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Personal Information

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Education Information

Doctorate, University of Southern California, Aerospace Engineering, United States Of America 1990 - 1998

Postgraduate, Istanbul Technical University, Makine Fakültesi, Turkey 1985 - 1988

Undergraduate, Istanbul Technical University, Uçak Ve Uzay Bilimleri Fakültesi, Uçak Mühendisliği Bölümü, Turkey 1980 - 1985

Dissertations

Doctorate, The runup of long waves around piecewise linear bathymetries, University Of Southern California, Aerospace Engineering, 1998

Postgraduate, Düşey kanallarda doğal ısı taşınımı, İstanbul Teknik Üniversitesi, Makine Fakültesi, 1988

Research Areas

Coastal Sciences

Academic Titles / Tasks

Professor, Dokuz Eylül University, Mühendislik Fakültesi, Havacılık ve Uzay Mühendisliği Bölümü, 2022 - Continues

Associate Professor, Middle East Technical University, Faculty Of Engineering, Department Of Engineering Sciences, 2009 - 2022

Assistant Professor, Middle East Technical University, Faculty Of Engineering, Department Of Engineering Sciences, 2002 - 2009

Courses

Postgraduate

ADVANCED MATHEMATICS FOR ENGINEERS II, Postgraduate, 2017 - 2018

ADVANCED MATHEMATICS FOR ENGINEERS I, Postgraduate, 2018 - 2019

Undergraduate

Calculus II, Undergraduate, 2021 - 2022
Matematik III, Undergraduate, 2022 - 2023
Calculus II, Undergraduate, 2021 - 2022
MATHEMATICS FOR ENGINEERS, Undergraduate, 2018 - 2019
COMPUTING METHODS IN ENGINEERING, Undergraduate, 2017 - 2018

Supervised Theses

Kanoğlu U., Analytical solution for the propagation of finite crested long waves over a sloping beach, Postgraduate, A.SABRİ(Student), 2022
Kanoğlu U., Identification of the abnormal fuel consumption in a commercial flight by an artificial neural network surrogate model, Postgraduate, O.DEMİRHAN(Student), 2022
KANOĞLU U., Analytical solutions for evolution and runup of longwaves over a sloping beach, Postgraduate, N.Ceylan(Student), 2019
KANOĞLU U., Tsunami forecast modeling for Turkish coastlines, Postgraduate, N.SHARGHIVAND(Student), 2014
KANOĞLU U., MUMCUOĞLU Ü. E., Automatic Bayesian segmentation of human facial tissue using 3D MR-CT fusion by incorporating models of measurement blurring, noise and partial volume, Doctorate, E.Şener(Student), 2012
KANOĞLU U., Tsunami source inversion using genetic algorithm, Postgraduate, C.Şen(Student), 2011
KANOĞLU U., Analysis of laminated glass arches and cylindrical shells, Doctorate, B.Aydm(Student), 2011

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **The Turkish Tsunami of 6 February 2023 in the Northeastern Mediterranean**
Medvedeva A., Vydrin D., Krylov A., Shiryborova A., Smirnova D., Tsukanova E., Kanoğlu U., Medvedev I.
PURE AND APPLIED GEOPHYSICS, vol.180, no.9, pp.3177-3193, 2023 (SCI-Expanded)
- II. **Introduction to "Sixty Years of Modern Tsunami Science, Volume 2: Challenges"**
Kanoğlu U., Rabinovich A. B., Okal E. A., Pattiaratchi C., Baptista M. A., Zamora N., Catalán P. A.
PURE AND APPLIED GEOPHYSICS, vol.180, no.5, pp.1541-1547, 2023 (SCI-Expanded)
- III. **Tsunami initial profile and maximum runup through earthquake source parameters**
Sharghivand N., Kanoğlu U.
GEOPHYSICAL JOURNAL INTERNATIONAL, no.3, pp.2437-2445, 2023 (SCI-Expanded)
- IV. **Towards the new Thematic Core Service Tsunami within the EPOS Research Infrastructure**
Babeyko A., Lorito S., Hernandez F., Lauterjung J., Løvholt F., Rudloff A., Sørensen M., Androsov A., Aniel-Quiroga I., Armigliato A., et al.
Annals of Geophysics, vol.65, no.2, 2022 (SCI-Expanded)
- V. **Introduction to "Sixty Years of Modern Tsunami Science, Volume 1: Lessons and Progress"**
Kanoğlu U., Okal E. A., Baptista M. A., Rabinovich A. B.
PURE AND APPLIED GEOPHYSICS, vol.178, no.12, pp.4689-4695, 2021 (SCI-Expanded)
- VI. **Probabilistic Tsunami Hazard and Risk Analysis: A Review of Research Gaps**
Behrens J., Løvholt F., Jalayer F., Lorito S., Salgado-Galvez M. A., Sorensen M., Abadie S., Aguirre-Ayerbe I., Aniel-Quiroga I., Babeyko A., et al.
FRONTIERS IN EARTH SCIENCE, vol.9, 2021 (SCI-Expanded)
- VII. **The 30 October 2020 Aegean Sea Tsunami: Post-Event Field Survey Along Turkish Coast**
Dogan G. G., Yalçın A. C., Yüksel Y., Ulutaş E., Polat O. D., Güler I., Şahin C., Tarih A., Kanoğlu U.
PURE AND APPLIED GEOPHYSICS, vol.178, no.3, pp.785-812, 2021 (SCI-Expanded)
- VIII. **A new tsunami runup predictor**
Wronna M., Baptista M. A., KANOĞLU U.
NATURAL HAZARDS, vol.105, no.2, pp.1571-1585, 2021 (SCI-Expanded)
- IX. **Introduction to "Twenty Five Years of Modern Tsunami Science Following the 1992 Nicaragua and**

