

Prof. Berna
AYAT
AYDOĞAN



Personal Information

Office Phone: [+90 212 383 5174](tel:+902123835174)

Fax Phone: [+90 212 383 5133](tel:+902123835133)

Other Email:

ayat@inm.yildiz.edu.tr

Email: bayat@yildiz.edu.tr

Web:

<https://avesis.yildiz.edu.tr/bayat>



International Researcher IDs

ORCID: 0000-0002-8460-2839

ScopusID: 24474396900

Yoksis Researcher ID: 29445

Education Information

Doctorate, Yıldız Technical University, Graduate School Of Natural And Applied Sciences, İnşaat Mühendisliği, Turkey 2004 - 2010

Postgraduate, Yıldız Technical University, Graduate School Of Natural And Applied Sciences, İnşaat Mühendisliği, Turkey 2002 - 2004

Undergraduate, Yıldız Technical University, Faculty Of Civil Engineering, İnşaat Mühendisliği, Turkey 2000 - 2003

Undergraduate, Yıldız Technical University, Faculty Of Civil Engineering, Çevre Mühendisliği, Turkey 1998 - 2002

Foreign Languages

English, B2 Upper Intermediate

Dissertations

Doctorate, İstanbul Boğazi su kalitesinin modellenmesi / Water quality modelling in the Strait of Istanbul, Yıldız Teknik Üniversitesi, Graduate School of Natural and Applied Sciences, İnşaat Mühendisliği, 2010

Postgraduate, Denizaltı boru hatlarına tesir eden hidrodinamik kuvvetlerin modellenmesi / Modelling of the hydrodynamic forces acting on submarine pipelines, Yıldız Teknik Üniversitesi, Graduate School of Natural and Applied Sciences, İnşaat

Research Areas

Civil Engineering, Hydraulic, Coastal Sedimentation, Coastal Zone Management, Design of Coastal Structures, Coastal Engineering, Engineering and Technology

Academic Titles / Tasks

Professor, Yildiz Technical University, Faculty Of Civil Engineering, Civil Engineering Department, 2022 - Continues
Associate Professor, Yildiz Technical University, Faculty Of Civil Engineering, Civil Engineering Department, 2014 - 2022
Research Assistant PhD, Yildiz Technical University, Faculty Of Civil Engineering, Civil Engineering Department, 2013 - 2014
Researcher, University of Delaware, Civil and Environmental Engineering, Coastal Engineering Research Center, 2012 - 2013
Research Assistant PhD, Yildiz Technical University, Faculty Of Civil Engineering, Civil Engineering Department, 2011 - 2012
Research Assistant, Yildiz Technical University, Faculty Of Civil Engineering, Civil Engineering Department, 2003 - 2010

Advising Theses

Ayat Aydođan B., Response of Black Sea coastline to climate change impacts, Doctorate, T.ÇARPAR(Student), 2022
Ayat Aydođan B., Long-Term Changes in the Black Sea Storminess, during 1979-2019, Postgraduate, K.TAHTACI(Student), 2021
Ayat Aydođan B., Vulnerability of the South-Western Black Sea coasts to sea level rise, Postgraduate, T.GÖRMÜŞ(Student), 2017
Ayat Aydođan B., Effect of crest modifications on overtopping discharges over composite seawalls, Postgraduate, Ö.Göller(Student), 2016

