

Prof. SERHAT KÜÇÜKALİ

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Education Information

Doctorate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Turkey 2003 - 2006

Postgraduate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Turkey 2001 - 2003

Undergraduate, Yildiz Technical University, Faculty Of Construction, Civil Engineering Department, Turkey 1997 - 2001

Dissertations

Post Doctorate, TURBULENCE IN HYDRAULIC JUMPS: EXPERIMENTAL MEASUREMENTS, Faculty of Engineering, Division of Civil Engineering, 2007

Doctorate, Hidrolik Sıçramanın Havalandırma Verimliliğinin İncelenmesi, Istanbul Technical University, Fen Bilimleri Enstitüsü, Kıyı Bilimleri ve Mühendisliği, 2006

Postgraduate, Açık Kanallarda Oksijen Transferi, Istanbul Technical University, Fen Bilimleri Enstitüsü, Su Mühendisliği, 2003

Research Areas

Hydraulic Structures, Open Channel Flow, Hydromechanics, Fluid Mechanics, Alternative Energy Resources

Academic Titles / Tasks

Professor, Hacettepe University, Mühendislik Fakültesi, İnşaat Mühendisliği Bölümü, 2019 - Continues

Professor, Cankaya University, Faculty Of Engineering, Department Of Civil Engineering, 2015 - 2019

Associate Professor, Cankaya University, Faculty Of Engineering, Department Of Civil Engineering, 2011 - 2015

Associate Professor, Universitaet Kassel, Mühendislik, İnşaat, 2014 - 2014

Assistant Professor, Zonguldak Bülent Ecevit University, Faculty Of Engineering, 2007 - 2010

Research Assistant PhD, Mühendislik, İnşaat, 2006 - 2006

Research Assistant, Istanbul Technical University, Fen Bilimleri Enstitüsü, İnşaat Mühendisliği, 2003 - 2006

Academic and Administrative Experience

Head of Department, Hacettepe University, Mühendislik Fakültesi, İnşaat Mühendisliği Bölümü, 2019 - Continues

Courses

Hidrolik, Undergraduate, 2019 - 2020

Hidrolik Yapıların Tasarımı, Undergraduate, 2020 - 2021
Akışkanlar Mekaniği, Undergraduate, 2020 - 2021
Akışkanlar Mekaniği II, Undergraduate, 2019 - 2020
Hidroloji ve Su Kaynakları Mühendisliği, Undergraduate, 2019 - 2020

Advising Theses

Küçükali S., Maraş H., Finding the Most Suitable Irrigation Dams for Hydropower Development by Using GIS Tools, Postgraduate, O.Bayat(Student), 2020
Küçükali S., Alp A., Teknik tip balık geçitlerinin performanslarının biyolojik ve hidrolik açıdan incelenmesi, Postgraduate, O.Bülbül(Student), 2019
Küçükali S., İşletmedeki hidroelektrik santrallerde kaza risklerinin değerlendirilmesinde Finne Kinney ve İSO 31000 yöntemlerinin uygulanması, Postgraduate, F.Baysan(Student), 2019
Küçükali S., Töreyn B. U. , VIDEO ANALYSIS BASED FISH DETECTION AND TAIL BEAT FREQUENCY ESTIMATION IN FISHWAYS, Postgraduate, Y.Yıldırım(Student), 2018
Küçükali S., Ar İ., ATIKSU ARITMA TESİSLERİNDE BİYOGAZ VE HİDROELEKTRİK ENERJİDEN ELEKTRİK ÜRETİMİ, Postgraduate, A.Günel(Student), 2017
Küçükali S., Ar İ., KÖMÜRLE ÇALIŞAN TERMİK SANTRALLER İÇİN ÇEVRESEL ETKİ İNDEKSİNİN GELİŞTİRİLMESİ, Doctorate, A.Bartan(Student), 2017
Küçükali S., İçme suyu Arıtma Tesislerinde Hidroelektrik Potansiyelin Değerlendirmesinin İncelenmesi, Postgraduate, A.Uludağ(Student), 2012
Küçükali S., NEHİR TİPİ HİDROELEKTRİK SANTRALLERDE BULANIK MANTIK YÖNTEMİYLE RİSK DEĞERLENDİRİLMESİ, Postgraduate, C.Kutlu(Student), 2012
Küçükali S., POMPA DEPOLAMALI HİDROELEKTRİK SANTRALLER: BATI KARADENİZ'DE ÖRNEK BİR ÇALIŞMA, Postgraduate, Ç.Bülent(Student), 2012

