

Res. Asst. PhD AYTAÇ PERİHAN AKAN

Personal Information

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International Researcher IDs

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ScopusID: 56580128300

Yoksis Researcher ID: 42942

Education Information

Post Doctorate, Middle East Technical University, Faculty Of Engineering, Department Of Chemical Engineering, Turkey
2020 - 2021

Doctorate, New Jersey Institute of Technology, Newark College of Engineering, Department of Chemical Engineering,
United States Of America 2018 - 2019

Doctorate, Hacettepe University, Fen Bilimleri Enstitüsü, Çevre Mühendisliği Bölümü, Turkey 2014 - 2019

Postgraduate, Hacettepe University, Fen Bilimleri Enstitüsü, Endüstri Mühendisliği Bölümü, Kalite Ve Uygunluk
Değerlendirme Mühendisliği, Turkey 2015 - 2016

Postgraduate, Bogazici University, Institute Of Environmental Sciences, Çevre Teknolojileri , Turkey 2011 - 2014

Undergraduate, Trakya University, Çorlu Mühendislik Fakültesi, Çevre Mühendisliği Bölümü, Turkey 2004 - 2008

Dissertations

Doctorate, Post Combustion Carbon Dioxide Capture with Membrane-Solvent Hybrid Systems, Hacettepe University,
Mühendislik Fakültesi, Çevre Mühendisliği Bölümü, 2019

Postgraduate, Surface Interactions of Humic Acid - Anion Doped Titania Binary System, Bogazici University, Institute Of
Environmental Sciences, 2014

Research Areas

Environmental Engineering, Environmental Technology, Environmental Impact Assessment, Environmental Risk
Assessment, Air Pollution and Control, Air Pollution Monitoring, Pollution Prevention and Waste Reduction, Water
Pollution and Control, Engineering and Technology

Academic Titles / Tasks

Research Assistant PhD, Hacettepe University, Mühendislik Fakültesi, Çevre Mühendisliği Bölümü, 2019 - Continues

Research Assistant, Hacettepe University, Mühendislik Fakültesi, Çevre Mühendisliği Bölümü, 2013 - Continues

Researcher, Université Catholique de Louvain, Institute Of Mechanics, Materials And Civil Engineering (Immc), Materials
and Process Engineering, 2018 - 2018

Courses

Environmental Microbiology, Undergraduate, 2022 - 2023, 2021 - 2022

Global Climate Change, Undergraduate, 2022 - 2023, 2021 - 2022

Quality Management and Control, Doctorate, 2021 - 2022

Climate Change and Global Warming, Doctorate, 2021 - 2022

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Life Cycle Assessment of Post-Combustion CO₂ Capture and Recovery by Hydrophobic Polypropylene Cross-Flow Hollow Fiber Membrane Contactors with Activated Methyl-diethanolamine**
Akan A. P., Chau J., Güllü G., Sirkar K. K.
ATMOSPHERE, vol.14, no.490, pp.1-24, 2023 (SCI-Expanded)
- II. **Changes of Air Pollution between Countries Because of Lockdowns to Face COVID-19 Pandemic**
Akan A. P., Coccia M.
APPLIED SCIENCES, vol.12, no.12806, pp.1-28, 2022 (SCI-Expanded)
- III. **Modeling of CO₂ emissions via optimum insulation thickness of residential buildings**
Akan A. P., Akan A. E.
Clean Technologies And Environmental Policy, vol.24, pp.949-967, 2022 (SCI-Expanded)
- IV. **Transmission of COVID-19 pandemic (Turkey) associated with short-term exposure of air quality and climatological parameters**
Akan A. P.
ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH, vol.29, pp.41695-41712, 2022 (SCI-Expanded)
- V. **Determination of Tekirda (Turkey) wind energy potential and evaluation of selected wind turbines in terms of techno-economic and environmental aspects**
AKAN A. P., Akan A. E.
JOURNAL OF RENEWABLE AND SUSTAINABLE ENERGY, vol.13, no.3, 2021 (SCI-Expanded)
- VI. **Post-combustion CO₂ capture and recovery by pure activated methyl-diethanolamine in crossflow membrane contactors having coated hollow fibers**
Akan A. P., Chau J., Sirkar K. K.
SEPARATION AND PURIFICATION TECHNOLOGY, vol.244, 2020 (SCI-Expanded)
- VII. **Adsorption of molecular size fractions of humic acid onto anion-doped TiO₂ specimens**
Akan P., Birben N. C., Bekbolet M.
DESALINATION AND WATER TREATMENT, vol.57, no.6, pp.2455-2465, 2016 (SCI-Expanded)

