

# CÜNEYT BAYKAL

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### Learning Knowledge

Doctorate 2007 - 2012	Middle East Technical University, Graduate School of Natural and Applied Sciences, İnşaat Mühendisliği (Dr), Turkey
Post Graduate 2003 - 2006	Middle East Technical University, Graduate School of Natural and Applied Sciences, İnşaat Mühendisliği (YI) (Tezli), Turkey
Under Graduate 1998 - 2003	Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, Turkey

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, Two-dimensional depth-averaged beach evolution modelling, Middle East Technical University, Graduate School of Natural and Applied Sciences, İnşaat Mühendisliği (Dr), 2012  
Post Graduate, Numerical modeling of wave diffraction in one-dimensional shoreline change model, Middle East Technical University, Graduate School of Natural and Applied Sciences, İnşaat Mühendisliği (YI) (Tezli), 2006

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

- Ortalama Su Seviyesi Değişimlerinin Taş Dolgu Kıyı Koruma Yapılarının Tasarımına ve Performansına Etkisi**  
Özyurt Tarakcioğlu G., Baykal C., Güler H. G.  
Teknik Dergi, pp.1-15, 2020 (Journal Indexed in SCI Expanded)
- Stilling wave basins for overtopping reduction at an urban vertical seawall - The Kordon seawall at Izmir**  
Kısacık D., Tarakcioglu G., Baykal C.  
OCEAN ENGINEERING, vol.185, pp.82-99, 2019 (Journal Indexed in SCI)
- Numerical assessment of tsunami attack on a rubble mound breakwater using OpenFOAM (R)**  
GÜLER H. G. , BAYKAL C., Arikawa T., YALÇINER A. C.  
APPLIED OCEAN RESEARCH, vol.72, pp.76-91, 2018 (Journal Indexed in SCI)

4. **Tsunami-induced scour around monopile foundations**  
Larsen B. E. , Fuhrman D. R. , BAYKAL C., Sumer B. M.  
COASTAL ENGINEERING, vol.129, pp.36-49, 2017 (Journal Indexed in SCI)
5. **Numerical simulation of scour and backfilling processes around a circular pile in waves**  
BAYKAL C., Sumer B. M. , Fuhrman D. R. , Jacobsen N. G. , Fredsoe J.  
COASTAL ENGINEERING, vol.122, pp.87-107, 2017 (Journal Indexed in SCI)
6. **Risk Assessment and Design of Prevention Structures for Enhanced Tsunami Disaster Resilience (RAPSODI)/Euro-Japan Collaboration**  
Harbitz C. B. , Nakamura Y., Arikawa T., BAYKAL C., Dogan G. G. , Frauenfelder R., Glimsdal S., GÜLER H. G. , Issler D., Kaiser G., et al.  
COASTAL ENGINEERING JOURNAL, vol.58, 2016 (Journal Indexed in SCI)
7. **Numerical investigation of flow and scour around a vertical circular cylinder**  
BAYKAL C., Sumer B. M. , Fuhrman D. R. , Jacobsen N. G. , Fredsoe J.  
PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY A-MATHEMATICAL PHYSICAL AND ENGINEERING SCIENCES, vol.373, 2015 (Journal Indexed in SCI)
8. **Numerical simulation of wave-induced scour and backfilling processes beneath submarine pipelines**  
Fuhrman D. R. , BAYKAL C., Sumer B. M. , Jacobsen N. G. , Fredsoe J.  
COASTAL ENGINEERING, vol.94, pp.10-22, 2014 (Journal Indexed in SCI)
9. **Two-Dimensional Depth-Averaged Beach Evolution Modeling: Case Study of the Kizilirmak River Mouth, Turkey**  
Baykal C., ERGİN A., Guler I.  
JOURNAL OF WATERWAY PORT COASTAL AND OCEAN ENGINEERING, vol.140, 2014 (Journal Indexed in SCI)
10. **Development of a numerical 2-dimensional beach evolution model**  
BAYKAL C.  
TURKISH JOURNAL OF EARTH SCIENCES, vol.23, pp.215-231, 2014 (Journal Indexed in SCI)