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

- I. **Finding the most suitable existing irrigation dams for small hydropower development in Turkey: A GIS-Fuzzy logic tool**
KÜÇÜKALİ S., Al Bayat O., MARAŞ H. H.
RENEWABLE ENERGY, vol.172, pp.633-650, 2021 (Journal Indexed in SCI)
- II. **Ecological impact scorecard of small hydropower plants in operation: An integrated approach**
Alp A., Akyüz A., KÜÇÜKALİ S.
Renewable Energy, vol.162, pp.1605-1617, 2020 (Journal Indexed in SCI)
- III. **An analysis on the relationship between safety awareness and safety behaviors of healthcare professionals, Ankara/Turkey**
Uzuntarla F., KÜÇÜKALİ S., Uzuntarla Y.
JOURNAL OF OCCUPATIONAL HEALTH, vol.62, no.1, 2020 (Journal Indexed in SCI)
- IV. **An experimental investigation of flow resistance and turbulent flow in brush fish pass**
Küçükali S.
PROCEEDINGS OF THE INSTITUTION OF CIVIL ENGINEERS-WATER MANAGEMENT, vol.172, no.5, pp.241-256, 2019 (Journal Indexed in SCI)
- V. **Flow structure and fish passage performance of a brush-type fish way: A field study in the İyidere River, Turkey**
Kucukali S., Verep B., Alp A., Turan D., Mutlu T., Kaya C., Yildirim Y., Töreyn B. U. , Özelçi D.
Marine and Freshwater Research, 2019 (Journal Indexed in SCI)
- VI. **Flow and turbulence structure in a baffle-brush fish pass**
Kucukali S., Hassinger R.

Proceedings of the Institution of Civil Engineers: Water Management, vol.171, no.1, pp.6-17, 2018 (Journal Indexed in SCI)

- VII. **A fuzzy logic tool to evaluate low-head hydropower technologies at the outlet of wastewater treatment plants**
Ak M., Kentel E., Kucukali S.
Renewable and Sustainable Energy Reviews, vol.68, pp.727-737, 2017 (Journal Indexed in SCI)
- VIII. **Adaptive decision fusion based framework for short-term wind speed and turbulence intensity forecasting: Case study for North West of Turkey**
Din Çkal Ç., Töreyn B. U. , Küçükali S.
Turkish Journal of Electrical Engineering and Computer Sciences, vol.25, no.4, pp.2770-2783, 2017 (Journal Indexed in SCI)
- IX. **Risk scorecard concept in wind energy projects: An integrated approach**
Kucukali S.
Renewable and Sustainable Energy Reviews, vol.56, pp.975-987, 2016 (Journal Indexed in SCI)
- X. **Effect of particle size on flip bucket scour**
Kökpınar M. A. , Kucukali S.
Canadian Journal of Civil Engineering, vol.43, no.8, pp.759-768, 2016 (Journal Indexed in SCI)
- XI. **Hydraulic model test results of baffle-brush fish pass**
Kucukali S., Hassinger R.
Proceedings of the Institution of Civil Engineers: Water Management, vol.168, no.4, pp.189-194, 2015 (Journal Indexed in SCI)
- XII. **Wind energy resource assessment of Izmit in the West Black Sea Coastal Region of Turkey**
Kucukali S., Dinçkal C.
Renewable and Sustainable Energy Reviews, vol.30, pp.790-795, 2014 (Journal Indexed in SCI)
- XIII. **Environmental risk assessment of small hydropower (SHP) plants: A case study for Tefen SHP plant on Filyos River**
Kucukali S.
Energy for Sustainable Development, vol.19, no.1, pp.102-110, 2014 (Journal Indexed in SCI)
- XIV. **Finding the most suitable existing hydropower reservoirs for the development of pumped-storage schemes: An integrated approach**
Kucukali S.
Renewable and Sustainable Energy Reviews, vol.37, pp.502-508, 2014 (Journal Indexed in SCI)
- XV. **Availability of renewable energy sources in Turkey: Current situation, potential, government policies and the EU perspective**
Baris K., Kucukali S.
Energy Policy, vol.42, pp.377-391, 2012 (Journal Indexed in SCI)
- XVI. **Risk assessment of river-type hydropower plants using fuzzy logic approach**
Kucukali S.
Energy Policy, vol.39, no.10, pp.6683-6688, 2011 (Journal Indexed in SCI)
- XVII. **Discussion of "Energy dissipation on block ramps with staggered boulders" by Z. Ahmad, N. M. Petappa, and B. Westrich**
Kucukali S.
Journal of Hydraulic Engineering, vol.137, no.1, pp.144-145, 2010 (Journal Indexed in SCI Expanded)
- XVIII. **Hydropower potential of municipal water supply dams in Turkey: A case study in Ulutan Dam**
Kucukali S.
Energy Policy, vol.38, no.11, pp.6534-6539, 2010 (Journal Indexed in SCI)
- XIX. **Comments on "Energy demand estimation of South Korea using artificial neural network" by Zong Woo Geem and William E. Roper**
Kucukali S.
ENERGY POLICY, vol.38, no.10, pp.6379-6380, 2010 (Journal Indexed in SCI)
- XX. **Municipal water supply dams as a source of small hydropower in Turkey**