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Analysis of hybrid exploitation of wind and wave power in the Mediterranean and the Black Sea**
Görmüş T., Aydođan B., Ayat Aydođan B.
ENERGY CONVERSION AND MANAGEMENT, vol.299, pp.1-12, 2024 (SCI-Expanded)
- II. **Micro and nano plastics in groundwater systems: A review of current knowledge and future perspectives**
GÜNDOĐDU S., Mihai F., Fischer E. K., Blettler M. C., TURGAY O. C., AKÇA M. O., Aydođan B., AYAT AYDOĐAN B.
TrAC - Trends in Analytical Chemistry, vol.165, 2023 (SCI-Expanded)
- III. **Differing Aspects of Free and Bound Waves in Obtaining Orbital Velocities from Surface Wave Records**
Saprykina Y., Kuznetsov S., Aydođan B., Ayat Aydođan B., Shtremel M.
JOURNAL OF MARINE SCIENCE AND ENGINEERING, vol.11, no.8, pp.1-17, 2023 (SCI-Expanded)
- IV. **Offshore wind power potential analysis for different wind turbines in the Mediterranean Region, 1959-2020**
Görmüş T., Aydođan B., Ayat B.
ENERGY CONVERSION AND MANAGEMENT, vol.274, 2022 (SCI-Expanded)
- V. **Hydrometeorological assessments of the transport of microplastic pellets in the Eastern Mediterranean**
GÜNDOĐDU S., AYAT AYDOĐAN B., Aydogan B., ÇEVİK C., KARACA S.
SCIENCE OF THE TOTAL ENVIRONMENT, vol.823, 2022 (SCI-Expanded)
- VI. **Statistical models for extreme waves: Comparison of distributions and Monte Carlo simulation of uncertainty**
Görmüş T., Ayat B., Aydođan B.
Ocean Engineering, vol.248, 2022 (SCI-Expanded)
- VII. **Wave Energy Dissipation of Spilling and Plunging Breaking Waves in Spectral Models**
Saprykina Y., Aydogan B., Ayat B.

Journal of Marine Science and Engineering, vol.10, no.2, 2022 (SCI-Expanded)

- VIII. **The Method for Evaluating Cross-Shore Migration of Sand Bar under the Influence of Nonlinear Waves Transformation**
Shtremel M., Saprykina Y., AYAT AYDOĞAN B.
WATER, vol.14, no.2, 2022 (SCI-Expanded)
- IX. **Long-term (1979-2019) changes in the Black Sea storminess**
Tahtaci K., AYAT AYDOĞAN B.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.37, no.4, pp.2147-2162, 2022 (SCI-Expanded)
- X. **Performance evaluation of SWAN ST6 physics forced by ERA5 wind fields for wave prediction in an enclosed basin**
Aydoğan B., Ayat B.
Ocean Engineering, vol.240, 2021 (SCI-Expanded)
- XI. **Spatial and Seasonal Variability of Long-Term Sea Surface Temperature Trends in Aegean and Levantine Basins**
SARAÇOĞLU F. A., Aydoğan B., AYAT AYDOĞAN B., Saracoglu K. E.
PURE AND APPLIED GEOPHYSICS, vol.178, no.9, pp.3769-3791, 2021 (SCI-Expanded)
- XII. **Analysis of potential changes in the Black Sea wave power for the 21st century**
Aydoğan B., Görmüş T., Ayat B., Çarpar T.
Renewable Energy, vol.169, pp.512-526, 2021 (SCI-Expanded)
- XIII. **Basin scale spatiotemporal analysis of shoreline change in the Black Sea**
Gormus T., AYAT AYDOĞAN B., Aydoğan B., Tatui F.
ESTUARINE COASTAL AND SHELF SCIENCE, vol.252, 2021 (SCI-Expanded)
- XIV. **Spatio-Seasonal Variations in Long-Term Trends of Offshore Wind Speeds Over the Black Sea; an Inter-Comparison of Two Reanalysis Data**
Çarpar T., Ayat B., Aydoğan B.
Pure and Applied Geophysics, vol.177, no.6, pp.3013-3037, 2020 (SCI-Expanded)
- XV. **Vulnerability assessment of Southwestern Black Sea**
Gormus T., AYAT AYDOĞAN B.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.35, no.2, pp.663-681, 2020 (SCI-Expanded)
- XVI. **The Black Sea coastline erosion: Index-based sensitivity assessment and management-related issues**
Tatui F., Pirvan M., Popa M., Aydoğan B., Ayat B., Gormus T., Korzinin D., Vaidianu N., Vespremeanu-Stroe A., Zainescu F., et al.
OCEAN & COASTAL MANAGEMENT, vol.182, 2019 (SCI-Expanded)
- XVII. **Variability of the Nearshore Wave Climate in the Eastern Part of the Black Sea**
Saprykina Y., Shtremel M., Aydoğan B., Ayat Aydoğan B.
Pure And Applied Geophysics, vol.176, no.8, pp.3757-3768, 2019 (SCI-Expanded)
- XVIII. **Spatial variability of long-term trends of significant wave heights in the Black Sea**
Aydoğan B., Ayat B.
APPLIED OCEAN RESEARCH, vol.79, pp.20-35, 2018 (SCI-Expanded)
- XIX. **How microplastics quantities increase with flood events? An example from Mersin Bay NE Levantine coast of Turkey.**
GÜNDOĞDU S., ÇEVİK C., Ayat B., Aydoğan B., KARACA S.
Environmental pollution (Barking, Essex : 1987), vol.239, pp.342-350, 2018 (SCI-Expanded)
- XX. **Vertical Cylinder Density and Toppling Effects on Dune Erosion and Overwash**
Ayat B., Kobayashi N.
JOURNAL OF WATERWAY PORT COASTAL AND OCEAN ENGINEERING, vol.141, no.1, 2015 (SCI-Expanded)
- XXI. **Black Sea wave energy atlas from 13 years hindcasted wave data**
Aydoğan B., Ayat B., YÜKSEL Y.
RENEWABLE ENERGY, vol.57, pp.436-447, 2013 (SCI-Expanded)
- XXII. **Wave power atlas of Eastern Mediterranean and Aegean Seas**
Ayat B.