Articles Published in Other Journals

- I. **Effects of air pollution indicators and meteorological parameters on the outbreak of COVID-19**
Akan A. P.
AIP CONFERENCE PROCEEDINGS, vol.2683, no.030067, pp.1-4, 2023 (Peer-Reviewed Journal)
- II. **Variations in the Concentration of Air Pollutants due to the COVID-19 Lockdown in Istanbul, Turkey**
Akan A. P.
European Journal of Technique, vol.12, no.1, pp.49-56, 2022 (Peer-Reviewed Journal)
- III. **Evaluation of feasibility analyses for different hub heights of a wind turbine**
Akan A. E., Akan A. P.
Journal of Energy Systems, vol.6, no.1, pp.97-107, 2022 (Scopus)
- IV. **Meeting of Energy Demand for Irrigation of Off-Grid Agricultural Land by Solar-Wind Energy System with Battery Storage**
Akan A. E., Akan A. P.
Avrupa Bilim ve Teknoloji Dergisi, no.28, pp.806-810, 2021 (Peer-Reviewed Journal)
- V. **Assessment of CO₂ Emissions Reduction Based on Different Insulation Materials in Residential**

Buildings: Example from Turkey

Akan A. P., Akan A. E.

IOP Conf. Series: Earth and Environmental Science , vol.801, no.12026, pp.1-10, 2021 (Peer-Reviewed Journal)

- VI. **A General Approach to Accreditation of Environmental Laboratories in Turkey**
AKAN A. P., TESTİK Ö. M.
International Journal of Engineering Technologies, vol.4, no.2, pp.102-106, 2018 (Peer-Reviewed Journal)
- VII. **Potential of reduction in carbon dioxide equivalent emissions via energy efficiency for a textile factory**
AKAN A. P., AKAN A. E.
Journal of Energy Systems, vol.2, pp.57-69, 2018 (Scopus)
- VIII. **Determining residential energy consumption-based CO2 emissions and examining the factors affecting the variation in Ankara, Turkey**
KUŞ M., AKAN A. P., AYDINALP KÖKSAL M., GÜLLÜ G.
E3S Web of Conferences, vol.22, 2017 (Peer-Reviewed Journal)
- IX. **Examination of the Accreditation Status of Water Quality Parameters**
AKAN A. P., TESTİK Ö. M.
The Turkish Journal of Occupational / Environmental Medicine and Safety, vol.2, no.1, pp.45-55, 2017 (Peer-Reviewed Journal)

Books & Book Chapters

- I. **Energy Storage via Hydrogenation of CO2 to Hydrocarbons**
Akan A. P., Akan A. E.
in: Academic Approaches to Engineering Issues, Akan Aytac Perihan; Akan Ahmet Erhan, Editor, IKSAD , Ankara, pp.177-191, 2020
- II. **Wind energy systems and their effects on environmental sustainability**
Akan A. E., Akan A. P.
in: Theoretical Investigations and Applied Studies in Engineering, Ozseven Turgut, Yasar Ebubekir, Editor, Ekin, Tokat, pp.109-126, 2019
- III. **Bölüm 48: Zararlı Böceklerin Kontrolünde Kullanılan Evcil Hayvan Bakım Ürünleri**
AKAN A. P.
in: Hayes'xxin Pestisit Toksikolojisi El Kitabı, Erol Rauf Ağış, Engin Tutkun, Ömer Hınç Yılmaz, Hüseyin İlter, Editor, T. C. Sağlık Bakanlığı, Ankara, pp.1109-1122, 2018

Refereed Congress / Symposium Publications in Proceedings

- I. **Smart Waste Management based on Artificial Intelligence Applications for Smart Cities**
Akan A. P., Uğurlu A.
Türkiye'de Sıfır Atık: Tespitler, Beklentiler ve Fırsatlar, İstanbul, Turkey, 25 - 26 March 2023, pp.1
- II. **Implementing Nature-Based Solutions for the Mitigation of Greenhouse Gases from Wastewater Treatment Plants**
Akan A. P., Uğurlu A.
3rd International Symposium of Scientific Research and Innovative Studies, Balıkesir, Turkey, 15 - 18 March 2023, pp.554-555
- III. **Smart and Innovative Building Approaches for Sustainable Energy based on Zero-Emission Targets**
Akan A. P.
5 th Edition of Renewable and Sustainable Energy Virtual, Nalgonda, India, 3 - 04 March 2023, pp.1
- IV. **Current status and future perspectives on the applications of artificial intelligence in sustainable waste management**

Akan A. P., Uğurlu A.