- Kucukali S.
Renewable Energy, vol.35, no.9, pp.2001-2007, 2010 (Journal Indexed in SCI)
- XXI. **Turkey's short-term gross annual electricity demand forecast by fuzzy logic approach**
Kucukali S., Baris K.
Energy Policy, vol.38, no.5, pp.2438-2445, 2010 (Journal Indexed in SCI)
- XXII. **Comments on "A quadratic helix approach to evaluate the Turkish renewable energies" by Melih Soner Celiktas and Gunnur Kocar**
Kucukali S.
ENERGY POLICY, vol.38, no.4, pp.2063-2064, 2010 (Journal Indexed in SCI)
- XXIII. **Discussion: Fuzzy logic model to predict hydraulic jump aeration efficiency**
Kucukali S., Cokgor S.
PROCEEDINGS OF THE INSTITUTION OF CIVIL ENGINEERS-WATER MANAGEMENT, vol.163, no.2, pp.98-99, 2010 (Journal Indexed in SCI)
- XXIV. **Energy concept for predicting hydraulic jump Aeration efficiency**
Kucukali S., Çokgör Ş.
Journal of Environmental Engineering, vol.135, no.2, pp.105-107, 2009 (Journal Indexed in SCI)
- XXV. **Assessment of small hydropower (SHP) development in Turkey: Laws, regulations and EU policy perspective**
Kucukali S., Baris K.
Energy Policy, vol.37, no.10, pp.3872-3879, 2009 (Journal Indexed in SCI)
- XXVI. **Turbulent length-time scales distributions in hydraulic jumps**
Kucukali S., Chanson H.
Proceedings of the Institution of Civil Engineers: Water Management, vol.162, no.4, pp.269-277, 2009 (Journal Indexed in SCI)
- XXVII. **Turbulence measurements in the bubbly flow region of hydraulic jumps**
Kucukali S., Chanson H.
Experimental Thermal and Fluid Science, vol.33, no.1, pp.41-53, 2008 (Journal Indexed in SCI)
- XXVIII. **Boulder-flow interaction associated with self-aeration process**
Kucukali S., Çokgör Ş.
Journal of Hydraulic Research, vol.46, no.3, pp.415-419, 2008 (Journal Indexed in SCI)
- XXIX. **Fuzzy logic model to predict hydraulic jump aeration efficiency**
Kucukali S., Çokgör Ş.
Proceedings of the Institution of Civil Engineers: Water Management, vol.160, no.4, pp.225-231, 2007 (Journal Indexed in SCI)
- XXX. **How Roman engineers selected their water supplies**
Kucukali S.
Proceedings of the Institution of Civil Engineers: Water Management, vol.160, no.4, pp.249-253, 2007 (Journal Indexed in SCI)
- XXXI. **Discussion of "Energy dissipation on reinforced block ramps" by S. Pagliara and P. Chiavaccini**
Kucukali S.
JOURNAL OF IRRIGATION AND DRAINAGE ENGINEERING, vol.133, no.3, pp.289, 2007 (Journal Indexed in SCI)
- XXXII. **Discussion of "Unobstructed and obstructed turbulent flow in gravel bed rivers" by Hans M. Tritico and Rollin H. Hotchkiss**
Kucukali S., Cokgor S.
JOURNAL OF HYDRAULIC ENGINEERING, vol.133, no.1, pp.117-118, 2007 (Journal Indexed in SCI)
- XXXIII. **Discussion of "Open channel flow through different forms of submerged flexible vegetation" by C. A. M. E. Wilson, T. Stoesser, R D. Bates, and A. Batemann Pinzen**
Kucukali S., Cokgor S.
JOURNAL OF HYDRAULIC ENGINEERING-ASCE, vol.132, no.7, pp.748-749, 2006 (Journal Indexed in SCI)
- XXXIV. **Oxygen transfer in flow around and over stones placed in a laboratory flume**
Çokgör Ş., Kucukali S.

