

## Prof. NESLİHAN SEMERCI

### Personal Information

**Office Phone:** [+90 216 777 3605](tel:+902167773605)

**Email:** neslihan.semerci@marmara.edu.tr

**Web:** <https://avesis.marmara.edu.tr/neslihan.semerci>

### International Researcher IDs

ScholarID: x2TPFO8AAAAJ

ORCID: 0000-0002-9968-1306

Publons / Web Of Science ResearcherID: A-6648-2018

ScopusID: 17343054000

Yoksis Researcher ID: 42624



### Education Information

Doctorate, Bogazici University, Institute Of Environmental Sciences, Department Of Environmental Technology, Turkey 2000 - 2007

Postgraduate, Marmara University, Faculty of Engineering, Environmental Engineering, Turkey 1997 - 2000

Undergraduate, Marmara University, Faculty of Engineering, Environmental Engineering, Turkey 1992 - 1997

### Biography

Neslihan Semerci has received her Bachelor's degree in Environmental Engineering from Marmara University in 1997. She earned her MS degree in Environmental Engineering from Marmara University in 2000 and PhD in Environmental Technology from Boğaziçi University in 2007. She is currently a faculty member of Environmental Engineering at Marmara University, İstanbul, Turkey. Her current research interests include phosphorus recovery from different wastewater treatment plants (supernatant, excess sludge, sludge ash) through physico-chemical and biological processes, anaerobic dynamic membrane systems and nutrient removal processes.

### Dissertations

Doctorate, Effect of heavy metal speciation on nitrification inhibition, Boğaziçi Üniversitesi, Çevre Bilimleri Enstitüsü, Çevre Teknolojisi Anabilim Dalı, 2007

Postgraduate, Cost analysis in biological nutrient removal systems, Marmara Üniversitesi, Faculty of Engineering, Environmental Engineering, 2000

### Research Areas

Environmental Engineering, Environmental Technology, Waste Water Collection and Treatment, Water Pollution and Control

## Academic Titles / Tasks

Associate Professor, Marmara University, Faculty of Engineering, Environmental Engineering, 2017 - Continues  
Assistant Professor, Marmara University, Faculty of Engineering, Environmental Engineering, 2009 - 2017  
Lecturer, Marmara University, Faculty of Engineering, Environmental Engineering, 2002 - 2009  
Research Assistant, Marmara University, Faculty of Engineering, Environmental Engineering, 1998 - 2002

## Academic and Administrative Experience

Vice Dean, Marmara University, Faculty of Engineering, Environmental Engineering, 2020 - Continues  
Deputy Head of Department, Marmara University, Faculty of Engineering, Environmental Engineering, 2018 - 2020  
Erasmus Coordinator, Marmara University, Faculty of Engineering, Environmental Engineering, 2013 - 2018  
Farabi Coordinator, Marmara University, Faculty of Engineering, Environmental Engineering, 2012 - 2018

## Advising Theses

Semerci N., Use of engineered nanoparticles in nitrogen and phosphorus recovery from aqueous solutions, Postgraduate, B.KARA(Student), 2023  
Semerci N., Treatment of high loading dairy industry wastewater by anaerobic dynamic membrane bioreactor, Doctorate, M.PAÇAL(Student), 2021  
SEMERCİ N., Phosphate recovery from sewage sludge supernatants using magnetic nanoparticles, Postgraduate, A.Gulyas(Student), 2019  
SEMERCİ N., Recovery of phosphorus from sewage sludge ash with sequencing bioleaching and electrodialysis, Postgraduate, B.Kunt(Student), 2018  
Semerci N., Optimization of ozonation conditions for the phosphorus recovery from waste activated sludge, Postgraduate, S.COŞGUN(Student), 2018  
SEMERCİ N., Semerci A., Evaluation of phosphorus recovery from dried sludge and sludge ash, Postgraduate, S.Ahadi(Student), 2017  
SEMERCİ N., Factors affecting the enrichment of a mixed bacterial culture in an aerobic dynamic feeding system (ADF) for polyhydroxyalkanoate (PHA) production, Postgraduate, F.Tuba(Student), 2013  
SEMERCİ N., Investigation of existence of denitrifying phosphate accumulating organisms at wastewater treatment plants in Turkey, Postgraduate, M.Ayhan(Student), 2011  
SEMERCİ N., Investigation of the biological phosphorus removal in anoxic conditions, Postgraduate, N.Bakıcı(Student), 2010  
Semerci N., Preperation of solid waste management system for Burdur province, Postgraduate, M.Semih(Student), 2009

