

## Assoc. Prof. DENİZ AKGÜL

### Personal Information

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### Biography

Dr. Deniz Akgul received her PhD in Environmental Engineering at Marmara University, Turkey in 2012. In 2013, she was awarded a TUBITAK Postdoctoral Scholarship and joined a research project in the University of British Columbia on emerging pretreatment technologies (i.e. microwave, sonication, chemical treatment, high-pressure homogenization) for enhanced biogas production from anaerobic digestion and improved digestate quality. She has been working as a faculty member in Marmara University since 2015.

Her current research interests are Wastewater and Sludge Treatment, Pretreatment Technologies for Enhanced Biomethane from Organic Waste and Biological Nutrient Removal Processes.

### Education Information

Post Doctorate, The University of British Columbia, Faculty of Engineering, Civil Engineering, Canada 2013 - 2014

Doctorate, Marmara University, Faculty Of Engineering, Environmental Engineering, Turkey 2007 - 2012

Postgraduate, Marmara University, Faculty Of Engineering, Environmental Engineering, Turkey 2005 - 2007

Undergraduate, Marmara University, Faculty Of Engineering, Environmental Engineering, Turkey 2000 - 2005

### Foreign Languages

English, C2 Mastery

### Dissertations

Doctorate, Characterization of landfill leachates in turkey and assessment of treatment alternatives, Marmara Üniversitesi, Faculty of Engineering, Çevre Mühendisliği Bölümü, 2012

Postgraduate, Effect of polymer characteristics on floc strength, Marmara Üniversitesi, Faculty of Engineering, Çevre Mühendisliği Bölümü, 2007

### Research Areas

Environmental Sciences, Environmental Technology, Waste Water Collection and Treatment, Pollution Prevention and Waste Reduction, Water Supply and Treatment, Engineering and Technology

### Academic Titles / Tasks

Assistant Professor, Marmara University, Faculty Of Engineering, Environmental Engineering, 2015 - Continues

Research Assistant, Marmara University, Faculty Of Engineering, Environmental Engineering, 2006 - 2015

## Advising Theses

- Akgül D., LEED sertifikası versiyonlarının kaynak verimliliği açısından değerlendirilmesi, Postgraduate, D.NUR(Student), 2020
- Akgül D., Kerç A., Pamuklu dokuma gömlek yaşam döngü değerlendirmesi ve alternatif üretim teknikleri, Postgraduate, H.KAZAN(Student), 2019
- Akgül D., Molecular investigation of anaerobic ammonium oxidation (Anammox) bacteria under long-term nanoparticle exposure, Postgraduate, T.SARI(Student), 2019
- AKGÜL D., Inhibitory effects of zinc oxide nanoparticles on anammox process, Postgraduate, S.CAN(Student), 2018
- AKGÜL D., Short and long-term effects of titanium dioxide nanoparticles on anammox bacteria, Postgraduate, A.ÖZLEM(Student), 2018

## Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Recovery profile of anaerobic ammonium oxidation (anammox) bacteria inhibited by ZnO nanoparticles**  
Can S., Sari T., Akgül D.  
WATER SCIENCE AND TECHNOLOGY, 2021 (Journal Indexed in SCI)
- II. **Assessment of Anammox process against acute and long-term exposure of ZnO nanoparticles**  
Sari T., Can S., AKGÜL D.  
SCIENCE OF THE TOTAL ENVIRONMENT, vol.727, 2020 (Journal Indexed in SCI)
- III. **Life cycle assessment of cotton woven shirts and alternative manufacturing techniques**  
Kazan H., Akgül D., Kerç A.  
Clean Technologies and Environmental Policy, vol.22, no.4, pp.849-864, 2020 (Journal Indexed in SCI)
- IV. **Nitrogen Converters in Various Landfill Leachates**  
AKGÜL D., Yuzer B., Yapsakli K., MERTOĞLU B.  
POLISH JOURNAL OF ENVIRONMENTAL STUDIES, vol.27, no.5, pp.1941-1948, 2018 (Journal Indexed in SCI)
- V. **Assessing iron and aluminum-based coagulants for odour and pathogen reductions in sludge digesters and enhanced digestate dewaterability**  
Akgul D., Abbott T., Eskicioglu C.  
SCIENCE OF THE TOTAL ENVIRONMENT, vol.598, pp.881-888, 2017 (Journal Indexed in SCI)
- VI. **Influences of low-energy input microwave and ultrasonic pretreatments on single-stage and temperature-phased anaerobic digestion (TPAD) of municipal wastewater sludge**  
Akgul D., Cella M. A. , Eskicioglu C.  
ENERGY, vol.123, pp.271-282, 2017 (Journal Indexed in SCI)
- VII. **Assessment of microbial viability in municipal sludge following ultrasound and microwave pretreatments and resulting impacts on the efficiency of anaerobic sludge digestion**  
Cella M. A. , Akgul D., Eskicioglu C.  
APPLIED MICROBIOLOGY AND BIOTECHNOLOGY, vol.100, no.6, pp.2855-2868, 2016 (Journal Indexed in SCI)
- VIII. **Treatment of landfill leachate using UASB-MBR-SHARON-Anammox configuration**  
AKGÜL D., KALKAN AKTAN Ç., Yapsakli K., MERTOĞLU B.  
BIODEGRADATION, vol.24, no.3, pp.399-412, 2013 (Journal Indexed in SCI)
- IX. **Solidification/stabilization of landfill leachate concentrate using different aggregate materials**  
Hunçe S. Y. , AKGÜL D., DEMİR G., MERTOĞLU B.  
WASTE MANAGEMENT, vol.32, no.7, pp.1394-1400, 2012 (Journal Indexed in SCI)
- X. **Evaluation of Biological Activated Carbon (BAC) process in wastewater treatment secondary effluent for reclamation purposes**  
Kalkan C., Yapsakli K., MERTOĞLU B., Tufan D., Saatci A.  
DESALINATION, vol.265, pp.266-273, 2011 (Journal Indexed in SCI)
- XI. **CHARACTERIZATION OF LANDFILL LEACHATES IN TURKEY**