Articles Published in Other Journals

- I. **The İmlemention of the EU Water Framework Directive Impact on Small Hydropower Plants: Situation in Turkey**
Küçükali S.
Enerji Hukuku Dergisi, no.1, pp.187-196, 2014 (Other Refereed National Journals)
- II. **Hidrolik Sıçramanın Havalandırma Verimliliğinin İncelenmesi**
Küçükali S.
İTÜ Dergisi-Mühendislik, vol.5, no.5, pp.56-66, 2006 (National Refreed University Journal)

Books & Book Chapters

- I. **An Experimental Investigation of Reaeration and Energy Dissipation in Hydraulic Jump**
Küçükali S., Çokgör Ş.
in: Recent Trends in Environmental Hydraulics, Kalinowska M., Mrokowska M., Rowiński P., Editor, Springer, London/Berlin , Zug, pp.127-136, 2020
- II. **Flow and Turbulence Structure in a Vertical Slot-Brush Fish Pass**
Küçükali S., Hassinger R.
in: Recent Trends in Environmental Hydraulics, Kalinowska M., Mrokowska M., Rowiński P., Editor, Springer, London/Berlin , Zug, pp.137-146, 2020
- III. **Ecological Assessment: Use of Hydropower and Biogas Energy in Waste Water Treatment Plants**
Küçükali S.
in: Life Cycle Assessment of Wastewater Treatment, Mu Naushad, Vera B. Kolb, Editor, CRC, New York , Florida, pp.23-32, 2018
- IV. **Risk Assessment in Hydroenergy Projects: Learning from Experts and Data**
Küçükali S.
in: Handbook of Renewable Energy, Walter Leal Filho, Editor, Springer, London/Berlin , Berlin, pp.1-17, 2014

Refereed Congress / Symposium Publications in Proceedings

- I. **Enhancing the performance of vertical slot fish pass by using brush blocks: a field study in Cataloluk small hydropower plant, Turkey**
Küçükali S.
HYDRO 2020, Strasbourg, France, 26 - 28 October 2020, pp.1-10
- II. **Sazlık Tipi Balık Geçişinin Hidrodinamik Karakteristiklerinin Deneysel Olarak İncelenmesi ve Boyutlandırma Konseptinin Geliştirilmesi**
Küçükali S.
Balık Geçitleri ve Göçleri Çalıştayı, İstanbul, Turkey, 21 - 22 November 2016, pp.21-23
- III. **Renewable energy policy in Turkey**
Küçükali S.
World Renewable Energy Congress 2011, Linköping, Sweden, 08 May 2011, pp.1-8
- IV. **Image analysis based fish tail beat frequency estimation for fishway efficiency**
Yıldırım Y., Töreyn B. U. , Verep B., Turan D., Küçükali S., Alp A.
26th European Signal Processing Conference, EUSIPCO 2018, Rome, Italy, 3 - 07 September 2018, pp.1790-1794
- V. **Turbulence kinetic energy reduction in vertical slot fish passages with flexible bristle elements**
Küçükali S.