1st International Conference on Frontiers in Academic Research , Konya, Turkey, 18 - 21 February 2023, pp.1

- V. **Global and national air quality variations based on air quality index (AQI) associated with the COVID-19 lockdown measures**
Akan A. P.
World Conference On Environmental and Earth Sciences, Valencia, Spain, 24 - 25 October 2022, pp.28
- VI. **Role of Particulate Matters (PM_{2.5} and PM₁₀), Temperature and Relative Humidity on the Transmission of the Outbreak of COVID-19 in Balıkesir and Tekirdağ Provinces of Turkey**
Akan A. P.
1st Mediterranean Geosciences Union (MedGU-21), İstanbul, Turkey, 25 - 28 November 2021
- VII. **Meeting Irrigation Demand of Agricultural Land by the Off-Grid Solar-Wind Hybrid Renewable Energy System with Battery Storage**
Akan A. E., Akan A. P.
1st International Conference on Applied Engineering and Natural Sciences, Konya, Turkey, 1 - 03 November 2021, pp.1-5
- VIII. **Determination of Wind Energy Potential for Marmara Ereğlisi and Comparison of Techno-Economic and Environmental Feasibility Analyzes of Two Different Wind Turbines**
Akan A. E., Akan A. P.
23. Isı Bilimi ve Tekniği Kongresi, Gaziantep, Turkey, 8 - 10 September 2021
- IX. **Comparison of Techno-Economic and Environmental Feasibility Analysis of Solar Powered Electric Vehicle Charging Stations for Çorlu**
Akan A. E., Akan A. P.
23. Isı Bilimi ve Tekniği Kongresi, Gaziantep, Turkey, 8 - 10 September 2021
- X. **Cellulose Ultrafiltration Membranes via Phase Inversion for Protein Concentration from Cheese Whey**
Akan A. P., Çulfaz Emecen P. Z.
4th IWA RESOURCE AND RECOVERY CONFERENCE, İstanbul, Turkey, 5 - 08 September 2021
- XI. **Effects of air pollution indicators and meteorological parameters on the outbreak of COVID-19**
Akan A. P.
6th International Conference on Energy, Environment, Epidemiology, and Information System, Semarang, Indonesia, 4 - 05 August 2021
- XII. **Determination of wind energy potential and evaluation of the feasibility analysis of a wind turbine via RETScreen for Çerkezköy, Turkey**
Akan A. E., Akan A. P.
9. European Conference on Renewable Energy Systems, İstanbul, Turkey, 21 - 23 April 2021
- XIII. **Assessment of CO₂ Emissions Reduction Based on Different Insulation Materials in Residential Buildings: Example from Turkey**
Akan A. P., Akan A. E.
11th International Conference on Future Environment and Energy, Tokyo, Japan, 28 - 30 January 2021, pp.35-36
- XIV. **Post-combustion CO₂ capture and recovery via polypropylene membrane coated with fluorosiloxane in a membrane contactor and activated methyldiethanolamine hybrid systems**
AKAN A. P., Chau J., Sirkar K. K.
6th MEMTEK International Symposium on Membrane Technologies and Applications, İstanbul, Turkey, 18 - 20 November 2019, pp.498-499
- XV. **Life Cycle Assessment of CO₂ Capture for Further Reuse as Sodium Carbonate**
AKAN A. P., Salmon I. R., Luis P.
6. European Conference on Renewable Energy Systems, İstanbul, Turkey, 25 - 27 June 2018, pp.560-566
- XVI. **An Evaluation Framework for Life Cycle Assessment of Post-Combustion CO₂ Capture**
AKAN A. P.
International Congress on Engineering and Life Science, Kastamonu, Turkey, 26 - 29 April 2018, pp.612
- XVII. **Current Status of Education in Turkey Related to Occupational Health and Safety**

Uysal F. F., Akan A. P.

2. İş Güvenliği ve Çalışan Sağlığı Kongresi, Kocaeli, Turkey, 8 - 09 November 2017

XVIII. ANALYSIS OF OCCUPATIONAL ACCIDENTS ACCORDING TO PROVINCES IN TURKEY

AKAN A. P., UYSAL F. F.

2. Uluslararası İş Güvenliği ve Çalışan Sağlığı Kongresi, Kocaeli, Turkey, 8 - 09 November 2017

XIX. WASTE RECOVERY AND ENERGY EFFICIENCY VIA INDUSTRIAL SYMBIOSIS APPLICATIONS: CASE STUDIES FROM TURKEY

AKAN A. P., Başer N.

