. G., Şam S., Kiran Yıldırım B., Genç S., Can Z. S.

1 st International Conference on Advances in Engineering, Architecture, Science and Technology, Turkey, 15 - 17 December 2021

### IV. **Synthesis and Characterization of Magnetic Metal Organic Framework (MOF) for Methyl Orange Removal from Aqueous Solutions**

Karakaya B., Kiran Yıldırım B., Can Z. S., Haciosmanoğlu G. G., Şam S., Genç S.

1 st International Conference on Advances in Engineering, Architecture, Science and Technology, Erzurum, Turkey, 15 - 17 December 2021, vol.1, no.67, pp.642

### V. **Adsorption of Ammonium and Phosphate Ions: Comparing the Adsorption Performances of the Bare Composite Magnetite Nanoparticles**

Kara B., Gulyas A., SEMERCİ N., CAN Z. S., GENÇ S.

5th Eurasia Waste Management Symposium, Turkey, 26 - 28 October 2020

### VI. **Adsorption of EE2 and BPA by Phosphonated Levan: A Comparative Study**

Haciosmanoğlu G. G., Doğruel T., Genç S., Toksoy Öner E., Can Z. S.

11th Micropol & Ecohazard Conference 2019, Seoul, South Korea, 20 - 24 October 2019, vol.1, no.1, pp.233-234

### VII. **Investigation of the Effect of Pre-ozonation on Organic Matter Removal via Flocculation**

ŞAM S., YÜKSELEN M. A., CAN Z. S.

THE 11TH EASTERN EUROPEAN YOUNG WATER PROFESSIONALS CONFERENCE - Water for All - Water for Nature, Reliable Water Supply, Wastewater Treatment and Reuse, 1 - 05 October 2019