## Refereed Congress / Symposium Publications in Proceedings

1. **Xbloc'lu Tahkimat Kesitinde Sayısal Ve Fiziksel Model Sonuçlarına Göre Dalga Aşması Rize Artvin Havalimanı Tahkimatı**  
Karakuş D., Cihan H. K. , Sağ M., Baykal C., Yalçın A. C.  
İMO 9. Kıyı Mühendisliği Sempozyumu, Adana, Turkey, 1 - 03 November 2019, pp.752-764
2. **Flow and Scour Around Round Head Vertical Wall Breakwater Under Random Waves**  
Karakuş K., Baykal C.  
15th Young Coastal Scientists and Engineers Conference (YCSEC), Glasgow, Scotland, 13 - 15 May 2019, pp.1-2
3. **A CASE STUDY ON PERFORMANCE OF RESHAPING BERM BREAKWATERS: ORDU GİRESUN INTERNATIONAL AIRPORT, TURKEY**  
Özyurt Tarakcioğlu G., Baykal C., Bezazoğlu S., Atak D., Ergin A., Güler I.  
36th International Conference on Coastal Engineering, Maryland, United States Of America, 29 July - 03 August 2018, pp.36-40
4. **A NEW NUMERICAL SOLVER FOR SIMULATING POROUS MEDIA FLOW BASED ON IMMERSED BOUNDARY METHOD**  
GÜLER H. G. , Liu X., Jensen B., Tomaselli P. D. , BAYKAL C., ARIKAWA T., YALÇINER A. C.  
American Geophysics Union Fall Meeting 2018, Washington, United States Of America, 10 - 14 December 2018
5. **YAPAY BLOKLU KIYI TAHKİMATI DENGE VE DALGA AŞMA DURUMLARININ ARAŞTIRILMASI ÜZERİNE BİR FİZİKSEL MODEL ÇALIŞMASI**  
BAYKAL C., ÖZYURT TARAKCIOĞLU G., IŞIK E., Gözlet M. S. , GÜLER H. G.  
İMO 9. Ulusal Kıyı Mühendisliği Sempozyumu, Adana, Turkey, 1 - 03 November 2018
6. **DÜZENLİ DALGALARIN İLERLEYİŞİNİN BENZETİMİNDE SWASH SAYISAL MODELİNİN**

## **PERFORMANSININ DEĞERLENDİRİLMESİ**

GÜLER H. G. , IŞIK E., SHARGHIVAND N., GÖRAL K. D. , BAYKAL C., GÜLER I., ERGİN A.  
İMO 9. Ulusal Kıyı Mühendisliği Sempozyumu, Adana, Turkey, 1 - 03 November 2018