Proceedings of 5th IAHR Europe Congress, Trento, Italy, 08 June 2018, pp.1-2

- VI. **A Two-dimensional Numerical and Experimental Study on Fish-Friendly Hydrodynamic Fine Screens**
Küçükali S.
Proceedings of 5th IAHR Europe Congress, Trento, Italy, 10 June 2019, pp.3-4
- VII. **Flow and turbulence measurements in a diagonal brush fish pass: A field study**
Kucukali S., Hassinger R., Verep B., Mutlu T., Ozelci D.
7th IAHR International Symposium on Hydraulic Structures, ISHS 2018, Aachen, Germany, 15 - 18 May 2018, pp.241-252
- VIII. **Environmental impact assessment of coal power plants in operation**
Bartan A., Kucukali S., Ar I.
International Conference on Advances in Energy Systems and Environmental Engineering, ASEE 2017, Wroclaw, Poland, 2 - 05 July 2017, vol.22
- IX. **An investigation of the hydrodynamic and fish behavior characteristics of the brush-type fish passage: Iyidere (Turkey) field study**
Küçükali S.
Fish Passage 2017: International Conference on Engineering and Ecohydrology for Fish Passage, Oregon, United States Of America, 19 - 21 June 2017, pp.1
- X. **Brush-baffle fish pass: a continuous migration corridor for fish**
Küçükali S.
HYDRO 2016, Bordeaux, France, 10 - 12 October 2016, pp.1-10
- XI. **Flow and turbulence structure in brush fish pass**
Küçükali S.
Fish Passage 2016, Massachusetts, United States Of America, 20 - 22 June 2016, pp.1
- XII. **Enhancing the environmental performance of run-of-river hydropower plants: an assessment for Filyos river basin in Turkey**
Küçükali S.
HYDRO 2014, Milan, Italy, 13 October 2014, pp.1-8
- XIII. **Hydraulic design of an innovative baffle-brush type fish pass**
Küçükali S.
Fish Passage 2015, Groningen, Netherlands, 22 - 24 June 2015, pp.1
- XIV. **Pompa-Depolamalı Hidroelektrik Santral Yapımı için Potansiyel Hidroelektrik Rezervuarlarda Saha Uygunluk İndeksinin Geliştirilmesi: Türkiye Örneği**
Küçükali S.
7. Mühendislik ve Teknoloji Sempozyumu, Ankara, Turkey, 15 - 16 May 2014, pp.295-300
- XV. **Sıçratma Uçlu Enerji Kırıcıların Mansabında Meydana Gelen Yersel Oyulma Derinliğinin Sedimente Göre Tanımlanmış Densimetrik Froude Sayısıyla Tahmin Edilmesi**
Küçükali S.
2. Ulusal Barajlar Kongresi, İstanbul, Turkey, 13 - 15 February 2014, pp.729-736
- XVI. **Wind energy development in Turkey: Policies and challenges**
Kucukali S.
European Wind Energy Conference and Exhibition, EWEC 2013, Vienna, Austria, 4 - 07 February 2013, vol.1, pp.25-33
- XVII. **Environmental Risk Assessment of Small Hydropower Plants**
Küçükali S.
Hydroenergia 2012, Wroclaw, Poland, 23 May 2012, pp.1-8
- XVIII. **Türkiye'deki içme suyu barajlarının hidroelektrik potansiyelinin incelenmesi: Ulutan Barajı örnek bir çalışma**
Küçükali S.
VI. Kentsel Altyapı Sempozyumu, Antalya, Turkey, 14 - 15 October 2011, pp.275-284
- XIX. **Water supply lines as a source of small hydropower in Turkey: A Case study in Edremit**
Küçükali S.

