

Prof. ÖMER AKGİRAY

Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: L-6195-2018

ScopusID: 6602293887

Yoksis Researcher ID: 5407

Biography

1984 yılında Boğaziçi Üniversitesi Kimya Mühendisliği Bölümü'nde lisans eğitimini tamamladı. Aynı yıl lisansüstü çalışmalar yapmak üzere ABD'ne gitti. Syracuse Üniversitesi'nde önce 1986 yılında Kimya Mühendisliği yüksek lisans öğrenimini bitirdi ve ardından 1989 yılında Matematik yüksek lisans derecesini aldı. Kimya Mühendisliği doktorasını aynı üniversitede 1990 senesinde tamamladı. 1984-1990 senelerindeki akademik çalışmaları sırasında Syracuse Üniversitesi tarafından araştırma görevlisi ve karşılıksız bursiyer olarak desteklendi. 1990-1993 Senelerinde San Diego'da Biosym Technologies firmasında önce yazılım mühendisi ve sonra polimer araştırmacısı olarak çalıştı. 1993 Senesinde Marmara Üniversitesi'ne Yardımcı Doçent olarak katıldıktan sonra, 1998'de Doçent ve 2004 yılında Profesör unvanını aldı. Marmara Üniversitesi'nde Su ve Atıksu Arıtma Teknolojileri üzerine bilimsel çalışmalar sürdüren Akgiray, TÜBİTAK BAYG/BİDEB Yürütme Komitesi Üyeliği (2004-2010) ve DSİ Su Arıtma Teknolojileri Danışmanlığı (2005-2009) görevlerini de yürüttü. Marmara Üniversitesi Çevre Mühendisliği Bölümü'nde 1993-2011 senelerinde Bölüm Başkan Yardımcısı, 2011-2018 senelerinde Bölüm Başkanı olarak görev yaptı. Üniversitemizde BAPKO Öndeğerlendirme Komisyonu Üyeliği, FBE Çevre Bilimleri ve Çevre Mühendisliği programlarında ABD Başkanlığı, Mühendislik Fakültesi'nde Yönetim Kurulu Üyeliği, Fakülte Kurulu Üyeliği, Üniversite Senatosu Üyeliği ve Üniversite Yönetim Kurulu Üyeliği gibi birçok idarî görevler üstlenen Akgiray, 2017 Yılından beri Mühendislik Fakültesi Dekanı olarak görev yapmaktadır.

Education Information

Doctorate, Syracuse University, Engineering, Chemical Engineering & Materials Science, United States Of America 1986 - 1990

Postgraduate, Syracuse University, College of Arts & Sciences, Mathematics, United States Of America 1986 - 1989

Postgraduate, Syracuse University, Engineering, Chemical Engineering & Materials Science, United States Of America 1984 - 1986

Undergraduate, Bogazici University, Faculty Of Engineering, Department Of Chemistry Engineering, Turkey 1980 - 1984

Foreign Languages

English, C2 Mastery

Dissertations

Doctorate, Process design using optimal control methodology, Syracuse University, Kimya Mühendisliği, 1990
Postgraduate, A Gradient Approximation Strategy for Chemical Process Optimization, Syracuse University, Kimya Mühendisliği, 1986

Research Areas

Environmental Technology, Water Pollution and Control, Water Supply and Treatment, Fluid Mechanics, Mechanical Physical Operations, Hydraulic

Academic Titles / Tasks

Professor, Marmara University, Faculty of Engineering, Environmental Engineering, 2004 - Continues
Associate Professor, Marmara University, Faculty of Engineering, Environmental Engineering, 1999 - 2004
Assistant Professor, Marmara University, Faculty of Engineering, Environmental Engineering, 1993 - 1999

Academic and Administrative Experience

Vice Rector, Marmara University, 2018 - Continues
Marmara University, Faculty of Engineering, 2017 - Continues
Head of Department, Marmara University, Faculty of Engineering, Environmental Engineering, 2013 - Continues
Marmara University, Faculty of Engineering, Environmental Engineering, 2011 - 2018
Marmara University, Faculty of Engineering, Environmental Engineering, 1993 - 2011

Courses

Calculus II, Undergraduate, 2017 - 2018, 2016 - 2017, 2015 - 2016
Differential Equations, Undergraduate, 2017 - 2018, 2016 - 2017, 2015 - 2016
Calculus I, Undergraduate, 2017 - 2018, 2016 - 2017, 2015 - 2016