- ENERGY, vol.54, pp.251-262, 2013 (SCI-Expanded)
- XXIII. **3D numerical modeling of stratified flows: Case study of the Bosphorus strait**
ÖZTÜRK M., Ayat B., Aydoğan B., YÜKSEL Y.
Journal of Waterway, Port, Coastal and Ocean Engineering, vol.138, no.5, pp.406-419, 2012 (SCI-Expanded)
- XXIV. **Current velocity forecasting in straits with artificial neural networks, a case study: Strait of Istanbul**
Aydoğan B., Ayat B., ÖZTÜRK M., Cevik E., YÜKSEL Y.
OCEAN ENGINEERING, vol.37, pp.443-453, 2010 (SCI-Expanded)
- XXV. **Responses of the stratified flows to their driving conditions-A field study**
YÜKSEL Y., Ayat B., ÖZTÜRK M., Aydoğan B., GULER I., Cevik E., YALCINER A. C.
OCEAN ENGINEERING, vol.35, no.13, pp.1304-1321, 2008 (SCI-Expanded)

Books & Book Chapters

- I. **Modeling the Fate and Transport of Microplastics in Coastal Areas**
Ayat Aydoğan B., Aydoğan B., Gündoğdu S.
in: Microplastic Pollution Environmental Occurrence and Treatment Technologies, Muhammad Zaffar Hashmi, Editor, Springer Nature, Zug, pp.241-255, 2022
- II. **Hidrolik ve Kıyı-Liman Mühendisliği Laboratuvarı Deney Aletleri Bakım ve Kalibrasyon Talimatları**
Ağaçcıoğlu H., Çevik E. Ö., Birpınar M. E., Çelikoğlu Y., Coşar A., Bostan T., Yılmaz D., Yüksel A., Arı A., Öztürk M., et al.
Ytü Basım Yayın Merkezi, 1