7. **Kum Beslemesi Uygulamalarında Jeotekstil Tüplerin Kullanımı Üzerine Fiziksel Model Deneyleri**  
Işık E., BAYKAL C.  
İMO 9. Kıyı Mühendisliği Sempozyumu, Adana, Turkey, 1 - 03 November 2018, vol.1, pp.160-171
8. **Motion of Solid Spheres under Solitary Wave Attack: Physical and Numerical Modeling**  
GÜLER H. G. , ARIKAWA T., BAYKAL C., Göral K. D. , YALÇINER A. C.  
International Conference on Coastal Engineering 2018, Baltimore, United States Of America, 29 July - 04 August 2018
9. **Vertical Seawall Crest Modifications for Overtopping**  
KISACIK D., ÖZYURT G., BAYKAL C., KABOĞLU G.  
36th International Conference on Coastal Engineering 2018, Baltimore, United States Of America, 30 July - 03 August 2018
10. **Harbor Agitation Due To Offshore Ship Waves Using Swash: A Case Study Of Kumkapi Yacht Park, Istanbul**  
BAYKAL C., ÖZYURT TARAKCIOĞLU G., IŞIK E.  
36th International Conference on Coastal Engineering, Baltimore, United States Of America, 29 July - 03 August 2018, vol.1, pp.12
11. **COMPARISON OF NUMERICAL WAVE TANKS WITH VARIOUS TURBULENCE MODELSIN APPLICATION TO LONG WAVE MOTION AND ITS INTERACTION WITH A VERTICALWALL**  
ÇINAR G. E. , GÜLER H. G. , ARIKAWA T., BAYKAL C., YALÇINER A. C.  
International Conference on Coastal Engineering 2018, Baltimore, United States Of America, 29 July - 03 August 2018
12. **Kıyı Mühendisliği Uygulamalarında Tasarım Dalgası ve Risk**  
ÖZYURT TARAKCIOĞLU G., ERGİN A., GÜLER H. G. , BAYKAL C., GÜLER I., ESEN M., KİREZCİ Ç., YALÇINER A. C.  
3. Ulusal Deniz Bilimleri Konferansı, İzmir, Turkey, 9 - 12 May 2018
13. **Application of XBeach in a Beach Nourishment and Restoration Project A Case Study: Alanya-Turkler, Turkey**  
BAYKAL C., ÖZYURT TARAKCIOĞLU G., IŞIK E., GÜLER H. G. , AYDIN D. C. , ÇINAR G. E. , YALÇINER A. C. , IŞIKHAN G., ERGİN A.  
XBeach X (10th Year Anniversary) Free User Conference, Delft, Netherlands, 1 - 03 November 2017
14. **Challenges in Numerical Assessment of Tsunami Impact on Composite and Rubble Mound Breakwaters**  
GÜLER H. G. , ARIKAWA T., BAYKAL C., YALÇINER A. C.  
International Tsunami Symposium (ITS) 2017, Balvi, Indonesia, 21 - 25 August 2017
15. **Comparison of 2D and 3D Models in Application to Long Wave Motion and Its Interaction with the Structures**  
ÇINAR G. E. , GÜLER H. G. , BAYKAL C., ARIKAWA T., ZAYTSEV A., YALÇINER A. C.  
International Tsunami Symposium (ITS) 2017, Balvi, Indonesia, 21 - 25 August 2017
16. **Effect of Temporal Downscaling of Wind Data on Hindcasting Extreme Wave Events and Wind Power Density Studies over the Black Sea**  
BAYKAL C., GÜLER H. G. , ÖZYURT G., ak g. h. , kirezci ç., YILMAZ M. T.  
American Geophysical Union Fall Meeting 2016, 12 - 16 December 2016
17. **Numerical Modelling of Physical Model Experiments on Rubble Mound Breakwaters Under Tsunami Attack Using IHFOAM**  
GÜLER H. G. , Arikawa T., BAYKAL C., YALÇINER A. C.  
35th International Conference on Coastal Engineering, Antalya, Turkey, 17 - 20 November 2016
18. **Damage identification of coastal structures using image processing techniques**  
PEKCAN O., Ersöz A. B. , TEKE T., Doğan G. G. , ÖZYURT G., BAYKAL C.

