

Prof. ENDER DEMİREL

Office Phone: [+90 222 239 3750](tel:+902222393750) Extension: 3227

Email: edemirel@ogu.edu.tr

Other Email: edemirel1977@gmail.com

Web: <https://avesis.ogu.edu.tr/edemirel>

Address: Eskişehir Osmangazi Üniversitesi Müh. Mim. Fakültesi İnşaat Mühendisliği 26480 Eskişehir

International Researcher IDs

ORCID: 0000-0002-0440-7866

ScopusID: 56103568000

Yoksis Researcher ID: 15269



Education Information

- I. Doctorate, Eskişehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, İnşaat Mühendisliği (Dr), Turkey 2002 - 2008
- II. Postgraduate, Eskişehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, İnşaat Mühendisliği (YI) (Tezli), Turkey 1999 - 2002
- III. Undergraduate, Eskişehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, İnşaat Mühendisliği Bölümü, Turkey 1995 - 1999

Foreign Languages

- I. English, C1 Advanced

Dissertations

- I. Doctorate, Baraj göllerinde deprem sırasında oluşan hidrodinamik basınçların analizi, Eskişehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, İnşaat Mühendisliği (Dr), 2008
- II. Postgraduate, Prizmatik kanallarda T.D.A. su yüzü profillerinin bilgisayar destekli hesabı, Eskişehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, İnşaat Mühendisliği (YI) (Tezli), 2002

Research Areas

Hydraulic, Hydraulic Structures, Open Channel Flow, Hydromechanics

Academic Titles / Tasks

- I. Associate Professor, Eskişehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, İNŞAAT MÜHENDİSLİĞİ BÖLÜMÜ, 2016 - Continues
- II. Assistant Professor, Eskişehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, İNŞAAT MÜHENDİSLİĞİ BÖLÜMÜ, 2011 - 2016

- III. Research Assistant, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, İNŞAAT MÜHENDİSLİĞİ BÖLÜMÜ, 1999 - 2011

Academic and Administrative Experience

- I. Vice Dean, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, İNŞAAT MÜHENDİSLİĞİ BÖLÜMÜ, 2021 - Continues

Courses

- I. Fluid Mechanics, Undergraduate, 2019 - 2020, 2017 - 2018

Advising Theses

- I. DEMİREL E., Açık Kanallardaki Merkezi Savak Akımlarının Deneysel ve Sayısal İncelenmesi, Postgraduate, H.NIYAZI(Student), 2020
- II. DEMİREL E., Investigation of Power Performance of Graviational Water Vortex Power Plant, Postgraduate, S.YOUSUFZAI(Student), 2020
- III. DEMİREL E., İçme sularının dezenfeksiyonunda temas tanklarının verimlerinin araştırılması ve perde tasarımının geliştirilmesi, Doctorate, M.ANIL(Student), 2020
- IV. DEMİREL E., Development of an integrated model for ground and surface waters, Postgraduate, Ö.DOĞAN(Student), 2020
- V. DEMİREL E., Bir İçmesuyu Arıtma Tesisindeki Temas Tankının Veriminin İncelenmesi ve İyileştirilmesi, Postgraduate, F.DOĞANTÜRK(Student), 2020
- VI. DEMİREL E., Optimization of Perforated Baffle for the Efficiency Enhancement of Contact Tanks using Open Source CFD Code, Postgraduate, N.NASYRLAYEV(Student), 2020
- VII. DEMİREL E., Yapay Sulak Alanların Atıksu Arıtma Verimlerinin İyileştirilmesi, Postgraduate, O.DEMİRCİ(Student), 2020
- VIII. DEMİREL E., Experimental investigation of vortex induced hydrodynamic effects acting on the submerged gate and development of vortex breaker apparatus, Postgraduate, S.SMOK(Student), 2019
- IX. DEMİREL E., Deprem Sırasında Oluşan Heyelandan Dolayı Baraj Haznelerinde Meydana Gelen Yüzey Dalgalarının Sayısal Benzetimi, Postgraduate, A.TOLGA(Student), 2019
- X. DEMİREL E., Temas Tanklarının Dezenfeksiyon Verimlerinin Deneysel Olarak Araştırılması, Postgraduate, E.DİLAN(Student), 2019
- XI. DEMİREL E., Akım gözlem istasyonlarında yatak sürtünme katsayısı ve eğiminin sayısal yöntemle bulunması, Postgraduate, N.ÇAYNAK(Student), 2011

