

# Prof. AYŞE BURCU ALTAN SAKARYA

## Personal Information

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## International Researcher IDs

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Publons / Web Of Science ResearcherID: AAQ-4001-2020

ScopusID: 11839799000

Yoksis Researcher ID: 164660

## Education Information

Doctorate, Arizona State University, Civil And Environmental Engineering, United States Of America 1996 - 1998

Postgraduate, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, Turkey 1991 - 1994

## Foreign Languages

English, C1 Advanced

## Dissertations

Doctorate, Optimal Operation of Water Distribution Systems for Water Quality Purposes, Arizona State University, Civil And Environmental Engineering, 1998

Postgraduate, Numerical Simualtion of A-Type Hydraulic Jumps at Positive Steps, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, 1994

## Research Areas

Civil Engineering, Hydraulic, Engineering and Technology

## Academic Titles / Tasks

Professor, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, 2014 - Continues  
Associate Professor, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, 2008 - 2014

Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, 2000 - 2008

Lecturer, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, 1999 - 2000

Research Assistant, Arizona State University, Engineering , Civil And Environmental Engineering, 1996 - 1998

Research Assistant, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, 1992 - 1996

## Advising Theses

Altan Sakarya A. B., Flood control optimization with chance constrained approach, Postgraduate, M.SERDAR(Student), 2022

ALTAN SAKARYA A. B., A Case study for calculating and reporting the uncertainty budget of 1 and 2 dimensional combined hydraulic model, Postgraduate, U.Sidar(Student), 2019

ALTAN SAKARYA A. B., Leakage optimization of water distribution networks by pressure control, Doctorate, E.KÖKER(Student), 2018

ALTAN SAKARYA A. B., Determination of optimum cropping pattern of irrigation fields, Postgraduate, C.ÖZCAN(Student), 2017

ALTAN SAKARYA A. B., Optimization of water distribution networks using mixed-integer linear programming, Postgraduate, E.UZUN(Student), 2016

ALTAN SAKARYA A. B., Maximizing energy generation of a cascade hydropower system /, Postgraduate, V.KARAEREN(Student), 2014

ALTAN SAKARYA A. B., Numerical modelling of contracted sharp crested weirs /, Postgraduate, A.DURU(Student), 2014

ALTAN SAKARYA A. B., Determination of optimum capacity and operation of reservoirs for irrigation purposes /, Postgraduate, T.EMRE(Student), 2014

ALTAN SAKARYA A. B., Optimal management of coastal aquifers using heuristic algorithms, Doctorate, K.DEMİRBAŞ(Student), 2011

ALTAN SAKARYA A. B., Chance constrained optimization of booster disinfection in water distribution networks, Postgraduate, E.KÖKER(Student), 2011

ALTAN SAKARYA A. B., AYDIN İ., Experimental investigation on sharp-crested rectangular weirs, Postgraduate, H.ÇİĞDEM(Student), 2009

ALTAN SAKARYA A. B., Booster disinfection in water distribution networks, Postgraduate, Ç.SERT(Student), 2009

ALTAN SAKARYA A. B., Optimum design of slurry pipelines, Postgraduate, B.YILDIZ(Student), 2009

ALTAN SAKARYA A. B., Optimization of multireservoir systems by genetic algorithm, Doctorate, O.HINÇAL(Student), 2008

ALTAN SAKARYA A. B., Optimal channel design, Postgraduate, B.AKSOY(Student), 2003

## Jury Memberships

Post Graduate, Post Graduate, Orta Doğu Teknik Üniversitesi, June, 2022

Post Graduate, Post Graduate, Gazi Üniversitesi, June, 2022

Post Graduate, Post Graduate, Gazi Üniversitesi, August, 2021

Post Graduate, Post Graduate, Orta Doğu Teknik Üniversitesi, August, 2021

Post Graduate, Post Graduate, Orta Doğu Teknik Üniversitesi, July, 2021

Appointment to Academic Staff-Assistant Professorship, Appointment Academic Staff, Ted Üniversitesi, June, 2021

PhD Thesis Monitoring Committee Member, PhD Thesis Monitoring Committee Member, Orta Doğu Teknik Üniversitesi, June, 2021