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

- I. **Performance and characteristics of dynamic membranes for dairy wastewater treatment under anaerobic conditions**  
Paçal M., SEMERCİ N.  
International Journal of Environmental Science and Technology, vol.20, no.7, pp.7133-7148, 2023 (SCI-Expanded)
- II. **Biological recovery of phosphorus from waste activated sludge via alkaline fermentation and struvite biomineralization by *Brevibacterium antiquum***  
Cosgun S., Kara B., Kunt B., Hur C., SEMERCİ N.  
BIODEGRADATION, vol.33, no.2, pp.195-206, 2022 (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. **Comparison of dried sludge and sludge ash for phosphorus recovery with acidic and alkaline**

## **leaching**

SEMERCİ N., Ahadi S., Cosgun S.

WATER AND ENVIRONMENT JOURNAL, vol.35, no.1, pp.359-370, 2021 (SCI-Expanded)

- V. **Treatment of synthetic wastewater and cheese whey by the anaerobic dynamic membrane bioreactor**  
Pacal M., SEMERCİ N., ÇALLI B.  
ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH, vol.26, no.32, pp.32942-32956, 2019 (SCI-Expanded)
- VI. **Phosphorus recovery from sewage sludge ash with bioleaching and electrodialysis**  
SEMERCİ N., Kunt B., ÇALLI B.  
International Biodeterioration and Biodegradation, vol.144, 2019 (SCI-Expanded)
- VII. **Combined and individual applications of ozonation and microwave treatment for waste activated sludge solubilization and nutrient release**  
Cosgun S., SEMERCİ N.  
Journal of Environmental Management, vol.241, pp.76-83, 2019 (SCI-Expanded)
- VIII. **Anammox start-up strategies: the use of local mixed activated sludge seed versus Anammox seed**  
KOCAMEMİ B., Dityapak D., SEMERCİ N., Keklik E., Akarsubasi A., Kumru M., Kurt H.  
WATER SCIENCE AND TECHNOLOGY, vol.78, no.9, pp.1901-1915, 2018 (SCI-Expanded)
- IX. **Fate of carbon, nitrogen and phosphorus removal in a post-anoxic system treating low strength wastewater**  
SEMERCİ N., Hasilci N. B.  
INTERNATIONAL BIODETERIORATION & BIODEGRADATION, vol.108, pp.166-174, 2016 (SCI-Expanded)
- X. **Inhibition of respiration and distribution of Cd, Pb, Hg, Ag and Cr species in a nitrifying sludge**  
ÇEÇEN F., SEMERCİ N., Geyik A. G.  
JOURNAL OF HAZARDOUS MATERIALS, vol.178, pp.619-627, 2010 (SCI-Expanded)
- XI. **Inhibitory effects of Cu, Zn, Ni and Co on nitrification and relevance of speciation**  
ÇEÇEN F., SEMERCİ N., Geyik A. G.  
JOURNAL OF CHEMICAL TECHNOLOGY AND BIOTECHNOLOGY, vol.85, no.4, pp.520-528, 2010 (SCI-Expanded)
- XII. **Effect of continuous Cd feeding on the performance of a nitrification reactor**  
SEMERCİ N., ÇEÇEN F.  
BIODEGRADATION, vol.20, no.2, pp.155-164, 2009 (SCI-Expanded)
- XIII. **Modelling the relative toxicity of metals on respiration of nitrifiers using ion characteristics**  
SAÇAN M., ÇEÇEN F., ERTÜRK M. D., SEMERCİ N.  
SAR AND QSAR IN ENVIRONMENTAL RESEARCH, vol.20, pp.727-740, 2009 (SCI-Expanded)
- XIV. **Monitoring of population shifts in an enriched nitrifying system under gradually increased cadmium loading**  
MERTOĞLU B., SEMERCİ N., Guler N., ÇALLI B., ÇEÇEN F., Saatc A. M.  
JOURNAL OF HAZARDOUS MATERIALS, vol.160, pp.495-501, 2008 (SCI-Expanded)
- XV. **Importance of cadmium speciation in nitrification inhibition**  
Semerci N., Cecen F.  
JOURNAL OF HAZARDOUS MATERIALS, vol.147, pp.503-512, 2007 (SCI-Expanded)