## Articles Published in Other Journals

- I. **Farklı LEED Versiyonlarının İç Mekânlardaki Su ve Enerji Verimliliği Üzerindeki Etkileri**  
Keskin D. N. , Akgül D.  
International Journal of Advances in Engineering and Pure Sciences, vol.32, no.3, pp.340-350, 2020 (International Refereed University Journal)
- II. **Short-term inhibitory effects of TiO<sub>2</sub> NPs on Anammox process**  
Sari T., Yar A. Ö. , Akgül D.  
Biotech Studies, vol.29, no.1, pp.29-37, 2020 (Refereed Journals of Other Institutions)
- III. **Temperature phased anaerobic digestion of municipal sewage sludge: a Bardenpho treatment plant study**  
Akgul D., Cella M. A. , Eskicioglu C.  
WATER PRACTICE AND TECHNOLOGY, vol.11, no.3, pp.569-573, 2016 (Journal Indexed in ESCI)
- IV. **Treatment of Landfill Leachate by Advanced Oxidation Processes**  
Koçak S., Güney C., Tarkın B., Kırtman E. Ö. , AKGÜL D., MERTOĞLU B.  
Marmara Fen Bilimleri Dergisi, 2013 (Other Refereed National Journals)
- V. **Effect of High Ammonia Concentration on UASB Reactor Treating Sanitary Landfill Leachate**  
YÜZER B., AKGÜL D., MERTOĞLU B.  
Marmara Fen Bilimleri Dergisi, 2012 (Other Refereed National Journals)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Heat-Assisted Vacuum Disintegration of Waste Activated Sludge for Improved Biogas Production**  
Kaplan Ö., AKGÜL D., ÇALLI B.  
Euresia Waste Management Symposium, 26 - 28 October 2020
- II. **Long-term molecular investigations of Anammox bacteria exposed to TiO<sub>2</sub> nanoparticle**  
Sari T., Akgül D.  
European Biotechnology Congress, Valencia, Spain, 11 - 13 April 2019, vol.305
- III. **Identification of Anammox bacteria in landfill leachates of Turkey**  
BAKIRCI K., AKGÜL D., MERTOĞLU B.  
IWA World Conference on Anaerobic Digestion, 17 October 2017 - 20 October 2017
- IV. **Start Up of Anammox Reactor and Short Term Effects of TiO<sub>2</sub> Nanoparticles on Anammox Bacteria**  
Yar A. Ö. , AKGÜL D.  
ICETI 2017, 22 - 26 March 2017
- V. **Inhibitory effects of zinc oxide nanoparticles on anammox process**  
Can S., AKGÜL D.  
ICETI 2017, 22 - 26 March 2017
- VI. **Size and Coating Effects of ZnO Nanoparticles on Mesophilic and Thermophilic Sludge Digestion**  
OLAYA W., AKGÜL D., ESKİCİOĞLU C.  
10th International Society for Environmental Biotechnology Conference Barcelona, 1 - 03 June 2016
- VII. **Application of Microbial Stains in Pre Treated Municipal Sludge to Study Subsequent Effects on Biogas and Methane Production During Anaerobic Digestion**  
CELLA M., AKGÜL D., ESKİCİOĞLU C.  
WEF/IWA Residuals and Biosolids 2015 Conference, Washington, DC, 7 - 10 June 2015
- VIII. **Temperature Phased Anaerobic Digestion of Municipal Sewage Sludge A Bardenpho Treatment Plant Study**

AKGÜL D., CELLA M., ESKİCIOĞLU C.