Refereed Congress / Symposium Publications in Proceedings

- I. **The Analysis of Long-Term Sea Surface Temperature in Bozcaada and Cesme**
Saraçoğlu F. A., Ayat Aydoğan B., Aydoğan B., Saraçoğlu K. E.
4th Eurasian Conference on Civil and Environmental Engineering (ECOCEE), İstanbul, Turkey, 17 - 18 June 2019, pp.635
- II. **Sensitivity of Black Sea Coasts to Erosion and Flooding: an Index Based Approach**
Tatui F., Pirvan M., Popa M., Aydoğan B., Ayat Aydoğan B.
EGU General Assembly 2019, Vienna, Austria, 7 - 12 April 2019, pp.1
- III. **Determination of Wave Crest Elevations for Slamming Forces on Jetty with Vertical Wall End**
ÇEVİK E., YÜKSEL Y., AYDOĞAN B., AYAT AYDOĞAN B., Yüksel Z. e. T.
ICCE 2016, 17 - 20 November 2016, vol.1
- IV. **İstanbul Boğazı Yat Park Alanları**
YÜKSEL Y., ÇEVİK E., AYDOĞAN B., ÖZTÜRK M., AYAT AYDOĞAN B., GÜNER H. A.
8. Ulusal Kıyı Mühendisliği Sempozyumu, Turkey, 7 - 09 November 2014
- V. **Karasu Kıyı Alanının Bütünleşik Modeli**
YÜKSEL Y., TAN R. İ., AYAT AYDOĞAN B., GÜNER H. A., AYDOĞAN B., ŞEKER D. Z., KUTOĞLU Ş. H.
8. Ulusal Kıyı Mühendisliği Sempozyumu, Turkey, 7 - 09 November 2014, pp.71-89
- VI. **Doğu Akdeniz in Dalga Gücü Potansiyelinin Belirlenmesi**
Ayat Aydoğan B.
8. Ulusal Kıyı Mühendisliği Sempozyumu, İstanbul, Turkey, 7 - 09 November 2014, pp.841-851
- VII. **Bitkilendirilmiş Kıyı Kumullarında Erozyonun Sayısal Modellenmesi**
Ayat Aydoğan B., Kobayashi N.
8. Ulusal Kıyı Mühendisliği Sempozyumu, İstanbul, Turkey, 7 - 09 November 2014, pp.171-180
- VIII. **EROSION PROGRESSION OF WOODED COASTAL DUNE**
Ayat Aydoğan B., Kobayashi N.
34th International Conference on Coastal Engineering, ICCE 2014, Seoul, South Korea, 15 - 20 June 2014, pp.1-10
- IX. **PILE FENCE TO ENHANCE DUNE RESILIENCY**
Quan R., Kobayashi N., Ayat Aydoğan B.
34th International Conference on Coastal Engineering, ICCE 2014, Seoul, South Korea, 15 - 20 June 2014, vol.34, pp.1-14
- X. **A Coastal Management Case Study in Karasu at Black Sea Region**

Tan İ., Ayat Aydođan B., Güner H. A. A., Aydođan B., Şeker D.

23rd International Offshore and Polar Engineering Conference ISOPE 2013, Alaska, United States Of America, 30 June - 05 July 2013, pp.1-7

- XI. **Açık Tipten Rıhtımlarda Etkili Gemi Pervane Jetlerinin Hidrodinamiđi**
Yüksel Y., Çelikođlu Y., Kayhan S., Cihan K., Ayat Aydođan B.
7. Kıyı Mühendisliđi Sempozyumu, Trabzon, Turkey, 21 - 23 November 2011, pp.107-118
- XII. **Yapay Sinir Ağları İle Akıntı Profiline Modellenmesi**
Aydođan B., Ayat Aydođan B., Çevik E.
7. Kıyı Mühendisliđi Sempozyumu, Trabzon, Turkey, 21 - 23 November 2011, pp.403-410
- XIII. **Güney Karadenizin Dalga Enerjisi Potansiyeli**
Ayat Aydođan B.
5. Ulusal Su Mühendisliđi Sempozyumu, İstanbul, Turkey, 12 - 16 September 2011, pp.1-8
- XIV. **Akarsu Ağızlarının Hidrodinamiđinin Modellenmesi**
YÜKSEL Y., AYDOĐAN B., AYAT B., ÖZTÜRK M., COŞAR A.
Ulusal Taşkın Sempozyumu, Turkey, 22 - 24 March 2010
- XV. **İstanbul Bogazında Akıntı İklimi Çalışması**
YÜKSEL Y., AYAT B., ÖZTÜRK M., AYDOĐAN B., Güler I., ÇEVİK E., YALÇINER A. C.
6. Ulusal Kıyı Mühendisliđi Sempozyumu, Turkey, 25 - 28 October 2007
- XVI. **İstanbul Bogazında Akıntı İklimi Çalışması**
Yüksel Y., Ayat Aydođan B., Aydođan B. A., Öztürk M., Çevik E., Güler I., Yalçiner A. C.
6. Ulusal Kıyı Mühendisliđi Sempozyumu, İzmir, Turkey, 25 - 28 October 2007, pp.1-8
- XVII. **İstanbul Bođazı Su Seviyesi Deđişimlerinin Modellenmesi**
Ayat Aydođan B., Aydođan B., Öztürk M., Çevik E., Yüksel Y.
6. Ulusal Kıyı Mühendisliđi Sempozyumu, İzmir, Turkey, 25 - 28 October 2007, pp.1-8
- XVIII. **Coastal Zone Planning and Management in Istanbul**
AYAT AYDOĐAN B., Uzmez Z., ÇEVİK E., YÜKSEL Y.
8th International Conference on the Mediterranean Coastal Environment, Alexandria, Canada, 13 - 17 November 2007, pp.161-170
- XIX. **Wave climate study in the southwest coast of the Black Sea**
Ari H. A., Yüksel Y., ÇEVİK E., ŞAHİN C., Ayat B.
16th International Offshore and Polar Engineering Conference (ISOPE 2006), San-Francisco, Costa Rica, 28 May - 02 June 2006, pp.102-106
- XX. **Modelling of Submarine Pipeline Stability for Various Wave Theories**
AYAT AYDOĐAN B., Yüksel Y.
MWWD 3rd International Conference on Marine Waste Water Discharges and Marine Environment, 01 November 2004