Flores Island Tsunamis, Volume II"

KANOĞLU U., Tanioka Y., Okal E. A., Baptista M. A., Rabinovich A. B.

PURE AND APPLIED GEOPHYSICS, vol.177, no.3, pp.1183-1191, 2020 (SCI-Expanded)

- X. **The Chios, Greece Earthquake of 23 July 1949: Seismological Reassessment and Tsunami Investigations**
Melis N. S., Okal E. A., Synolakis C. E., Kalogeras I. S., KANOĞLU U.
PURE AND APPLIED GEOPHYSICS, vol.177, no.3, pp.1295-1313, 2020 (SCI-Expanded)
- XI. **The 20th July 2017 Bodrum-Kos Tsunami Field Survey**
Dogan G. G., Annunziato A., Papadopoulos G. A., Guler H. G., YALÇINER A. C., Cakir T. E., Sozdinler C. O., ULUTAŞ E., Arikawa T., SÜZEN M. L., et al.
PURE AND APPLIED GEOPHYSICS, vol.176, no.7, pp.2925-2949, 2019 (SCI-Expanded)
- XII. **Introduction to "Twenty Five Years of Modern Tsunami Science Following the 1992 Nicaragua and Flores Island Tsunamis, Volume I"**
KANOĞLU U., Tanioka Y., Okal E. A., Baptista A. A., Rabinovich A. B.
PURE AND APPLIED GEOPHYSICS, vol.176, no.7, pp.2757-2769, 2019 (SCI-Expanded)
- XIII. **New Analytical Solution for Nonlinear Shallow Water-Wave Equations**
Aydin B., KANOĞLU U.
PURE AND APPLIED GEOPHYSICS, vol.174, no.8, pp.3209-3218, 2017 (SCI-Expanded)
- XIV. **Inter-model analysis of tsunami-induced coastal currents**
Lynett P. J., Gately K., Wilson R., Montoya L., Arcas D., Aytore B., Bai Y., Bricker J. D., Castro M. J., Cheung K. F., et al.
OCEAN MODELLING, vol.114, pp.14-32, 2017 (SCI-Expanded)
- XV. **Risk Assessment and Design of Prevention Structures for Enhanced Tsunami Disaster Resilience (RAPSDI)/Euro-Japan Collaboration**
Harbitz C. B., Nakamura Y., Arikawa T., BAYKAL C., Dogan G. G., Frauenfelder R., Glimsdal S., Guler H. G., Issler D., Kaiser G., et al.
COASTAL ENGINEERING JOURNAL, vol.58, no.4, 2016 (SCI-Expanded)
- XVI. **Development of MOST for Real-Time Tsunami Forecasting**
Titov V., KANOĞLU U., Synolakis C.
JOURNAL OF WATERWAY PORT COASTAL AND OCEAN ENGINEERING, vol.142, no.6, 2016 (SCI-Expanded)
- XVII. **Tsunamis: bridging science, engineering and society**
KANOĞLU U., Titov V., Bernard E., Synolakis C.
PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY A-MATHEMATICAL PHYSICAL AND ENGINEERING SCIENCES, vol.373, no.2053, 2015 (SCI-Expanded)
- XVIII. **The Fukushima accident was preventable**
Synolakis C., KANOĞLU U.
PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY A-MATHEMATICAL PHYSICAL AND ENGINEERING SCIENCES, vol.373, no.2053, 2015 (SCI-Expanded)
- XIX. **Focusing of long waves with finite crest over constant depth**
KANOĞLU U., Titov V. V., Aydin B., Moore C., Stefanakis T. S., Zhou H., Spillane M., Synolakis C. E.
PROCEEDINGS OF THE ROYAL SOCIETY A-MATHEMATICAL PHYSICAL AND ENGINEERING SCIENCES, vol.469, no.2153, 2013 (SCI-Expanded)
- XX. **A New Tool for Inundation Modeling: Community Modeling Interface for Tsunamis (ComMIT)**
Titov V. V., Moore C. W., Greenslade D. J. M., Pattiaratchi C., Badal R., Synolakis C. E., KANOĞLU U.
PURE AND APPLIED GEOPHYSICS, vol.168, no.11, pp.2121-2131, 2011 (SCI-Expanded)
- XXI. **Introduction to "Tsunamis in the World Ocean: Past, Present, and Future. Volume II"**
Satake K., Rabinovich A., KANOĞLU U., Tinti S.
PURE AND APPLIED GEOPHYSICS, vol.168, no.11, pp.1913-1917, 2011 (SCI-Expanded)
- XXII. **Introduction to "Tsunamis in the World Ocean: Past, Present, and Future. Volume I"**
Satake K., Rabinovich A., KANOĞLU U., Tinti S.
PURE AND APPLIED GEOPHYSICS, vol.168, no.6-7, pp.963-968, 2011 (SCI-Expanded)
- XXIII. **Probabilistic tsunami hazard assessment at Seaside, Oregon, for near- and far-field seismic sources**