Appointment to Academic Staff-Assistant Professorship, Appointment Academic Staff, Orta Doğu Teknik Üniversitesi, February, 2021

PhD Thesis Monitoring Committee Member, PhD Thesis Monitoring Committee Member, Orta Doğu Teknik Üniversitesi, January, 2021

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Short-Term Flood Control and Long-Term Energy Maximization in Multi-reservoir Systems Using Improved Particle Swarm Optimization**  
Guvengir U., SAVAŞANERİL TÜFEKÇİ S., ALTAN SAKARYA A. B., Buhan S.  
WATER RESOURCES MANAGEMENT, vol.35, no.13, pp.4293-4307, 2021 (SCI-Expanded)
- II. **Numerical modelling of contracted sharp-crested weirs and combined weir and gate systems**  
Altan-Sakarya A. B., KÖKPINAR M. A., Duru A.  
IRRIGATION AND DRAINAGE, vol.69, no.4, pp.854-864, 2020 (SCI-Expanded)
- III. **Optimal scheduling of booster disinfection in water distribution networks**  
Sert C., ALTAN SAKARYA A. B.  
CIVIL ENGINEERING AND ENVIRONMENTAL SYSTEMS, vol.34, pp.278-297, 2017 (SCI-Expanded)
- IV. **Assessment of sediment yield estimations for large watershed areas: a case study for the Seyhan, Demirkopru and Hirfanli reservoirs in Turkey**  
Kokpinar M. A., Altan-Sakarya A. B., KUMCU Ş. Y., GÖĞÜŞ M.  
HYDROLOGICAL SCIENCES JOURNAL-JOURNAL DES SCIENCES HYDROLOGIQUES, vol.60, no.12, pp.2189-2203, 2015 (SCI-Expanded)
- V. **Weir velocity formulation for sharp-crested rectangular weirs**  
GHARAJEH S., AYDIN İ., Altan-Sakarya A. B.  
FLOW MEASUREMENT AND INSTRUMENTATION, vol.41, pp.50-56, 2015 (SCI-Expanded)
- VI. **Chance Constrained Optimization of Booster Chlorination in Water Distribution Networks**  
Köker E., Altan-Sakarya A. B.  
Clean - Soil, Air, Water, vol.43, no.5, pp.717-723, 2015 (SCI-Expanded)
- VII. **Optimum design of slurry pipelines by genetic algorithm**  
Yildiz B., ALTAN SAKARYA A. B., Ger A. M.  
CIVIL ENGINEERING AND ENVIRONMENTAL SYSTEMS, vol.31, no.4, pp.311-330, 2014 (SCI-Expanded)
- VIII. **Computation of discharge for simultaneous flow over weirs and below gates (H-weirs)**  
ALTAN SAKARYA A. B., Kokpinar M. A.  
FLOW MEASUREMENT AND INSTRUMENTATION, vol.29, pp.32-38, 2013 (SCI-Expanded)
- IX. **Optimal dewatering of an excavation site**  
Demirbas K., Altan-Sakarya A. B., Önder H.  
Proceedings of the Institution of Civil Engineers: Water Management, vol.165, no.6, pp.327-337, 2012 (SCI-Expanded)
- X. **Discharge formula for rectangular sharp-crested weirs**  
AYDIN İ., Altan-Sakarya A. B., ŞİŞMAN Ç.  
FLOW MEASUREMENT AND INSTRUMENTATION, vol.22, no.2, pp.144-151, 2011 (SCI-Expanded)
- XI. **Optimization of Multireservoir Systems by Genetic Algorithm**  
Hinçal O., Altan-Sakarya A. B., Ger A. M.  
Water Resources Management, vol.25, no.5, pp.1465-1487, 2011 (SCI-Expanded)
- XII. **Local energy losses at positive and negative steps in subcritical open channel flows**  
Tokyay N. D., Altan-Sakarya A. B.  
Water SA, vol.37, no.2, pp.237-244, 2011 (SCI-Expanded)
- XIII. **Application of a flow-measurement structure for sediment-laden streams**  
GÖĞÜŞ M., Gerek Cüneyt A., Burcu Altan-Sakarya A. B.  
Canadian Journal of Civil Engineering, vol.36, no.9, pp.1539-1543, 2009 (SCI-Expanded)
- XIV. **Numerical simulation of minimum B-jumps at abrupt drops**  
Tokyay N. D., Altan-Sakarya A. B., Eski E.  
International Journal for Numerical Methods in Fluids, vol.56, no.9, pp.1605-1623, 2008 (SCI-Expanded)
- XV. **Discussion of "Uniform and critical flow computations" by Ramappa G. Patil, J. S. R. Murthy, and L. K. Ghosh**  
Altan-Sakarya A. B.  
JOURNAL OF IRRIGATION AND DRAINAGE ENGINEERING, vol.132, no.6, pp.634, 2006 (SCI-Expanded)
- XVI. **Performance of slit weir**