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Development and Optimization of a Micro-Baffle for the Enhancement of Heat Transfer in Film Boiling**
Sarıkaya O. M., Kuzay M., Yılmaz S., Demirel E.
ENERGIES, vol.17, no.20, 2024 (SCI-Expanded)
- II. **Conjugate Heat Transfer Modeling of a Cold Plate Design for Hybrid-Cooled Data Centers**
Dogan A., Yılmaz S., Kuzay M., Korpershoek D., Burks J., Demirel E.
ENERGIES, vol.16, pp.1-24, 2023 (SCI-Expanded)

- III. **Structure and dynamics of the turbulent flow through a central baffle**
Niyazi H., Yaban H., Demirel E.
FLOW MEASUREMENT AND INSTRUMENTATION, vol.1, no.1, pp.1-15, 2022 (SCI-Expanded)
- IV. **CFD Modeling of Pressure Drop through an OCP Server for Data Center Applications**
Dogan A., Yilmaz S., Kuzay M., Yilmaz C., Demirel E.
ENERGIES, vol.15, no.17, 2022 (SCI-Expanded)
- V. **Retrofitting of an air-cooled data center for energy efficiency**
Kuzay M., Dogan A., Yilmaz S., Herkiloglu O., Atalay A. S., Cemberci A., Yilmaz C., Demirel E.
CASE STUDIES IN THERMAL ENGINEERING, vol.36, no.1, pp.102228-102240, 2022 (SCI-Expanded)
- VI. **Experimental Study of Hydrodynamic Pressures Acting on a Submerged Gate**
Smok S., Kızılaslan M. A., Kürümüş A. T., Demirel E.
TEKNIK DERGI/TECHNICAL JOURNAL OF TURKISH CHAMBER OF CIVIL ENGINEERS, vol.33, no.4, pp.12163-12182, 2022 (SCI-Expanded)
- VII. **Design optimization of the porous baffle in a disinfection contact tank for high efficiency**
Nasyrlyayev N., Demirel E.
URBAN WATER JOURNAL, vol.1, no.1, pp.1-20, 2022 (SCI-Expanded)
- VIII. **Experimental and Numerical Evaluation of a Porous Baffle Design for Contact Tanks**
KIZILASLAN M. A., Nasyrlyayev N., Kurumus A. T., SAVAŞ H., DEMİREL E., Aral M. M.
JOURNAL OF ENVIRONMENTAL ENGINEERING, vol.146, no.7, 2020 (SCI-Expanded)
- IX. **A Perforated Baffle Design to Improve Mixing in Contact Tanks**
Nasyrlyayev N., KIZILASLAN M. A., Kurumus A. T., DEMİREL E., Aral M. M.
WATER, vol.12, no.4, 2020 (SCI-Expanded)
- X. **A Design for Vortex Suppression Downstream of a Submerged Gate**
DEMİREL E., Aral M. M.
WATER, vol.12, no.3, 2020 (SCI-Expanded)
- XI. **Efficiency Enhancement of Chlorine Contact Tanks in Water Treatment Plants: A Full-Scale Application**
KIZILASLAN M. A., DEMİREL E., Aral M. M.
PROCESSES, vol.7, no.9, 2019 (SCI-Expanded)
- XII. **Liquid Sloshing Damping in an Accelerated Tank Using a Novel Slot-Baffle Design**
DEMİREL E., Aral M. M.
WATER, vol.10, no.11, 2018 (SCI-Expanded)
- XIII. **Performance of Efficiency Indexes for Contact Tanks**
DEMİREL E., Aral M. M.
JOURNAL OF ENVIRONMENTAL ENGINEERING, vol.144, no.9, 2018 (SCI-Expanded)
- XIV. **Effect of Porous Baffles on the Energy Performance of Contact Tanks in Water Treatment**
KIZILASLAN M. A., DEMİREL E., Aral M. M.
WATER, vol.10, no.8, 2018 (SCI-Expanded)
- XV. **An Efficient Contact Tank Design for Potable Water Treatment**
DEMİREL E., Aral M. M.
TEKNIK DERGI, vol.29, no.2, pp.8279-8294, 2018 (SCI-Expanded)
- XVI. **Novel Slot-Baffle Design to Improve Mixing Efficiency and Reduce Cost of Disinfection in Drinking Water Treatment**
Aral M. M., DEMİREL E.
JOURNAL OF ENVIRONMENTAL ENGINEERING, vol.143, no.9, 2017 (SCI-Expanded)
- XVII. **Unified Analysis of Multi-Chamber Contact Tanks and Mixing Efficiency Based on Vorticity Field. Part I: Hydrodynamic Analysis**
DEMİREL E., Aral M. M.
WATER, vol.8, no.11, 2016 (SCI-Expanded)
- XVIII. **Unified Analysis of Multi-Chamber Contact Tanks and Mixing Efficiency Evaluation Based on Vorticity Field. Part II: Transport Analysis**