INTERNATIONAL CONFERENCE ON ADVANCES IN SCIENCE: ICAS2017, İstanbul, Turkey, 13 - 15 September 2017, pp.293-297

XX. Investigation of Accreditation Status of Environmental Parameters in Turkey

AKAN A. P., TESTİK Ö. M.

Proceedings of the 2nd World Congress on Civil, Structural, and Environmental Engineering (CSEE'17), 2 - 04 April 2017

XXI. Su Kalite Parametrelerinin Akreditasyon Durumlarının İncelenmesi

AKAN A. P., TESTİK Ö. M.

2nd International Water and Health Congress, Antalya, Turkey, 13 - 17 February 2017

XXII. Carbon Dioxide Capture and Sequestration CCS Technologies

AKAN A. P., GÜLLÜ G.

International Summer School on CO2 Conversion from Fundamentals towards Applications, Villars-sur-Ollon, Switzerland, 29 August - 02 September 2016

XXIII. Spectrofluorometric Characterization of Adsorption of Different Molecular Size Fractions of Humic Acid onto Anion Doped TiO2 Specimens

AKAN A. P., BİRBEN N. C., BEKBÖLET F. M.

International Conference on Agricultural, Civil and Environmental Engineering (ACEE-16), İstanbul, Turkey, 18 - 19 April 2016

XXIV. Differences in Characterization between Humic Acid and Its Size Fractions Following Adsorption onto Anion Doped TiO2 Specimens by Fluorescence Excitation Emission Matrices

AKAN A. P., BİRBEN N. C., BEKBÖLET F. M.

INTERNATIONAL CONFERENCE ON AIR, WATER, AND SOIL POLLUTION AND TREATMENT (AWSPT'xx16), Prag, Czech Republic, 30 - 31 March 2016

XXV. FARKLI MOLEKÜLER BOYUT FRAKSİYONLARINDAKİ HÜMİK ASİTİN ANYONLA KATKILANDIRILMIŞ TiO2 TÜRLERİ İLE ADSORPSİYONU

AKAN A. P., BEKBÖLET F. M.

11.Ulusal Çevre Mühendisliği Kongresi, Bursa, Turkey, 15 - 17 October 2015

XXVI. Farklı Moleküler Büyüklük Fraksiyonlarındaki Hümik Asit ve Anyon ile Katkılandırılmış Titanyum İkili Sistemlerinin Karşılaştırılması

AKAN A. P., BEKBÖLET F. M.

XII. Ulusal Ekoloji ve Çevre Kongresi, Muğla, Turkey, 14 - 17 September 2015

XXVII. A COMPARATIVE APPROACH TO SURFACE INTERACTIONS BETWEEN MOLECULAR SIZE FRACTIONS OF HUMIC ACID AND ANION DOPED TITANIA BINARY SYSTEM

AKAN A. P., BEKBÖLET F. M.

14th International Conference on Environmental Science and Technology, 3 - 05 September 2015

XXVIII. Evaluation of Surface Interactions between Diverse MolecularSize Fractions of Humic Acid and Anion Doped TiO2 by Excitation Emission Matrix EEM Fluorescence Spectra

AKAN A. P., BEKBÖLET F. M.

International Congress Energy and Environment Engineering and Management, Paris, France, 22 - 24 July 2015

XXIX. Adsorption and Kinetic Studies of Molecular Size Fractions of Humic Acid onto Anion Doped TiO2 Specimens

AKAN A. P., BEKBÖLET F. M.

International Conference on Civil and Environmental Engineering, Nevşehir, Turkey, 20 May - 23 July 2015

XXX. Adsorption of Molecular Size Fractions of Humic Acid onto Anion-Doped TiO₂ Specimens

AKAN A. P., BEKBÖLET F. M.

2nd International Conference on Recycling and Reuse, İstanbul, Turkey, 4 - 06 June 2014

Supported Projects

GÜLLÜ G., SEVER AKDAĞ A., AKAN A. P., Project Supported by Higher Education Institutions, Yanma Sonrası Karbon Tutma Teknolojilerinin Kıyaslamalı İncelenmesi: Biyokütleden Elde Edilen Aktif Karbon ve Membran Teknolojileri ile Karbondioksit Tutumu, 2017 - 2021

GÜLLÜ G., AKAN A. P., Project Supported by Higher Education Institutions, Membran-Solvent Hibrit Sistemleriyle Yanma Sonrası Karbondioksit Tutumu, 2017 - 2020