## **Refereed Congress / Symposium Publications in Proceedings**

- I. **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
- II. **Phosphorus Recovery From Excess Sludge Via Alkaline Fermentation And Struvite Biomineralization By B.antiquum**  
SEMERCİ N., COSGUN S., Busra K.  
IWA NRR Conference 2020, Finland, 1 - 03 September 2020

- III. **Bioleaching of phosphorus from sewage sludge ash using sulfur oxidizing bacteria**  
SEMERCİ N., KUNT B., ÇALLI B.  
ABWET - G16, 6 - 07 December 2018
- IV. **Phosphorus Release and Nutrient Recovery from Waste Activated Sludge through Mesophilic Alkaline Fermentation**  
SEMERCİ N., COSGUN S.  
Recycle and Reuse 2018, 24 - 26 October 2018
- V. **Assessment of Energy Efficiency in Wastewater**  
SEMERCİ N., ÇALLI B.  
Recycle and Reuse 2018, 24 - 26 October 2018
- VI. **Electrodialytic Separation of Phosphorus From Heavy Metals After Bioleaching**  
SEMERCİ N., KUNT B.  
International Water Association (IWA) Ecotechnologies for Wastewater Treatment (EcoSTP18) Conference, 25 - 28 June 2018
- VII. **Phosphorus Recovery from Waste Activated Sludge: Microwave Treatment and Ozonation with Acid & Alkaline Pre-treatments**  
Cosgun S., Semerci N.  
Frontiers International Conference on Wastewater Treatment (FICWTM), Palermo, Italy, 21 - 24 May 2017, vol.4, pp.55-59
- VIII. **Phosphorus recovery from waste activated sludge : microwave Treatment and ozonation with acid and alkaline pretreatment**  
COSGUN S., SEMERCİ N.  
Frontiers in Wastewater Treatment and Modelling, 21 - 24 May 2017
- IX. **Bioleaching of Phosphorus from Sewage Sludge Ash**  
KUNT B., SEMERCİ N.  
ICOCEE Capodacia 2017, 8 - 10 May 2017
- X. **Evaluation of phosphorus recovery from dried sludge and sludge ash with wet chemical leaching**  
Ahadi S., SEMERCİ N.  
International Conference on Recycling and Reuse, 28 - 30 September 2016
- XI. **Phosphorus Recovery from Waste Activated Sludge Comparison of Microwave Treatment and Ozonation in Acidic Environment**  
Çoşgun S., SEMERCİ N.  
International Conference on Recycling and Reuse, 28 - 30 September 2016
- XII. **Quantitative analysis of Candidatus Accumilibacter phosphatis on lab scale denitrifying phosphorus removal sequencing batch reactors**  
Ergal İ., Kurt H., SEMERCİ N., KOCAMEMİ B.  
ISME 15th International Symposium on Microbial Ecology, Copenhagen, Denmark, 26 - 29 August 2014
- XIII. **Quantitative analysis of Candidatus Accumilibacter phosphatis on lab scale denitrifying phosphorus removal sequencing batch reactors**  
Esen E., DİTYAPAK D., KURT H., Kumru M., KOCAMEMİ B., SEMERCİ N., AKARSUBAŞI A. T.  
ISME 14th International Symposium on Microbial Ecology, Kopenhag, Denmark, 19 August 2012
- XIV. **Quantitative analysis of Candidatus Accumilibacter phosphatis on lab scale denitrifying phosphorus removal sequencing batch reactors**  
Ergal İ., SEMERCİ N., KOCAMEMİ B., Kurt H., AKARSUBAŞI A. T.  
ISME 14th International Symposium on Microbial Ecology, Kopenhag, Denmark, 19 August 2012
- XV. **Polyhydroxyalkanoate PHA production from Activated Sludge International Conference of Recycling and Reuse**  
SEMERCİ N., Çitak F. T.  
International Conference on Recycling and Reuse, İstanbul, Turkey, 4 - 06 June 2012
- XVI. **Existence of Denitrifying Phosphate Accumulating Organisms at Full Scale Wastewater Treatment Plants in Turkey**