- AYDIN İ., Altan-Sakarya A. B., Ger A. M.  
Journal of Hydraulic Engineering, vol.132, no.9, pp.987-989, 2006 (SCI-Expanded)
- XVII. **Optimal lined channel design**  
Aksoy B., Altan-Sakarya A. B.  
Canadian Journal of Civil Engineering, vol.33, no.5, pp.535-545, 2006 (SCI-Expanded)
- XVIII. **Discussion of "Generalized head-discharge equation for flow over sharp-crested inclined inverted V-notch weir" by M. N. Shesha prakash and A. V Shivapur**  
Altan-Sakarya A. B.  
JOURNAL OF IRRIGATION AND DRAINAGE ENGINEERING, vol.132, no.1, pp.80-81, 2006 (SCI-Expanded)
- XIX. **Combined-free flow over weirs and below gates**  
Negm A., Al-Brahim A., Alhamid A., Sakarya B., Aydin I., Ger A.  
JOURNAL OF HYDRAULIC RESEARCH, vol.42, no.5, pp.557-559, 2004 (SCI-Expanded)
- XX. **Closure to "optimal operation of water distribution pumps considering water quality"**  
ALTAN SAKARYA A. B., Mays L. W.  
Journal of Water Resources Planning and Management, vol.129, no.1, pp.82, 2003 (SCI-Expanded)
- XXI. **Discussion of Combined free Flow Over Weirs and Below Gates**  
ALTAN SAKARYA A. B., AYDIN I., GER A. M.  
JOURNAL OF HYDRAULIC RESEARCH, vol.42, pp.557-560, 2002 (SCI-Expanded)
- XXII. **Optimal operation of water distribution pumps considering water quality**  
Sakarya A. B., Mays L. W.  
Journal of Water Resources Planning and Management, vol.126, pp.210-220, 2000 (SCI-Expanded)
- XXIII. **Numerical simulation of A-type hydraulic jumps at positive steps**  
Sakarya A. B., TOKYAY N.  
Canadian Journal of Civil Engineering, vol.27, no.4, pp.805-813, 2000 (SCI-Expanded)

## **Books & Book Chapters**

- I. **Optimal Operation of Water Distribution Systems**  
Goldman F. E., Altan Sakarya A. B., Mays L. W.  
in: Urban Water Supply Management Tools, Larry W. Mays, Editor, McGraw-Hill Companies , New-York, pp.1-29, 2004
- II. **Optimal Operation of Water Systems**  
Goldman F. E., Altan Sakarya A. B., Mays L. W.  
in: Urban Water Supply Handbook, Larry W. Mays, Editor, McGraw-Hill Companies , New-York, pp.1-39, 2002
- III. **Reliability Analysis for Design**  
Goulter I., Walski T. M., Mays L. W., Altan Sakarya A. B., Bouchart F., Tung Y. K.  
in: Water Distribution Systems Handbook, Larry W. Mays, Editor, McGraw-Hill Companies , New-York, pp.1-52, 2000
- IV. **Optimization Models for Operations**  
Goldman F., Altan Sakarya A. B., Ormsbee L. E., Uber J. G., Mays L. W.  
in: Water Distribution Systems Handbook, Larry W. Mays, Editor, McGraw-Hill Companies , New-York, pp.1-47, 2000

## **Refereed Congress / Symposium Publications in Proceedings**

- I. **Kaskat Baraj Sistemlerinde Kısa Dönemli Taşkın Kontrolü İçin Metasezgisel Bir Yöntem**  
ALTAN SAKARYA A. B., buhan s., güvengir u., SAVAŞANERİL TÜFEKÇİ S.  
39. Yöneylem Araştırması ve Endüstri Mühendisliği (YAEM) Ulusal Kongresi, Ankara, Turkey, 12 - 14 June 2019
- II. **Optimization of booster disinfection stations in water distribution networks**

SERT Ç., ALTAN SAKARYA A. B.