- DEMİREL E., Aral M. M.
WATER, vol.8, no.11, 2016 (SCI-Expanded)
- XIX. **Numerical Simulation and Formulation of Wave Run-Up on Dam Face due to Ground Oscillations Using Major Earthquake Acceleration Records**
DEMİREL E., AYDIN İ.
JOURNAL OF ENGINEERING MECHANICS, vol.142, no.6, 2016 (SCI-Expanded)
- XX. **Measured and simulated flow downstream of the submerged sluice gate**
DEMİREL E.
WATER AND ENVIRONMENT JOURNAL, vol.29, no.3, pp.446-455, 2015 (SCI-Expanded)
- XXI. **Numerical simulation of earthquake excited dam-reservoirs with irregular geometries using an immersed boundary method**
DEMİREL E.
SOIL DYNAMICS AND EARTHQUAKE ENGINEERING, vol.73, pp.80-90, 2015 (SCI-Expanded)
- XXII. **Determination of Bed Friction Coefficient and Bottom Slope At Flow Gauging Stations Using A Numerical Method**
DEMİREL E., Caynak N., AYDIN İ.
TEKNIK DERGI, vol.24, no.4, pp.6575-6580, 2013 (SCI-Expanded)
- XXIII. **Hydrodynamic Modeling of Dam-Reservoir Response during Earthquakes**
AYDIN İ., DEMİREL E.
JOURNAL OF ENGINEERING MECHANICS, vol.138, no.2, pp.164-174, 2012 (SCI-Expanded)
- XXIV. **Global volume conservation in unsteady free surface flows with energy absorbing far-end boundaries**
DEMİREL E., AYDIN İ.
INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN FLUIDS, vol.64, no.6, pp.689-708, 2010 (SCI-Expanded)

Articles Published in Other Journals

- I. **Improvement of Hydraulic and Mixing Efficiency of Ozone Contact Tanks**
Kızılaslan M. A., Demirel E.
Uludağ Üniversitesi Mühendislik Fakültesi Dergisi, vol.28, no.2, pp.579-596, 2023 (Peer-Reviewed Journal)
- II. **Numerical and experimental dataset for a retrofitted data center**
Kuzay M., Dogan A., Yilmaz S., Herkiloglu O., Atalay A. S., Cemberci A., Yilmaz C., Demirel E.
DATA IN BRIEF, vol.45, no.1, pp.108587-108595, 2022 (ESCI)
- III. **Development and validation of an open-source CFD model for the efficiency assessment of data centers**
Dogan A., Yilmaz S., Kuzay M., Demirel E.
ORIENS ANTIQUUS : SERIES NOVA, vol.2, no.41, pp.1-25, 2022 (Peer-Reviewed Journal)
- IV. **Experimental investigation of turbulent flow upstream of the broad-crested weir**
Atlas E. D., KIZILASLAN M. A., DEMİREL E.
PAMUKKALE UNIVERSITY JOURNAL OF ENGINEERING SCIENCES-PAMUKKALE UNIVERSITESI MUHENDISLIK BILIMLERI DERGISI, vol.26, no.3, pp.455-461, 2020 (ESCI)
- V. **Geniş başlıklı savağın membasındaki türbülanslı akımın deneysel olarak incelenmesi**
Atlas E. D., KIZILASLAN M. A., DEMİREL E.
Pamukkale Üniversitesi Mühendislik Bilimleri Dergisi, vol.26, no.3, pp.455-461, 2020 (ESCI)
- VI. **Computational fluid dynamics model of a triangular weir**
KİRİÇÇİ V., ÇELİK A. O., KIZILASLAN M. A., DEMİREL E.
INTERNATIONAL JOURNAL OF INTERDISCIPLINARITY IN THEORY AND PRACTICE, vol.8, no.1, pp.1-5, 2015 (Peer-Reviewed Journal)
- VII. **Flow structure upstream of a triangular weir**

KIZILASLAN M. A., DEMİREL E., ÇELİK A. O., KİRİÇÇİ V.

INTERNATIONAL JOURNAL OF INTERDISCIPLINARITY IN THEORY AND PRACTICE, vol.7, no.1, pp.159-162, 2015
(Peer-Reviewed Journal)

VIII. **Total Volume Conservation In Simulation Of Unsteady Free Surface Flows**

DEMİREL E., AYDIN İ.