- 35th International Conference on Coastal Engineering, Antalya, Turkey, 17 - 20 November 2016
19. **Storm surge and flooding in Izmir bay and a suggestion for coastal protection stilling wave basin**  
KISACIK D., KABOĞLU G., Keleş B. B. , ÖZYURT G., BAYKAL C., Güler I.  
35th International Conference on Coastal Engineering, Antalya, Turkey, 17 - 20 November 2016
20. **Numerical Modeling of Flow and Scour around a Vertical Cylindrical Pile in Combined Wave and Current**  
BAYKAL C., Sumer B. M. , Fuhrman D. R.  
35th International Conference on Coastal Engineering, Antalya, Turkey, 17 - 20 November 2016
21. **Performance of Rubble Mound and Caisson Type Breakwaters under Extreme Waves**  
Doğan G. G. , ÖZYURT G., BAYKAL C., YALÇINER A. C.  
35th International Conference on Coastal Engineering, Antalya, Turkey, 17 - 20 November 2016
22. **Numerical Modelling on Hydrodynamic Flow Conditions and Morphological Changes using XBeach near Manavgat River Mouth**  
Demirci E., BAYKAL C., Güler I., Söğüt E., Ergin A.  
35th International Conference on Coastal Engineering, Antalya, Turkey, 17 - 20 November 2016
23. **Numerical Investigation of Long-Term Beach Evolution Around Shore-Normal Groins Using XBeach**  
Söğüt E., BAYKAL C., Güler I., Ergin A., Demirci E.  
35th International Conference on Coastal Engineering, Antalya, Turkey, 17 - 20 November 2016
24. **Effect of Temporal Downscaling Methods of Long Term Wind Data on the Design Wave Parameters in the Black Sea**  
ÖZYURT G., GÜLER H. G. , BAYKAL C., Ak G. H. , Yılmaz M. T.  
35th International Conference on Coastal Engineering, Antalya, Turkey, 17 - 20 November 2016
25. **Tsunami induced scour around a monopile foundation**  
Fuhrman D. R. , Larsen B. E. , BAYKAL C., Sumer B. M.  
35th International Conference on Coastal Engineering, Antalya, Turkey, 17 - 20 November 2016
26. **Performance of Rubble Mound and Caisson Type Breakwaters Under Extreme Waves**  
DOĞAN G. G. , ÖZYURT G., BAYKAL C.  
35TH INTERNATIONAL CONFERENCE ON COASTAL ENGINEERING, 17 November - 20 December 2016
27. **Storm Surge and Flooding in izmir Bay and A Suggestion for Coastal Protection Stilling Wave Basin**  
KISACIK D., ÖZYURT G., BAYKAL C., keleş b. b. , KABOĞLU G., güler i.  
35TH INTERNATIONAL CONFERENCE ON COASTAL ENGINEERING, 17 - 20 November 2016
28. **Effect Of Temporal Downscaling Methods of Long Term Wind Data on The Design Wave Parameters in the Black Sea**  
ÖZYURT G., BAYKAL C., GÜLER H. G. , YILMAZ M. T. , AK H.  
35TH International Conference on Coastal Engineering, 17 - 20 November 2016
29. **Damage Identification of Coastal Structures Using Image Processing Techniques**  
PEKCAN O., ERSÖZ A. B. , TEKE T., DOĞAN G. G. , ÖZYURT G., BAYKAL C.  
35TH INTERNATIONAL CONFERENCE ON COASTAL ENGINEERING, 17 - 20 November 2016
30. **Taş Dolgu Ve Keson Tipi Dalgakıran Performanslarının Ekstrem Dalgalar Altında Fiziksel Model Deneyleri İle İncelenmesi**  
Doğan G. G. , ÖZYURT G., BAYKAL C.  
Türkiye Deniz Bilimleri Konferansı, Ankara, Turkey, 31 May - 03 June 2016
31. **Şekillenmeyen Basamak Tipi Dalgakıranlar İle Şekillenebilen Dinamik Stabil Dalgakıranların Karşılaştırılması Örnek Bir Çalışma Ordu Giresun Havalimanı**  
Atak D., Bezazoğlu S., BAYKAL C., ÖZYURT G., GÜLER H. G. , Güler I., Ergin A.  
Türkiye Deniz Bilimleri Konferansı, Ankara, Turkey, 31 May - 03 June 2016
32. **Comparison of Laboratory Experimental Data to XBeach Numerical Model Output**  
Demirci E., BAYKAL C., Güler I., Söğüt E.  
European Geosciences Union General Assembly 2016, Viyana, 17 - 22 April 2016