Euro 2018 The Association of European Operational Research, 8 - 11 July 2018

- III. **Numerical modeling of contracted sharp crested weirs**  
Duru A., Altan Sakarya A. B., Kokpınar M. A.  
4th IAHR Europe Congress, 27 - 29 July 2016
- IV. **Numerical modelling of contracted sharp crested weirs**  
Duru A., Altan-Sakarya A. B., Kokpınar M.  
4th European Congress of the International Association of Hydroenvironment engineering and Research, IAHR 2016, Liege, Belgium, 27 - 29 July 2016, pp.601-608
- V. **Optimization of Leakage in Water Distribution Networks Using Pressure Reducing Valve**  
KÖKER E., ALTAN SAKARYA A. B.  
Euro The Association of European Operational Research Societies, 3 - 06 July 2016
- VI. **Experimental Investigation of the Original Project of Yukarı Kaleköy Dam and Hydroelectric Power Plant Spillway**  
GÖĞÜŞ M., ALTAN SAKARYA A. B., KÖKEN M.  
World Multidisciplinary Civil Engineering-Architecture-Urban Planning Symposium 2016, WMCAUS 2016, PRAG, Czech Republic, 13 - 17 June 2016
- VII. **Experimental Investigation of the Anti Vortex Devices of Beyhan 1 Dam and Hydroelectric Power Plant Water Intake Structure**  
GÖĞÜŞ M., ALTAN SAKARYA A. B., KÖKEN M.  
World Multidisciplinary Civil Engineering-Architecture-Urban Planning Symposium 2016, WMCAUS 2016, PRAG, Czech Republic, 13 - 17 June 2016
- VIII. **Experimental investigation of the original project of Yukarı Kaleköy Dam and Hydroelectric Power Plant Spillway**  
GÖĞÜŞ M., ALTAN SAKARYA A. B., KÖKEN M.  
World Multidisciplinary Civil Engineering-Architecture-Urban Planning Symposium, 12 - 16 June 2016
- IX. **Experimental Investigation of the Original Project of Yukarı Kaleköy Dam and Hydroelectric Power Plant Spillway**  
GÖĞÜŞ M., Altan-Sakarya A. B., KÖKEN M.  
World Multidisciplinary Civil Engineering-Architecture-Urban Planning Symposium (WMCAUS), Prague, Czech Republic, 13 - 17 June 2016, vol.161, pp.313-317
- X. **Yukarı Kaleköy Barajı HES Dolusavak Hidrolik Model Deneyleri**  
GÖĞÜŞ M., ALTAN SAKARYA A. B., KÖKEN M., DİNÇER A. E., YAVUZ C., HASPOLAT E.  
IMO Su Yapıları Sempozyumu, Turkey, 19 - 21 November 2015
- XI. **Sulama Amaçlı Rezervuarlarda İşletme Çalışması Yapılması ve Optimum Rezervuar Kapasitesinin Belirlenmesi**  
ERDİN T. E., ALTAN SAKARYA A. B.  
IMO 4. SU YAPILARI SEMPOZYUMU, Antalya, Turkey, 19 - 21 November 2015
- XII. **Maximizing Energy generation of a cascade hydropower system**  
KARAEREN V., ALTAN SAKARYA A. B.  
IAHR WORLD CONGRESS, 28 June - 03 July 2015
- XIII. **MAXIMIZING ENERGY GENERATION OF A CASCADE HYDROPOWER SYSTEM**  
Karaeren V., ALTAN SAKARYA A. B.  
36th IAHR World Congress, Delft, Netherlands, 28 June - 03 July 2015, pp.1336-1347
- XIV. **Experimental Investigation of Flow Conditions over Cambasi Dam Spillway**  
ALTAN SAKARYA A. B., AYDIN İ., GÖĞÜŞ M., KÖKEN M.  
35th World Congress of the International-Association-for-Hydro-Environment-Engineering-and-Research (IAHR), Chengdu, China, 8 - 13 September 2013, pp.5748-5755
- XV. **Reservoir Sedimentation in the Demirköprü Dam, Turkey**  
Altan Sakarya A. B., Göğüş M., Kokpınar M. A., Kumcu Ş. Y.  
River Flow 2010, International Conference on Fluvial Hydraulics, September 8-10, 2010, Braunschweig, Germany,