Turkish Journal Of Engineering And Environmental Sciences, vol.31, no.5, pp.269-330, 2007 (Peer-Reviewed Journal)

IX. **SU YÜZÜ PROFİLİNİN EULER METODU İLE SAYISAL ÇÖZÜMÜNDE GEREKLİ ADIM SAYISININ BELİRLENMESİ**

DEMİREL E., TOZLUK H.

Eskişehir Osmangazi Üniversitesi Mühendislik ve Mimarlık Fakültesi Dergisi, vol.15, no.1, pp.50-64, 2002 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

I. **Pathogen inactivation and by-product formation in a full-scale contact tank**

KIZILASLAN M. A., DEMİREL E., ARAL M. M.

11th International Conference on Environmental Science and Development (ICESD 2020), Barselona, Spain, 10 - 12 February 2020, vol.167, pp.1011

II. **Disinfection Performance of Slot-Baffle Design in Water Treatment**

KIZILASLAN M. A., DEMİREL E., ARAL M. M.

International Symposium on Urban Water and Wastewater Management, Denizli, Turkey, 25 - 27 October 2018

III. **EFFECT OF RESERVOIR BOTTOM ABSORPTION ON THE HYDRODYNAMIC RESPONSE OF DAM-RESERVOIRS DURING EARTHQUAKE**

DEMİREL E.

5th International Symposium on Dam Safety, 27 - 31 October 2018

IV. **Numerical Investigation of Turbulent Flow Through Porous Zone Inside a Contact Tank**

KIZILASLAN M. A., DEMİREL E.

13th International Congress on Advances in Civil Engineering, 12 - 18 September 2018

V. **PRESSURE MEASUREMENTS ON THE GATE SUBJECTED TO SUBMERGED HYDRAULIC JUMP**

SMOK S., DEMİREL E.

15th Advances in Fluid Mechanics, Ljubljana, Slovenia, 10 - 12 July 2018

VI. **Temas Tanklarının Hesaplamalı Akışkanlar Dinamiği ile Projelendirilmesi**

DEMİREL E., Aral M. M.

4th International Water Congress, İzmir, Turkey, 2 - 04 November 2017

VII. **Numerical Investigation of the Recirculation Zone Length Upstream of the Round-Nosed Broad Crested Weir**

KIZILASLAN M. A., DEMİREL E.

6th International Conference on Urban Design, Transportation, Architectural and Environmental Engineering (UTAEE-17), İstanbul, Turkey, 8 - 10 September 2017

VIII. **3D CFD model of a V-notch weir**

Kiricci V., Celik A. O., Kizilaslan M. A., DEMİREL E.

International Conference on Engineering Sciences and Technologies (ESaT), Slovakia, 27 - 29 May 2015, pp.287-292

IX. **Numerical simulation of vortical structures downstream of a submerged sluice gate using OpenFOAM**

DEMİREL E., ÇELİK A. O.

ACM 2015 Advances in Applied and Computational Mechanics, İzmir, Turkey, 5 - 07 August 2015

X. **ADV measurements near a V notch weir**

KIZILASLAN M. A., DEMİREL E., ÇELİK A. O., KİRİÇÇİ V.

International Conference on Engineering Sciences and Technologies, Slovakia, 27 - 28 May 2015

XI. **Numerical modeling of a V notch weir**

KİRİÇÇİ V., ÇELİK A. O., KIZILASLAN M. A., DEMİREL E.

International Conference on Engineering Sciences and Technologies, Slovakia, 27 - 28 May 2015

XII. **Numerical Simulation of Flow over Complex Boundaries Using a Ghost Cell Immersed Boundary Method**

DEMİREL E.

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

XIII. **Acoustic Doppler Velocimeter ADV Measurement of Turbulence in Nonuniform Open Channel Flow**

DEMİREL E.

International Civil Engineering & Architecture Symposium for Academicians, Antalya, Turkey, 17 - 20 May 2014

XIV. **Hydrodynamic Analysis of Earthquake Excited Dam-Reservoirs with Sloping Face**

DEMİREL E.

World Congress on Engineering and Computer Science, San-Francisco, Costa Rica, 24 - 26 October 2012, pp.1202-1205

XV. **Taşkın Sırasında Köprü Ayaklarındaki Kabarmaların Analizi Ovaçayı Örneği**

Mert Bülbül M., DEMİREL E.

İnşaat Mühendisliğinde 100.Yıl Teknik Kongresi, Turkey, 22 November 2012 - 24 November 2011

XVI. **Numerical simulation of wave overtopping in externally excited tanks**

DEMİREL E., AYDIN İ.

V European Conference on Computational Fluid Dynamics, 14 - 17 June 2010

XVII. **Hydrodynamic response of dam reservoir system to sinusoidal ground oscillations**

DEMİREL E., AYDIN İ.