- World Renewable Energy Congress 2011, Linköping, Sweden, 8 - 13 May 2011, pp.1-8
- XX. **Utilization of Hydropower Potential in Existing Municipal Water Supply Dams in Turkey**
Küçükali S.
HYDRO 2010, Lisbon, Portugal, 27 - 29 September 2010, pp.1-10
- XXI. **Forecasting the River Discharge, Thermal and Sediment Load Characteristics: A Case Study for Filyos River**
Küçükali S.
15th River Flow Conference, İzmir, Turkey, 3 - 05 September 2008, pp.1975-1981
- XXII. **Hydraulic Jump Gas Transfer Efficiency on The Basis of Turbulent Energy Dissipation**
Küçükali S.
15th River Flow Conference, İzmir, Turkey, 3 - 05 September 2008, pp.229-236
- XXIII. **Turkey's Economically Feasible Hydropower Potential And The Current Developments In SHP**
Küçükali S.
Hydroenergia 2008, Ljubljana, Slovenia, 11 - 14 June 2008, pp.1
- XXIV. **Temporal variation of dissolved oxygen in a mountain stream plunge pool: An example from northern Turkey**
Kucukali S., Çokgör Ş., Kartal B.
World Environmental and Water Resources Congress 2006: Examining the Confluence of Environmental and Water Concerns, Omaha, NE, United States Of America, 21 - 25 May 2006
- XXV. **Aeration performance of a hydraulic jump**
Kucukali S., Çokgör Ş.
World Environmental and Water Resources Congress 2006: Examining the Confluence of Environmental and Water Concerns, Omaha, NE, United States Of America, 21 - 25 May 2006
- XXVI. **Zonguldak'ın karst hidrojeolojisi ve bir Roma su yolu**
Küçükali S.
IV. Hidroloji Kongresi, İstanbul, Turkey, 23 - 25 June 2004, pp.499-506
- XXVII. **Basamaklı kanallarda hava su akımları**
Küçükali S.
I. Ulusal Barajlar ve Hidroelektrik Enerji Kongresi, Ankara, Turkey, 1 - 04 June 2004, pp.729-736
- XXVIII. **Oxygen Transfer Around Boulders**
Küçükali S.
30th IAHR Congress Conference, Thessaloniki, Greece, 24 - 29 August 2003, pp.219-226
- XXIX. **Aeration performance of boulders in streams**
Küçükali S.
1st International Exergy, Energy and Environment Symposium, İzmir, Turkey, 13 - 17 July 2003, pp.1071-1076

Other Publications

- I. **The World Small Hydropower Report 2016 - Western Asia**
Küçükali S.
Other, pp.430-433, 2016

Supported Projects

- KÜÇÜKALİ S., ŞAHİN A. U. , Project Supported by Higher Education Institutions, Hidrolik Laboratuvarının Kurulumu ile Araştırma Faaliyetlerinin Gelişimi, 2021 - Continues
- Küçükali S., TUBITAK Project, An Investigation of The Hydrodynamic and Fish Behavior Characteristics of The Brush-Type Fish Passage: İyidere (Rize-Trabzon) Field Study, 2016 - 2018
- Küçükali S., TUBITAK Project, An Experimental Investigation of The Hydraulic Characteristics of The Brush-Type Fish

Passage and Developing a Dimensioning Concept, 2015 - 2016

Patent

Küçükali S., Çevrimiçi uyarlanır öğrenme yöntemi ile kısa dönem rüzgar hızı ve türbülans şiddet tahmin yöntemi, Patent, CHAPTER G Physics, The Invention Registration Number: 2017 08743 , Initial Registration, 2020

Scientific Refereeing

JOURNAL OF HYDROLOGY AND HYDROMECHANICS, SCI Journal, September 2019

PROCEEDINGS OF THE INSTITUTION OF CIVIL ENGINEERS-WATER MANAGEMENT, SCI Journal, August 2019

RENEWABLE & SUSTAINABLE ENERGY REVIEWS, SCI Journal, March 2019

APPLIED ENERGY, SCI Journal, May 2018

MARINE AND FRESHWATER RESEARCH, SCI Journal, April 2018

Edit Congress and Symposium Activities

HydroTech Balkans 2014, Session Moderator, Belgrade, Serbia And Montenegro, 2014

Citations

Total Citations (WOS):488

h-index (WOS):12

Awards

Küçükali S., Hassinger R., Best Poster Award, International School Of Hydraulics 2019, May 2019