8 - 10 September 2010

- XVI. **Combined simulation-optimization of a coastal aquifer by using Genetic Algorithm**  
DEMİRBAŞ K., ALTAN SAKARYA A. B., Onder H.  
6th International Symposium on Environmental Hydraulics, Athens, Greece, 23 - 25 June 2010, vol.2, pp.661-666
- XVII. **Nehir Rejimindeki Açık Kanal Akımlarında Düşülerde Oluşan Yersel Enerji Kayıpları**  
ALTAN SAKARYA A. B., TOKYAY N.  
3. Ulusal Su Mühendisliği Sempozyumu, İzmir, Turkey, 10 - 13 September 2007, pp.153-160
- XVIII. **Yamula Barajı ve HES Hidrolik Model Çalışmaları**  
YILMAZ B., ALTAN SAKARYA A. B., GÖĞÜŞ M., ÖNDER H., AYDIN İ., TOKYAY N.  
II. Ulusal Su Mühendisliği Sempozyumu, İzmir, Turkey, 21 - 24 September 2005, pp.281-291
- XIX. **Local Losses at a Step in a Subcritical Open Channel Flow**  
TOKYAY N., ALTAN SAKARYA A. B., ÖRSEL S. İ.  
Advances in Civil Engineering, İstanbul, Turkey, 6 - 08 December 2004, vol.3, pp.1398-1406
- XX. **Optimal operation of water distribution systems for water quality purposes**  
Sakarya A. B., Mays L. W.  
29th Annual Water Resources Planning and Management Conference, WRPMD 1999, Tempe, AZ, United States Of America, 6 - 09 June 1999
- XXI. **New methodologies for optimal operation of water distribution systems for water quality purposes**  
Sakarya A. B., Goldman F., Mays L.  
7th International Conference on Hydraulic Engineering Software (Hydrosoft 98), VILLA OLMO, Italy, 01 September 1998, vol.4, pp.101-110

## Supported Projects

- Buhan S., Altan Sakarya A. B., Savaşaneril Tüfekci S., Project Supported by Other Official Institutions, Akım Tahmin ve Havza Optimizasyon Modeli, 2018 - 2019
- Muhammetoğlu H., Muhammetoğlu A., Karadirek İ. E., Altan Sakarya A. B., TUBITAK Project, Turistik Bölgelerde Otomatik Okuma Sayaçları Kullanılarak Fiziki Su Kayıplarının Yüksek Hassasiyetle Belirlenmesi ve Yönetimi Antalya Kaleiçi Uygulaması, 2014 - 2018
- ALTAN SAKARYA A. B., Project Supported by Other Private Institutions, YUKARI KALEKÖY BARAJI VE HES DOLUSAVAK HİDROLİK MODEL ÇALIŞMALARI 2, 2014 - 2015

## Scientific Refereeing

- Project Supported by Higher Education Institutions, BAP Research Project, Middle East Technical University, Turkey, February 2023
- Hydrology, Journal Indexed in ESCI, December 2022
- TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Akdeniz University, Turkey, November 2022
- TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, June 2022
- TUBITAK Project, 3501 - National Young Researcher Career Development Program, Antalya Büyükşehir Belediyesi Asat Genel Müdürlüğü, Turkey, September 2021
- TEKNİK DERGI, National Scientific Refreed Journal, July 2021
- HYDROLOGICAL SCIENCES JOURNAL-JOURNAL DES SCIENCES HYDROLOGIQUES, Journal Indexed in SCI-E, April 2021
- TUBITAK Project, 1002 - Quick Support Program, Bitlis Eren University, Turkey, April 2021

## Metrics

Publication: 50  
Citation (WoS): 407  
Citation (Scopus): 511  
H-Index (WoS): 9  
H-Index (Scopus): 11

### **Non Academic Experience**

METU  
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Goldman, Toy and Associates, Inc.  
Arizona State University  
METU