- VIII. **Assessment of Water Quality Classes with Using Fuzzy C-Mean Clustering in Thrace Region, Turkey**  
ORAK E., CAN Z. S., AKKOYUNLU A.  
International Congress on Environmental Research and Technology (ICERAT), Atina, Greece, 14 - 18 November 2018
- IX. **Removal of Nonylphenol and Octylphenol from Aqueous Solutions by a Novel Nano-Composite (ZVI/Fullerene)**  
Haciosmanoğlu G. G., Yücesoy Özkan Z., Can Z. S., Genç S., Erdim E., Soyer E., Pehlivanoğlu Mantaş E.  
3rd Ewas International Conference, Levkas, Greece, 27 - 30 June 2018, vol.2, pp.654
- X. **Use of Chitosan Coated Magnetic Nanoparticles as an Adsorbent for Bisphenol A**  
Haciosmanoğlu G. G., Genç S., Can Z. S.  
NANOTR-13, 13th Nanoscience and Nanotechnology Conference, Antalya, Turkey, 22 - 25 October 2017
- XI. **Removal of Industrial Xenoestrogens by Using Zero Valent Iron Nanoparticles, Nevşehir, TURKIYE**  
Haciosmanoğlu G. G., Yücesoy Özkan Z., Soyer E., Genç S., Can Z. S., Erdim E.  
2nd International Conference on Civil and Environmental Engineering (ICOCEE Cappadocia-2017), Nevşehir, Turkey, 8 - 10 May 2017
- XII. **Removal of Industrial Xenoestrogens by using Zero Valent Iron Nanoparticles**  
Haciosmanoğlu G. G., Yücesoy Özkan Z., Soyer E., Genç S., Can Z. S., Erdim E.  
International Conference on Civil and Environmental Engineering, Nevşehir, Turkey, 8 - 10 May 2017
- XIII. **Coproduction of Pha and Levan from waste resources by halophilic Bacteria**  
Thome S., CAN Z. S., TOKSOY ÖNER E.  
The 3rd International Conference on Bioinspired and Biobased Chemistry & Materials, 16 - 19 October 2016
- XIV. **Coproduction of PHA Levan from Waste Resources by Halophilic Bacteria**  
Tohme S., CAN Z. S., TOKSOY ÖNER E.  
NICE (Nature Inspires Creativity Engineers) 2016, France, 16 - 19 October 2016
- XV. **Dual Production of PHA and Levan From Waste Resources by Halomonas Cultures**  
Tohme S., CAN Z. S., TOKSOY ÖNER E.  
8th INTERNATIONAL FRUCTAN SYMPOSIUM, 26 June - 01 July 2016
- XVI. **Copper Removal from Ammoniacal Spent Etchant Using Magnetic Nanoparticles**  
YASSİN O. A., HACIOSMANOĞLU G. G., GENÇ S., TOKSOY ÖNER E., CAN Z. S.  
EurAsia Waste Management Symposium, 2 - 04 May 2016
- XVII. **COPPER REMOVAL from AMMONIACAL SPENT ETCHANT USING MAGNETIC NANOPARTICLES**  
Yassin O. A., HACIOSMANOĞLU G. G., GENÇ S., TOKSOY ÖNER E., CAN Z. S.  
Eurasia 2016 WasteWater Symposium, 2 - 04 May 2016
- XVIII. **Türkiye’de beyaz eşya üretiminden kaynaklanan tehlikeli atıklar**  
Yazıcı B., CAN Z. S., ÇALLI B., MERTOĞLU B., GÖKYAY O., AKGÜL D., YETİŞ Ü.  
İTÜ 13. Endüstriyel Kirlenme Kontrolü Sempozyumu, Turkey, 17 - 19 October 2012
- XIX. **Türkiye’de otomotiv sektöründen kaynaklanan tehlikeli atıkların azaltılması çalışmaları**  
CAN Z. S., GÖKYAY O., ÇALLI B., MERTOĞLU B., AKGÜL D., Yazıcı B., YETİŞ Ü.  
İTÜ 13. Endüstriyel Kirlenme Kontrolü Sempozyumu, Turkey, 17 - 19 October 2012
- XX. **Hazardous Waste Generation From Household Appliances Industry in Turkey**  
YAZICI B., ÇALLI B., MERTOĞLU B., CAN Z. S., GÖKYAY O., AKGÜL D., YETİŞ Ü.  
EurAsia Waste Management Symposium, 14 - 16 November 2011
- XXI. **Investigation of Hazardous Waste Generation by Turkish Automotive Industry**  
YAZICI B., CAN Z. S., GÖKYAY O., ÇALLI B., MERTOĞLU B., AKGÜL D., YETİŞ Ü.  
EurAsia Waste Management Symposium, 14 - 16 November 2011
- XXII. **TREATABILITY OF ORGANIC CONSTITUENTS IN THE PAŞAKÖY WASTEWATER TREATMENT PLANT EFFLUENT BY O3 AND O3/H2O2**  
Can Z. S., Çakır E.

International Workshop on Application of Redox Technologies in the Environment, İstanbul, Turkey, 14 - 15 September 2009, pp.1-8

**XXIII. Effect of bromide ions on formaldehyde formation during ozonation of drinking waters**

Can Z. S., Gurol M.

1st World Water Congress of the International-Water-Association (IWA), Paris, France, 3 - 07 July 2000, pp.119-124

## Supported Projects

Haciosmanoğlu G. G., Can Z. S., Semerci N., Genç S., Kıran Yıldırım B., TUBITAK Project, Developing an adsorption system using boron minerals for the removal of emerging pollutants, 2023 - 2025

Semerci N., Çallı B., Can Z. S., Haciosmanoğlu G. G., TUBITAK Project, Yenilikçi, enerji-pozitif atıksu arıtma prosesinin makro ve mikro organik kirlenici giderim performansı, 2021 - 2024

Can Z. S., Haciosmanoğlu G. G., Other International Funding Programs, Cellulose Based Foam with Ionic Functionalities: Synthesis and Application in Wastewater Purification, 2021 - 2023

Haciosmanoğlu G. G., Can Z. S., Genç S., Toksoy Öner E., Project Supported by Higher Education Institutions, Farklı Biyosorbentler ile Sucul Ortamlardan Bisfenol A Giderimi, 2018 - 2020