Supported Projects

Gündođdu S., Ayat Aydođan B., Aydođan B., Alkan Torun A., Kaydan B., Torun M. B., Elekçiođlu İ. H., Csaba C., Büyükdeveci F., Kotschan J., et al., Project Supported by Higher Education Institutions, Impact of microplastic pollution on the biodiversity and the fish resources and transport of pollution into the marine environment in Lower Seyhan Basin, 2023 - 2026

Engin G., Sarı Erkan H., Ayat Aydođan B., Aydođan B., Ayral Çınar D., Çelen M., Öncel M. S., Tutak B., TUBITAK Project, Numerical and Spatial Investigations of Microplastic Pollution in Antarctic Marine Ecosystem: Horseshoe Island Case Study , 2022 - 2024

Ayat Aydođan B., Aydođan B., Görmüş T., TUBITAK Project, Spatial, Temporal and Seasonal Characteristics of the Climate Change Induced Variability in the Wind and Wave Energy Potential of the Mediterranean and the Black Sea based on CMIP6 Climate Projections, 2022 - 2024

UCUN L., YAŞAR C. F., ENGİN G., TACAL B., ETEMADİ A., AYAT AYDOĐAN B., ENGİN Ş. N., Project Supported by Higher Education Institutions, Frekans Tabanlı Sistem Tanıma Yaklaşımı ile Açık Su Kanal Sistemlerinde Verimliliđi Arttırmaya Yönelik Su Seviyesi Kontrolü, 2022 - 2024

Saprykina Y., Aydođan B., Ayat Aydođan B., TÜBİTAK International Bilateral Joint Cooperation Program Project, Nonlinear and dissipative transformation processes of breaking WAVes in Deep and Shallow water, 2020 - 2023

Börekeçi M., Aydođan B., Ayat Aydođan B., Selçuk M. E., Kırmızıdađ F., Project Supported by Higher Education Institutions,

Investigation of Earthquake Performance of Reinforced Concrete Pile Piers according to TKLYDY2020 and Determination of Damage Probability, 2021 - 2022

Sarı Erkan H., Engin G., Albay M., Ayat Aydođan B., Aydođan B., Köker Demo L., Kahraman C., Sunlu U., Gündođdu S., TUBITAK Project, Detection and Characterization of Microplastic Pollution Caused by Industrial and Social Activities in the Bosphorus, 2020 - 2022

BALKANLI D., ÇELEBİ U. B., SARI ERKAN H., BOZKURT K., BİLGİLİ M. S., AYAT AYDOĐAN B., CİVELEK YÖRÜKLÜ H., DEMİR Ö., VARDAR N., Project Supported by Higher Education Institutions, Marmara Denizinde Ortaya Çıkan Müsilaj İçeriđinin Örnekleme Karakterizasyonu ve Tanımlanması ile Geniş Perspektifli Çözüm Üretmek İçin Üniversite Araştırma Altyapısının Deđerlendirilmesi, 2021 - 2021

Ayat Aydođan B., Aydođan B., EU Supported Other Project, Changes in storminess and coastal erosion induced by climate variability along the Black Sea Coast, Management and adaptation – BSSTEMA, 2016 - 2018

Ayat Aydođan B., Çelikođlu Y., Aydođan B., Project Supported by Higher Education Institutions, Investigation of the stability of tetrapod breakwaters under irregular wave conditions., 2007 - 2010

Yüksel Y., Ertürk F., Ayat Aydođan B., Aydođan B., Project Supported by Higher Education Institutions, Modeling the Effect of Istanbul Strait Hydrodynamics on Water Quality, 2005 - 2007

Metrics

Publication: 74

Citation (WoS): 330

Citation (Scopus): 383

H-Index (WoS): 9

H-Index (Scopus): 9