Advising Theses

AKGİRAY Ö., An experimental investigation of wall effects in liquid-solid fluidization, Postgraduate, Ö.KAPLAN(Student), 2017
AKGİRAY Ö., Filter backwash hydraulics: An investigation on porous and non-spherical media, Doctorate, S.YİĞİT(Student), 2016
AKGİRAY Ö., Azalan debili filtrasyon, Doctorate, M.EYVAZ(Student), 2013
Akgiray Ö., Küresel Olmayan Malzemelerin Sabit Yatak Hidroliği, Doctorate, E.ERDİM(Student), 2010
Akgiray Ö., Küresel Olmayan Malzemelerin Akışkanlaşma Sırasındaki Davranışlarının İncelenmesi, Doctorate, E.SOYER(Student), 2008
AKGİRAY Ö., Identification of nitrifier diversity and activity in biological wastewater treatment systems, Postgraduate, N.GÜLER(Student), 2006
AKGİRAY Ö., Investigation of microbial communities in sanitary and bioreactor landfills, Doctorate, B.MERTOĞLU(Student), 2005
AKGİRAY Ö., An experimental investigation of certain aspects of water filtration, Postgraduate, S.BURCU(Student), 2004
AKGİRAY Ö., Thermolysis of solid residue from olive oil production, Postgraduate, Ö.DOĞAN(Student), 2003

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Use of filterability index in granular filtration: effect of filter medium type, size and shape**
Hunçe S., Soyer E., Akgiray Ö.
WATER SUPPLY, vol.19, no.2, pp.382-391, 2019 (SCI-Expanded)
- II. **On the backwash expansion of graded filter media**
Hunçe S., Soyer E., Akgiray Ö.
POWDER TECHNOLOGY, vol.333, pp.262-268, 2018 (SCI-Expanded)
- III. **Characterization of apricot stone shells as a rapid filter medium**
Soyer E., Hunçe S., Akgiray Ö.
DESALINATION AND WATER TREATMENT, vol.93, pp.318-323, 2017 (SCI-Expanded)
- IV. **Characterization of Granular Materials with Internal Pores for Hydraulic Calculations Involving Fixed and Fluidized Beds**
Hunçe S., Soyer E., Akgiray Ö.
INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH, vol.55, no.31, pp.8636-8651, 2016 (SCI-Expanded)
- V. **A revisit of pressure drop-flow rate correlations for packed beds of spheres**
Erdim E., Akgiray Ö., Demir İ.
POWDER TECHNOLOGY, vol.283, pp.488-504, 2015 (SCI-Expanded)
- VI. **An experimental investigation on the hydraulic behavior of declining rate filtration**
Eyvaz M., Akgiray Ö., Yüksel E.
DESALINATION AND WATER TREATMENT, vol.51, pp.6137-6147, 2013 (SCI-Expanded)
- VII. **On the Use of Crushed Recycled Glass Instead of Silica Sand in Dual-Media Filters**
Soyer E., Akgiray Ö., Eldem N. O., Saatci A. M.
CLEAN-SOIL AIR WATER, vol.41, pp.325-332, 2013 (SCI-Expanded)
- VIII. **Crushed recycled glass as a filter medium and comparison with silica sand**
Soyer E., AKGİRAY Ö., Eldem N. O., Saatci A. M.
CLEAN-SOIL AIR WATER, vol.38, no.10, pp.927-935, 2010 (SCI-Expanded)
- IX. **A new simple equation for the prediction of filter expansion during backwashing**
Soyer E., AKGİRAY Ö.
JOURNAL OF WATER SUPPLY RESEARCH AND TECHNOLOGY-AQUA, vol.58, no.5, pp.336-345, 2009 (SCI-Expanded)
- X. **An evaluation of expansion equations for fluidized solid-liquid systems**
Akgiray O., Soyer E.
JOURNAL OF WATER SUPPLY RESEARCH AND TECHNOLOGY-AQUA, vol.55, pp.517-526, 2006 (SCI-Expanded)
- XI. **Reply to the discussion by T.S.W. Wong on "Explicit solutions of the Manning equation for partially filled circular pipes"**
Akgiray O.
CANADIAN JOURNAL OF CIVIL ENGINEERING, vol.33, pp.353-354, 2006 (SCI-Expanded)
- XII. **Reply to the discussion by W.H. Hager on "Explicit solutions of the Manning equation for partially filled circular pipes"**
Akgiray O.
CANADIAN JOURNAL OF CIVIL ENGINEERING, vol.33, pp.351-352, 2006 (SCI-Expanded)
- XIII. **Explicit solutions of the Manning equation for partially filled circular pipes**
Akgiray O.
CANADIAN JOURNAL OF CIVIL ENGINEERING, vol.32, pp.490-499, 2005 (SCI-Expanded)
- XIV. **Ammonia and pH inhibition in anaerobic treatment of wastewaters, part I: Experimental**
Eldem N. Ö., Öztürk İ., Soyer E., ÇALLI B., AKGİRAY Ö.