9th International Congress on Advances in Civil Engineering, 27 September 2010 - 30 September 2009

XVIII. **Baraj Göllerinde Deprem Sırasında Oluşan Yüzey Dalgalarının Benzetimi**

DEMİREL E., AYDIN İ.

IV. Ulusal Su Mühendisliği Sempozyumu, İstanbul, Turkey, 6 - 10 April 2009

XIX. **Baraj göllerinde deprem sırasında oluşan hidrodinamik basınçların sayısal benzetimi**

DEMİREL E., AYDIN İ.

Bilimde Modern Yöntemler Sempozyumu, Turkey, 15 - 17 October 2008

XX. **Simulation of nonlinear free surface waves with non reflecting outflow boundary**

DEMİREL E., AYDIN İ.

8th International Congress On Advances In Civil Engineering, 15 - 17 September 2008

XXI. **Zamanda değişken serbest yüzeyli akımların benzetiminde hacim korunumu**

DEMİREL E., AYDIN İ.

III. Ulusal Su Mühendisliği Sempozyumu, Turkey, 10 - 14 September 2007

XXII. **Baraj göllerinde deprem sırasında oluşan hidrodinamik basınçların hesaplanmasında kullanılan basınç denklemleri üzerine bir değerlendirme**

DEMİREL E., AYDIN İ.

II. Ulusal Su Mühendisliği Sempozyumu, Turkey, 21 - 24 September 2005

Supported Projects

- I. Aydın İ., Demirel E., TUBITAK Project, EŞZAMANLI DEPREM VE TOPRAK KAYMASI SONUCU BARAJ HAZNELERİNDE OLUŞAN SU DALGALARININ DENEYSEL İNCELENMESİ VE 3B SAYISAL MODELLENMESİ, 2020 - 2023
- II. Demirel E., Project Supported by Higher Education Institutions, Development of Floating Vortex-Breakers for the Mitigation of Vortex Effects Acting on a Submerged Gate, 2020 - 2022
- III. Demirel E., TUBITAK Project, İçme Sularının Arıtılmasında Kullanılan Temas Tanklarının Hidrolik Ve Karışım Verimlerinin Arttırılması İçin Gözenekli Perdelerin Araştırılması Ve Geliştirilmesi, 2018 - 2020

- IV. DEMİREL E., Project Supported by Higher Education Institutions, Ozon ve Klor Temas Tanklarının Karışım Verimlerinin Arttırılması ve Enerji Tüketiminin Azaltılması için Yeni bir Perde Tasarımı, 2017 - 2020
- V. Demirel E., TUBITAK Project, Batık Kapakların Mansabındaki Vortekslerden Dolayı Oluşan Hidrodinamik Etkilerin Deneysel Ve Sayısal Olarak İncelenmesi: Vorteks Kırıcı Aparatların Geliştirilmesi, 2017 - 2019
- VI. DEMİREL E., Project Supported by Higher Education Institutions, Yuvarlatılmış Burunlu Geniş Başlıklı Savaşın Membasındaki Üç Boyutlu Türbülanslı Akışın Deneysel Ve Sayısal Olarak İncelenmesi, 2017 - 2018
- VII. DEMİREL E., Project Supported by Higher Education Institutions, Ozon Temas Tanklarının Hidrolik Verimliliğinin Arttırılması, 2015 - 2016
- VIII. DEMİREL E., Project Supported by Higher Education Institutions, Ozon Temas Tanklarının Verimliliğinin Arttırılması, 2015 - 2016
- IX. DEMİREL E., Project Supported by Higher Education Institutions, Batık Hidrolik Sıçramanın Deneysel ve Sayısal Olarak İncelenmesi, 2015 - 2016

Patent

- I. Aral M. M., Demirel E., A MULTI-CHAMBER SLOT-BAFFLE CONTACT TANK DESIGN, Patent, CHAPTER C Chemistry; Metallurgy, The Invention Registration Number: EP3339252A , 2019

Activities in Scientific Journals

- I. Eskişehir Osmangazi Üniversitesi Mühendislik Mimarlık Fakültesi Dergisi, Committee Member, 2018 - 2021

Memberships / Tasks in Scientific Organizations

- I. Engineering Research Group, Member of Advisory Board, 2021 - Continues, Turkey

Metrics

Publication: 55
Citation (WoS): 86
Citation (Scopus): 100
H-Index (WoS): 6
H-Index (Scopus): 7

Awards

- I. Demirel E., 2022 OCP Future Technologies Symposium Winner HPC Tech Track, Open Compute Project, October 2022

Coaching Duties

Refereeing Duties

Non Academic Experience

I. Georgia Institute of Technology