SEMERCİ N., AYHAN M.

International Conference on Recycling and Reuse, İstanbul, Turkey, 4 - 06 June 2012

**XVII. Evaluation of oxic and anoxic phosphate removal in a post-denitrification system**

Semerci N., Bakici N., Kocamemi B.

European Biotechnology Congress, İstanbul, Turkey, 28 September - 01 October 2011, vol.22

**XVIII. Evaluation of pH, ORP and conductivity profiles in an Anammox reactor started-up using municipal activated sludge seed**

KOCAMEMİ B., Dityapak D., SEMERCİ N.

European Biotechnology Congress, İstanbul, Turkey, 28 September - 01 October 2011, vol.22

**XIX. Effects of nitrite, oxygen and initial pH on biological phosphorus removal in a post-denitrification system**

SEMERCİ N., Bakici N., Kocamemi B.

14th International Biotechnology Symposium and Exhibition (IBS-2008), Rimini, Italy, 14 - 18 September 2010, vol.150

## 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 kirletici giderim performansı, 2021 - 2024

Semerci N., TUBITAK Project, Fermente Aktif Çamur Sentrat Sularından Strüvit Biyomineralizasyonu İle Fosfor Geri Kazanımı, 2019 - 2021

Çallı B., Semerci N., TUBITAK Project, Anaerobik Dinamik Membran Biyoreaktör, 2015 - 2016

Semerci N., Kocamemi B., TUBITAK Project, Investigation of Biological Phosphorus Removal in Anoxic Conditions,, 2009 - 2012

Semerci N., Çallı B., Kocamemi B., Kerç A., Project Supported by Higher Education Institutions, Evsel Atıksu Arıtma Çamurlarından Ozonlama ile Fosfor Geri Kazanımının İncelenmesi , 2009 - 2011

Semerci N., Çallı B., Kerç A., Kocamemi B., Project Supported by Higher Education Institutions, Investigation of Phosphorus Recovery from Municipal Activated Sludge with Ozonation, , 2009 - 2011

Kocamemi B., Semerci N., TUBITAK Project, Evsel Atıksularda Azot Giderimi İçin ANAMMOX Prosesinin Uygulanabilirliği 108Y120 , 2008 - 2011

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

Semerci N., Çeçen F., Saçan M., Bakırcı K., Kocamemi B., Aktaş Ö., TÜBİTAK - AB COST Project, Behaviour of selected organic and inorganic xenobiotics in biological systems and formation of structure -activity relationship (SAR) models, 2006 - 2009

Semerci N., Çeçen F., Project Supported by Higher Education Institutions, Metal Türleşmesinin Biyolojik Sistemlerdeki Etkileri Boğaziçi Üniversitesi 03S103, 2005 - 2007

Semerci N., Çeçen F., Yenigün O., TUBITAK Project, Kompleks Yapıcı Bileşiklerin Bulunduğu Ortamlarda Ağır Metallerin Nitrifikasyon Sistemlerine Etkisi ICTAG Ç067 , 2003 - 2005

## Mobility Activity

Erasmus Programme, Lecturing, Accademia di Belle Arti-Palermo, Italy, 2017 - 2017

## Metrics

Publication: 35  
Citation (WoS): 318  
Citation (Scopus): 322  
H-Index (WoS): 10  
H-Index (Scopus): 9

## **Non Academic Experience**

Proses Mühendislik