WEF/IWA Residuals and Biosolids 2015 Conference, Washington, DC, 7 - 10 June 2015

**IX. QUANTITATIVE EVALUATION OF NITROGEN CONVERTERS IN VARIOUS LANDFILL LEACHATES**

MERTOĞLU B., YÜZER B., AKGÜL D.

16th International Biotechnology Symposium and Exhibition, 14 - 19 September 2014

**X. 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

**XI. 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

**XII. 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

**XIII. 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

**XIV. Samsun katı atık düzenli depo sahası sızıntı suyu karakterizasyonu**

YÜZER B., AKGÜL D., MERTOĞLU B.

9. Ulusal Çevre Mühendisliği Kongresi, Samsun, Turkey, 5 - 08 October 2011

**XV. Characterization of Landfill Leachates in Turkey**

AKGÜL D., YÜZER B., MERTOĞLU B.

International Sustainable Water and Wastewater Management Symposium, 26 - 28 October 2011

**XVI. Characterization of dissolved organic matter in landfill leachate by fluorescence spectroscopy**

MERTOĞLU B., BAKIRCI K., AKGÜL D., YÜZER B.

Fourth IWA Specialty Conference Natural Organic Matter: From Source to Tap and Beyond, 27 July 2011

**XVII. Tertiary treatment of Paşaköy Advanced Wastewater Treatment Plant by biological activated carbon (BAC)**

BAKIRCI K., KALKAN AKTAN Ç., AKGÜL D., MERTOĞLU B.

IWA World Water Congress and Exhibition 2010, 19 - 24 September 2010

**XVIII. Co-occurrence of aerobic and anaerobic ammonium oxidizing microorganisms in landfill leachate**

AKGÜL D., Aliyazıcıoğlu Ç., YÜZER B., MERTOĞLU B.

IWA World Water Congress and Exhibition, 19 - 24 September 2010

**XIX. Havalandırmalı katı atık depo sahasındaki mikrobiyal çeşitliliğin moleküler tekniklerle incelenmesi**

MERTOĞLU B., ÇALLI B., AKANYETİ İ., AKGÜL D., Akalın N., İNANÇ B.

6. Ulusal Çevre Mühendisliği Kongresi, Turkey, 24 - 26 November 2005

## Supported Projects

Çallı B., Akgül D., Bakırcı K., TUBITAK Project, 2019 YILI MARMARA ÜNİVERSİTESİ VE ARÇELİK AŞ İŞ BİRLİĞİ İLE ÇEVRESEL SÜRDÜRÜLEBİLİRLİK ALANINDA DOKTORA - SANAYİ PROJESİ, 2020 - 2027

Akgül D., Çallı B., Kaplan Ö., TUBITAK Project, Vakum Destekli Biyogaz Zenginleştirme İşlemi, 2020 - 2022

Akgül D., Mertoğlu B., TUBITAK Project, Anammox Prosesinde Hidrazin Toleransı ve Metabolizmasının Araştırılması, 2019 - 2020

Akgül D., Mertoğlu B., TUBITAK Project, Nanoparçacıkların Zenginleştirilmiş Anammox Kültürü Üzerindeki İnhibisyon Etkileri, 2018 - 2020

Akgül D., Sarı T., Project Supported by Higher Education Institutions, Uzun Süreli Nanopartikül Maruziyetinde Bırakılan Anaerobik Amonyum Oksidasyon (Anammox) Bakterilerinin Moleküler İncelenmesi, 2018 - 2019

Akgül D., Mertoğlu B., Project Supported by Higher Education Institutions, Zenginleştirilmiş Anammox kültüründe çinko oksit nanoparçacık inhibisyonunun araştırılması, 2016 - 2019

Akgül D., Can S., Project Supported by Higher Education Institutions, Çinko Oksit Nanoparçacıklarının Anammox Prosesi Üzerindeki İnhibisyon Etkileri, 2017 - 2018

Akgül D., Yar A. Ö. , Project Supported by Higher Education Institutions, TiO2 Nanoparçacıklarının Anammox Bakterileri Üzerindeki Kısa ve Uzun Süreli Etkileri, 2017 - 2018

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

## **Mobility Activity**

Post Doc, Post Doc, The University of British Columbia, Canada, 2013 - 2014

## **Citations**

Total Citations (WOS):234

h-index (WOS):7

## **Scholarships**

TUBITAK, 2013 - 2014