Haciosmanoğlu G. G., Can Z. S., Project Supported by Higher Education Institutions, Manyetik Nanoparçacıklar Kullanılarak Endokrin Bozucu Maddelerin Adsorpsiyon Yoluyla Giderilmesi, 2017 - 2019

Can Z. S., Project Supported by Higher Education Institutions, Kullanılmış Aşındırıcı Atık Sıvılardan Manyetik Nanoparçacıklar ile Bakır Giderimi, 2016 - 2017

Bakoğlu R., Özel S., Can Z. S., Project Supported by Other Private Institutions, Üniversitelerin Sürdürülebilir Geleceğinin İnşası için PESTLE Analizi, 2015 - 2017

Haciosmanoğlu G. G., Can Z. S., Genç S., Toksoy Öner E., Project Supported by Higher Education Institutions, Levan Biyopolimeri ile Kaplanmış Manyetik Nanoparçacık Sentezlenmesi ve Cu II Adsorpsiyon Özelliklerinin İncelenmesi, 2013 - 2017

Can Z. S., Kocamemi B., Akgiray Ö., Project Supported by Other Official Institutions, Pilot Granular Activated Carbon Study for Potable Water , 2016 - 2016

Haciosmanoğlu G. G., Can Z. S., Bakoğlu R., Project Supported by Higher Education Institutions, Üniversitelerin Sürdürülebilir Geleceğinin İnşası için PESTLE Analizi, 2015 - 2016

Can Z. S., Erdim E., Yücesoy Özkan Z., Pehlivanoğlu Mantaş E., Soyer E., Genç S., TUBITAK Project, Removal of nonylphenol and octylphenol by zero valent iron nanoparticles (nZVI) and nZVI/fullerene nanocomposite, 2014 - 2016

Gökay O., Can Z. S., Çallı B., Mertoğlu B., Akgül D., TUBITAK Project, Türkiye de AB Çevre Mevzuatı ile uyumlu Tehlikeli Atık Yönetimi, 2009 - 2013

Can Z. S., Çallı B., Mertoğlu B., Gökay O., TUBITAK Project, Türkiye'de AB Çevre Mevzuatı ile Uyumlu Tehlikeli Atık Yönetimi, 2009 - 2012

Can Z. S., Project Supported by Higher Education Institutions, Atıksu Arıtma Tesisi Çıkış Suyunun Yeniden Kullanımı için Uygun Maliyetli Teknoloji Geliştirme Marmara Üniversitesi , 2010 - 2011

Can Z. S., Project Supported by Higher Education Institutions, İleri Oksidasyon Yöntemleri ile Paşaköy İleri Biyolojik Atıksu Arıtma Tesisi Çıkış Suyunun Dezenfeksiyonu ve Oksidasyonu, 2009 - 2010

Can Z. S., Kocamemi B., Semerci N., Project Supported by Higher Education Institutions, Treatability of Paşaköy Wastewater Treatment Plant Effluent by Activated Carbon / Activated Sludge Treatment Applied Prior to Chemical Oxidation for Reuse, 2008 - 2010

Can Z. S., Kerç A., TUBITAK Project, Screening of Endocrine Disrupting Compounds in İstanbul Wastewater Treatment Plants and Investigation of Their Removal Methods, 2008 - 2010

Can Z. S., Yükselen M. A., Gökay O., TUBITAK Project, Yüksek Çözünmüş Organik Madde İçeren Sularda Flok Yapılarının İncelenmesi , 2005 - 2008

Can Z. S., Çeçen F., TUBITAK Project, İçme Suyu Arıtımında Biyolojik Aktif Karbon BAK Uygulanması , 2004 - 2006

Can Z. S., Bakırcı K., Project Supported by Higher Education Institutions, Ozon Formik Asit Sisteminin İleri Oksidasyon Yöntemi Olarak İncelenmesi Marmara Üniversitesi BAP Proje No 2000 FE 6 2000 2002, 2000 - 2004

## **Metrics**

Publication: 47

Citation (WoS): 180

Citation (Scopus): 204

H-Index (WoS): 8

H-Index (Scopus): 7