Journal of Environmental Science and Health - Part A Toxic/Hazardous Substances and Environmental Engineering, vol.39, no.9, pp.2405-2420, 2004 (SCI-Expanded)

- XV. **Ammonia and pH inhibition in anaerobic treatment of wastewaters, part II: Model development**
Eldem N. Ö., AKGİRAY Ö., Öztürk İ., Soyer E., ÇALLI B.
Journal of Environmental Science and Health - Part A Toxic/Hazardous Substances and Environmental Engineering, vol.39, no.9, pp.2421-2435, 2004 (SCI-Expanded)
- XVI. **Simple formulae for velocity, depth of flow, and slope calculations in partially filled circular pipes**
Akgiray O.
ENVIRONMENTAL ENGINEERING SCIENCE, vol.21, no.3, pp.371-385, 2004 (SCI-Expanded)
- XVII. **On the use of crushed shells of apricot stones as the upper layer in dual media filters**
Aksoğan S., Baştürk A., Yüksel E., Akgiray Ö.
Water Science and Technology, vol.48, pp.497-503, 2004 (SCI-Expanded)
- XVIII. **Ammonia and pH inhibition in anaerobic treatment of wastewaters, part I: Experimental**
Eldem N., Ozturk I., Soyer E., Calli B., Akgiray Ö.
JOURNAL OF ENVIRONMENTAL SCIENCE AND HEALTH PART A-TOXIC/HAZARDOUS SUBSTANCES & ENVIRONMENTAL ENGINEERING, vol.39, no.9, pp.2405-2420, 2004 (SCI-Expanded)
- XIX. **On the use of crushed shells of apricot stones as the upper layer in dual media filters**
Aksogan S., Basturk A., Yuksel E., Akgiray Ö.
WATER SCIENCE AND TECHNOLOGY, vol.48, pp.497-503, 2003 (SCI-Expanded)
- XX. **Direct filtration with preozonation for small water treatment systems**
YÜKSEL E., AKGİRAY Ö., SOYER E.
WATER SCIENCE AND TECHNOLOGY, vol.48, pp.473-479, 2003 (SCI-Expanded)
- XXI. **Effect of ozone injection location on filter performance in direct filtration**
Yuksel E., Akgiray Ö., Saatci A., Sarıkaya H., Koyuncu I.
WATER SCIENCE AND TECHNOLOGY, vol.46, pp.171-177, 2002 (SCI-Expanded)
- XXII. **A new look at filter backwash hydraulics**
AKGİRAY Ö., Ahmet Mete S.
Water Science and Technology: Water Supply, vol.1, no.2, pp.65-72, 2001 (SCI-Expanded)
- XXIII. **An algorithm for bank operation of declining rate filters**
AKGİRAY Ö., Saatçi A. M.
Water Research, vol.32, no.7, pp.2095-2105, 1998 (SCI-Expanded)
- XXIV. **A critical look at declining rate filter design** Water Science and Technology
AKGİRAY Ö., Ahmet Mete S.
Water Science And Technology, vol.38, pp.89-96, 1998 (SCI-Expanded)
- XXV. **Computer simulation of the formation of polymer networks**
Akgiray O.
Makromolekulare Chemie. Macromolecular Symposia, vol.76, pp.211-218, 1993 (SCI-Expanded)

Articles Published in Other Journals

- I. **Çift tabakalı filtreler: Türkiye şartlarına uygun bir tasarım ve değerlendirme**
Soyer E., Akgiray Ö.
İTÜ Dergisi/E Su Kirlenmesi Kontrolü, vol.21, no.2, pp.13-22, 2011 (Peer-Reviewed Journal)
- II. **Filtre malzemeleri için temiz yatak yük kayıplarının belirlenmesi**
ERKEN E., AKGİRAY Ö., DEMİR İ.
itüdergisi/e su kirlenmesi kontrolü, vol.20, no.1, pp.111-118, 2010 (Peer-Reviewed Journal)
- III. **Farklı filtre malzemeleri için temiz yatak yük kayıplarının belirlenmesi**
Erdim E., Demir İ., Akgiray Ö.
itüdergisi/e Su Kirlenmesi Kontrolü, vol.20, no.1, pp.111-119, 2010 (Peer-Reviewed Journal)
- IV. **Küresel olmayan malzemelerin akışkanlaşma sırasındaki davranışlarının incelenmesi**

Soyer E., Akgiray Ö.

itüdergisi/d mühendislik, vol.8, no.6, pp.3-12, 2009 (Peer-Reviewed Journal)

V. Prediction of filter expansion during backwashing

Akgiray Ö., Soyer E., Yüksel E.