33. **Modelling of Performance of Caisson Type Breakwaters under Extreme Waves**  
Doğan G. G. , ÖZYURT G., BAYKAL C.  
European Geosciences Union General Assembly 2016, Viyana, Austria, 17 - 22 April 2016
34. **Performance of Statistical Temporal Downscaling Techniques of Wind Speed Data Over Aegean Sea**  
GÜLER H. G. , BAYKAL C., ÖZYURT G., KISACIK D.  
European Geosciences Union General Assembly 2016, Viyana, Austria, 17 - 22 April 2016
35. **Modelling of Performance of Caisson Type Breakwaters under Extreme Waves**  
DOĞAN G. G. , ÖZYURT G., BAYKAL C.  
EGU GENERAL ASSEMBLY 2016, 17 - 22 April 2016
36. **Performance of Statistical Temporal Downscaling Techniques of Wind Speed Data Over Aegean Sea**  
GÜLER H. G. , BAYKAL C., ÖZYURT G., KISACIK D.  
EGU GENERAL ASSEMBLY 2016, 17 - 22 April 2016
37. **Investigation on Hydrodynamic Flow Conditions at the Manavgat River Mouth in Combined Flooding of River Surface Runoff and Storm Surge**  
Demirci E., BAYKAL C., ÖZYURT G., Söğüt E.  
55th Conference of Estuarine Coastal Sciences Association, Londrina, United Kingdom, 6 - 09 September 2015
38. **Modelling long term morphological changes with XBeach case study of Kizilirmak River mouth**  
BAYKAL C., Ergin A., Güler I., ÖZYURT G., Söğüt E., GÜLER H. G. , Doğan G. G.  
European Geosciences Union General Assembly 2015, Viyana, Austria, 12 - 17 April 2015
39. **Numerical calculation of backfilling of scour holes**  
Sumer B. M. , BAYKAL C., Fuhrman D. R. , Jacobsen N. G. , Fredsoe J.  
7th International Conference on Scour and Erosion, Perth, Australia, 2 - 04 December 2014, pp.633-642
40. **Tasarım Derinliğinin Taş Dolgu Dalgakıranların Tasarımına Etkisi**  
GÜLER H. G. , Ergin A., BAYKAL C., ÖZYURT G., Güler I.  
8. Ulusal Kıyı Mühendisliği Sempozyumu, İstanbul, Turkey, 7 - 09 November 2014
41. **Sarıgerme Bölgesinde Oluşan Hortum ve Bölgeye Etkileri**  
GÜLER H. G. , BAYKAL C., YALÇINER A. C. , Ayşen E., ÖZYURT G., Güler I.  
8. Ulusal Kıyı Mühendisliği Sempozyumu, İstanbul, Turkey, 7 - 09 November 2014
42. **Silindir Yapılar Çevresinde Akım Koşulları ve Oyulma Süreçlerinin Sayısal Modellenmesi**  
BAYKAL C., Sumer B. M. , Fuhrman D. R. , Jacobsen N. G. , Fredsoe J.  
8. Ulusal Kıyı Mühendisliği Sempozyumu, İstanbul, Turkey, 7 - 09 November 2014
43. **Numerical Modeling of Backfilling Process around Monopiles**  
BAYKAL C., B Mutlu S., Fuhrman D. R. , Jacobsen N. G. , Fredsoe J.  
34th International Conference on Coastal Engineering, Seul, South Korea, 15 - 20 June 2014, vol.1, pp.22
44. **An Experimental Study on the Cumulative Damage Development of Rubble Mound Structures**  
Şimşek K. C. , BAYKAL C., Ergin A., Güler I.  
34th International Conference on Coastal Engineering, Seul, South Korea, 15 - 20 June 2014
45. **Numerical Simulation of Wave Induced Scour and Backfilling below Submarine Pipelines**  
Fuhrman D. R. , BAYKAL C., Sumer B. M. , Jacobsen N. G. , Fredsoe J.  
34th International Conference on Coastal Engineering, Seul, South Korea, 15 - 20 June 2014
46. **An Energetic Type Model for the Cross shore Distribution of Total Longshore Sediment Transport Rate**  
BAYKAL C., Ergin A., Güler I.  
33rd International Conference on Coastal Engineering, Santander, Spain, 1 - 06 July 2012, vol.1
47. **Kıyı Boyu Akıntılarının Sayısal Modellenmesi**  
BAYKAL C., Ergin A., Güler I.

7. Ulusal Kıyı Mühendisliği Sempozyumu, Trabzon, Turkey, 21 - 23 November 2011
48. **Yapay Besleme ile Kıyı Dengelenmesi Örnek Uygulama Bir Kıyı Aşınımı Sorunu Side Türkiye**  
Esen M., BAYKAL C., Güler I., Ergin A.  
6. Ulusal Kıyı Mühendisliği Sempozyumu, İzmir, Turkey, 6 - 07 November 2009
49. **Shore Stabilization by Artificial Nourishment A Case Study A Coastal Erosion Problem in Side Turkey**  
Güler I., BAYKAL C., Ergin A.  
7th Int. Conf. on Coastal and Port Eng. in Developing Countries, Dubai, United Arab Emirates, 24 - 28 February 2008
50. **A One Line Numerical Model for Wind Wave Induced Shoreline Changes**  
Ergin A., Güler I., YALÇINER A. C. , BAYKAL C., ARTAGAN S. S. , Şafak I.  
7th International Congress on Advances in Civil Engineering, İstanbul, Turkey, 11 - 13 October 2006

## Advising Theses

Yalçiner A. C. , Baykal C., 3-Dimensional Numerical Circulation Modeling: A Case Study On The Coastal Processes In Gocek And Fethiye Bays, Turkey, Post Graduate, İ.Akdeniz(Student), 2018  
YALÇINER A. C. , BAYKAL C., Comparison of 2d and 3d models in application to long wave motion and its interaction with a vertical wall, Post Graduate, G.EZGİ(Student), 2018  
BAYKAL C., Numerical modeling of short term morphological changes around coastal structures and at the river mouths, Post Graduate, E.DEMİRCİ(Student), 2016  
BAYKAL C., A comparative study on stability and overtopping performances of reshaping berm breakwaters, Post Graduate, S.BEZAZOĞLU(Student), 2016

## Citations

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## Research Areas

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