UĞURLU A., SEVER AKDAĞ A., ANDAÇ ÖZDİL A. M., AKAN A. P., ÇAKMAK S., Project Supported by Higher Education Institutions, Çevre Mühendisliği Çevre Kimyası ve Çevre Mikrobiyolojisi Öğrenci Laboratuvarları için Altyapının Oluşturulması, 2015 - 2018

GÜLLÜ G., AKAN A. P., Project Supported by Higher Education Institutions, Türkiye'deki Çevresel Parametrelerin Akreditasyon Durumlarının İncelenmesi, 2017 - 2017

GÜLLÜ G., AKAN A. P., Project Supported by Higher Education Institutions, SU KALİTE PARAMETRELERİNİN AKREDİTASYON DURUMLARININ İNCELENMESİ, 2017 - 2017

AKAN A. P., Project Supported by Higher Education Institutions, Hüyük Asit ve Moleküler Büyüklük Fraksiyonlarının Anyon ile Katkılandırılmış TiO₂ Türleri ile Adsorpsiyonunun Floresans Uyarım/Yayılm Matrisleri Aracılığıyla Karakterizasyon Farklılıkları, 2016 - 2016

AKAN A. P., Project Supported by Higher Education Institutions, Uyarım-Emisyon Matris Floresans Spektra aracılığıyla Anyon Katkılı TiO₂ ve Hüyük Asitin Farklı Moleküler Boyut Fraksiyonları arasındaki Yüze Etkileşiminin Değerlendirilmesi, 2015 - 2016

AKAN A. P., Project Supported by Higher Education Institutions, Farklı Moleküler Boyut Fraksiyonlarındaki Hüyük Asitin Anyonla Katkılandırılmış TiO₂ Türleri ile Adsorpsiyonu, 2015 - 2015

AKAN A. P., Project Supported by Higher Education Institutions, Küresel Ölçekte Çevre Etiği, 2015 - 2015

Activities in Scientific Journals

Journal of Energy Research and Reviews, Scientific Committee Membership, 2018 - Continues

Journal of Environmental Pollution and Control, Scientific Committee Membership, 2017 - Continues

Scientific Refereeing

Environmental Research & Technology, National Scientific Refreed Journal, May 2023

ISI BİLİMİ VE TEKNİĞİ DERGİSİ/ JOURNAL OF THERMAL SCIENCE AND TECHNOLOGY, Journal Indexed in SCI-E, April 2023

ENVIRONMENTAL POLLUTION, Journal Indexed in SCI-E, November 2022

ENVIRONMENTAL POLLUTION, Journal Indexed in SCI-E, October 2022

HACETTEPE ÜNİVERSİTESİ İKTİSADİ VE İDARİ BİLİMLER FAKÜLTESİ DERGİSİ, National Scientific Refreed Journal, August 2022

ENVIRONMENTAL POLLUTION, Journal Indexed in SCI-E, June 2022

Asia-Pacific Journal of Regional Science, Journal Indexed in ESCI, June 2022

International Journal Of Ambient Energy, Journal Indexed in ESCI, May 2022

Asia-Pacific Journal of Regional Science , Journal Indexed in ESCI, May 2022

ENVIRONMENTAL POLLUTION, Journal Indexed in SCI-E, April 2022

International Journal of Ambient Energy, Journal Indexed in ESCI, March 2022

Metrics

Publication: 49

Citation (WoS): 5

Citation (Scopus): 15

H-Index (WoS): 1

H-Index (Scopus): 3

Congress and Symposium Activities

5th Edition of Renewable and Sustainable Energy (Invited Speaker), Invited Speaker, Nalgonda, India, 2023

World Conference on Environmental and Earth Sciences (Keynote Speaker), Invited Speaker, Valencia, Spain, 2022

9. European Conference on Renewable Energy Systems (Session Chair), Session Moderator, İstanbul, Turkey, 2021

Scholarships

2214-A Yurt Dışı Doktora Sırası Araştırma Bursu- New Jersey Institute of Technology (NJIT), Amerika Birleşik Devletleri, TUBITAK, 2018 - 2019

Yurtdışı Araştırma Bursu-Université catholique de Louvain (UCLouvain),Belçika, University, 2018 - 2018

2224-A Yurt Dışı Bilimsel Etkinliklere Katılım Desteği - Yunanistan, TUBITAK, 2015 - 2015

Yaz Okulu Katılım Desteği - University of Helsinki (UH), Finlandiya, University, 2015 - 2015

Awards

Akan A. P., Highest ranked student in the Faculty of Engineering, Trakya Üniversitesi, July 2008

Akan A. P., Top scoring student at department, Trakya Üniversitesi, July 2008