Water Science and Technology: Water Supply, vol.4, no.5-6, pp.131-138, 2004 (Scopus)

Books & Book Chapters

I. Su Arıtma Tesisleri İşletimi El Kitabı

Ahmet Mete S., AKGİRAY Ö., SOYER E., ERDİM E., YİĞİT HUNCE S.

Korza Yayıncılık Basım San. ve Tic. A.Ş., Ankara, 2016

II. Su Arıtma Tesisleri İşletimi

Saatçi A. M., AKGİRAY Ö., SOYER E., ERDİM E., YİĞİT HUNCE S.

Türkiye Belediyeler Birliği, Ankara, 2016

III. Computer Simulation of Polymer Network Formation

Eichinger B. E., Akgiray Ö.

in: Computer Simulation of Polymers, E.A.Colbourne, Editor, Longman see Addison-Wesley Longman, London, pp.1, 1994

Refereed Congress / Symposium Publications in Proceedings

I. Use of Filterability Index in Granular Filtration: Effect of Filter Medium Pretreatment Conditions

SOYER E., YİĞİT HUNCE S., AKGİRAY Ö.

IWA-PPFW2017, 2nd IWA Regional Symposium on Water, Wastewater and Environment, İzmir, Turkey, 22 - 24 March 2017

II. An Experimental Investigation of Wall Effects in Liquid-Solid Fluidization

KAPLAN Ö., SOYER E., AKGİRAY Ö.

IWA-PPFW2017, 2nd IWA Regional Symposium on Water, Wastewater and Environment, İzmir, Turkey, 22 - 24 March 2017

III. On the Backwash Expansion of Non-Uniform and Non-Spherical Filter Media

YİĞİT HUNCE S., SOYER E., AKGİRAY Ö.

IWA-PPFW2017, 2nd IWA Regional Symposium on Water, Wastewater and Environment, İzmir, Turkey, 22 - 24 March 2017

IV. Preparation and Characterization of Apricot Stone Shells for Rapid Filters

YİĞİT HUNCE S., SOYER E., AKGİRAY Ö.

3rd International Conference on Recycling and Reuse, İstanbul, Turkey, 28 - 30 September 2016

V. Preparation and Characterization of Apricot Stone Shells for Rapid Filters

SOYER E., YİĞİT HUNCE S., AKGİRAY Ö.

3rd International Conference on Recycling and Reuse, 28 - 30 September 2016, pp.175-176

VI. Characterization of Natural Zeolite for Granular Bed Filters

YİĞİT HUNCE S., SOYER E., AKGİRAY Ö.

International Porous and Powder Materials Symposium and Exhibition, İzmir, Turkey, 15 - 18 September 2015, pp.294-298

VII. Characterization of Natural Zeolite For Granular Bed Filters

YİĞİT HUNCE S., SOYER E., AKGİRAY Ö., ÇETİNKAYA E., ÇETİNKAYA E.

International Porous and Powder Materials Symposium and Exhibition, PPM 2015, 15 - 18 September 2015

VIII. İçme Suyu Arıtma Teknolojileri

AKGİRAY Ö.

Sağlıklı Su Yönetimi Kongresi, Erzurum, Turkey, 20 - 22 May 2015, pp.49

- IX. **Recycled Material In Water Filtration The Efect Of Media Grain Shape**
SOYER E., YİĞİT HUNCE S., Yılmaz Z., Babaoğlu C., Ülkü Z. M., AKGİRAY Ö.
2nd International Conference on Recycling and Reuse, 4 - 06 June 2014
- X. **Particle Characterization Of Crushed Recycled Glass**
YİĞİT HUNCE S., SOYER E., AKGİRAY Ö.
2nd International Conference on Recycling and Reuse, 4 - 06 June 2014
- XI. **Particle Characterization of Crushed Recycled Glass**
YİĞİT HUNCE S., SOYER E., AKGİRAY Ö.
2nd International Conference on Recycling & Reuse (R&R 2014), Istanbul, Turkey, İstanbul, Turkey, 4 - 06 June 2014
- XII. **Recycled Material in Water Filtration The Effect of Media Grain Shape**
SOYER E., YİĞİT HUNCE S., YILMAZ Z., BABAOĞLU C., ÜLKÜ Z. M., AKGİRAY Ö.
2nd International Conference on Recycling & Reuse (R&R 2014), Istanbul, Turkey, İstanbul, Turkey, 4 - 06 June 2014
- XIII. **The use of anthracite sand dual media in rapid filtration and comparison with silica sand**
SOYER E., AKGİRAY Ö., ELDEM N., SAATÇI A. M.
4th IWA-ASPIRE Conference and Exhibition: Toward Sustainable Water Supply and Recycling Systems, 2-6 October 2011, Tokyo, Japan, Tokyo, Japan, 2 - 06 October 2011
- XIV. **Kirlenmiş Havzalardan Beslenen İçme Suyu Arıtma Tesisleri için İyileştirme Teknikleri**
SOYER E., ERDİM E., AKGİRAY Ö., SAATÇI A. M.
Kent Yönetimi İnsan ve Çevre Sorunları Sempozyumu, İstanbul, İstanbul, Turkey, 3 - 06 November 2008
- XV. **Expansion of Non Spherical Media during Fluidization**
AKGİRAY Ö., SOYER E.
Proceedings of IWA International Conference on Particle Separation, Seoul, S. Korea, Seoul, South Korea, 1 - 03 June 2005
- XVI. **Preozonation Effects on Direct Filtration**
SOYER E., AKGİRAY Ö., YÜKSEL E.
World Water Congress, Marrakech, Morocco, Marrakech, Morocco, 19 - 24 September 2004
- XVII. **Modelling Ammonia and pH Inhibition in Anaerobic Treatment**
AKGİRAY Ö., ELDEM N., ÖZTÜRK İ., SOYER E., ÇALLI B.
IWA 4th World Water Congress, Marrakech, Morocco, Marrakech, Morocco, 19 - 24 September 2004
- XVIII. **Ammonia and pH inhibition in anaerobic treatment**
Akgiray Ö.
10th World Congress on Anaerobic Digestion (AD10-2004), Montreal, Canada, 29 August - 02 September 2004, pp.306-311
- XIX. **Direct Filtration with Preozonation for Small Water Treatment Systems**
YÜKSEL E., AKGİRAY Ö., SOYER E.
5th Specialized Conference on Small Water and Wastewater Treatment Systems, Istanbul, Turkey, İstanbul, Turkey, 24 - 26 September 2002
- XX. **Optimal Temperature Control Policy for Parallel Reactions in a Batch Reactor**
Akgiray Ö., Heydweiller J. C.
Annual Meeting of AIChE, Illinois, United States Of America, 11 - 16 November 1990, pp.1-14
- XXI. **Numerical Methods for Optimal Control Problems**
Akgiray Ö., Heydweiller J. C.
Annual Meeting of AIChE, Illinois, United States Of America, 11 - 16 November 1990, pp.1-40

Supported Projects

Akgiray Ö., Project Supported by Higher Education Institutions, Mühendislik Fakültesinin Bilimsel Zenginliklerinin Bilgi ve Teknoloji Transferi Yönünden Değerlendirilmesi ve İyileştirilmesi, 2018 - 2020

Akgiray Ö., TUBITAK Project, Sıvı-Katı Akışkanlaşmasında Duvar Etkisinin Deneysel Olarak Araştırılması, 2017 - 2018
Akgiray Ö., TUBITAK Project, Marmara Üniversitesi Ar Ge Strateji Belgesi Çevre Teknolojileri, 2016 - 2018
Can Z. S., Kocamemi B., Akgiray Ö., Project Supported by Other Official Institutions, Pilot Granular Activated Carbon Study for Potable Water , 2016 - 2016
Akgiray Ö., TUBITAK Project, Farklı Özelliklerdeki Parçacıklardan Oluşan Granüler Yatakların Sıvılarla Akışkanlaşması Sırasındaki Genişlemesi, 2012 - 2014
Akgiray Ö., TUBITAK Project, Hızlı Filtrasyonda Çift Malzemeli Filtre Yatağı ve Geri Kazanılmış Pulverize Cam Kullanımı ve Silika Kumu ile Mukayesesi, 2005 - 2007

Metrics

Publication: 56
Citation (WoS): 310
Citation (Scopus): 361
H-Index (WoS): 11
H-Index (Scopus): 12

Congress and Symposium Activities

Sağlıklı Su Yönetimi Kongresi, Invited Speaker, Erzurum, Turkey, 2015
3W International Solid Waste, Water & Wastewater Congress, Invited Speaker, İstanbul, Turkey, 2013

Non Academic Experience

Company, Biosym Technologies, San Diego, USA
BIOSYM Technologies, San Diego, USA