- Gonzalez F. I., Geist E. L., Jaffe B., KANOĞLU U., Mofjeld H., Synolakis C. E., Titov V. V., Arcas D., Bellomo D., Carlton D., et al.
 JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS, vol.114, 2009 (SCI-Expanded)
- XXIV. **Validation and Verification of Tsunami Numerical Models**
 Synolakis C. E., Bernard E. N., Titov V. V., KANOĞLU U., Gonzalez F. I.
 PURE AND APPLIED GEOPHYSICS, vol.165, no.11-12, pp.2197-2228, 2008 (SCI-Expanded)
- XXV. **Real-time experimental forecast of the Peruvian tsunami of August 2007 for US coastlines**
 Wei Y., Bernard E. N., Tang L., Weiss R., Titov V. V., Moore C., Spillane M., Hopkins M., KANOĞLU U.
 GEOPHYSICAL RESEARCH LETTERS, vol.35, no.4, 2008 (SCI-Expanded)
- XXVI. **Wind set-down relaxation**
 Aydin B., KANOĞLU U.
 CMES-COMPUTER MODELING IN ENGINEERING & SCIENCES, vol.21, no.2, pp.149-155, 2007 (SCI-Expanded)
- XXVII. **Initial value problem solution of nonlinear shallow water-wave equations**
 KANOĞLU U., Synolakis C.
 PHYSICAL REVIEW LETTERS, vol.97, no.14, 2006 (SCI-Expanded)
- XXVIII. **Nonlinear evolution and runup-rundown of long waves over a sloping beach**
 KANOĞLU U.
 JOURNAL OF FLUID MECHANICS, vol.513, pp.363-372, 2004 (SCI-Expanded)
- XXIX. **Tsunami Waves in Izmit Bay**
 Yalciner A. C., Altinok Y., Synolakis C. E., Borrero J., Imamura F., Ersoy S., Kuran U., Tinti S., Eskijian M., Freikman J., et al.
 Earthquake Spectra, vol.16, pp.55-62, 2000 (SCI-Expanded)
- XXX. **Long wave runup on piecewise linear topographies**
 KANOĞLU U., Synolakis C.
 JOURNAL OF FLUID MECHANICS, vol.374, pp.1-28, 1998 (SCI-Expanded)
- XXXI. **RUNUP OF SOLITARY WAVES ON A CIRCULAR ISLAND**
 LIU P., CHO Y., BRIGGS M., KANOĞLU U., SYNOLAKIS C.
 JOURNAL OF FLUID MECHANICS, vol.302, pp.259-285, 1995 (SCI-Expanded)

Articles Published in Other Journals

- I. **Vanuatu earthquake and tsunami cause much damage, few casualties**
 Caminade P., Charlie D., Kanoglu U., Koshimura S., Matsutomi H., Moore A., Ruscher C., Synolakis C., Takahashi T.
 Eos, vol.81, no.52, 2000 (Scopus)

Books

- I. **Tsunami Dynamics, Forecasting, and Mitigation**
 KANOĞLU U., SYNOLAKIS C.
 in: Coastal and Marine Hazards Risks and Disasters Hazards and Disasters Series, Series Editor: John F. Shroder - Volume Editors: Jean T. Ellis, Douglas J. Sherman, Editor, Elsevier, Amsterdam, pp.15-58, 2015
- II. **Tsunami hydrodynamic modeling: standards and guidelines**
 Kanoğlu U.
 in: Nonlinear Wave Dynamics, P Lynett, Editor, World Scientific Publishing, Singapore, pp.127-145, 2009
- III. **Tsunami modeling: Development of benchmark models**
 Kanoğlu U., Synolakis C.
 in: The SEA, Ideas and Observations on Progress in the Study of the Seas, Volume 15–Tsunamis, EN Bernard, AR Robinson, Editor, Harvard University Press, Cambridge (MA), USA, London, pp.237-294, 2009
- IV. **Nonlinear evolution of long waves over a sloping beach**

Kanoğlu U.

in: Advanced Numerical Models for Simulating Tsunami Waves and Runup, Advances in Coastal and Ocean Engineering , PL-F Liu,H Yeh,C Synolakis, Editor, World Scientific Publishing , Singapore, pp.237-241, 2008

Papers Published in Refereed Scientific Meetings

- I. **N-wave Maximum Runup with Fault Plane Parameters**
KÂNOĞLU U., Sharghivand N.
American Geophysical Union, 9 - 13 December 2019
- II. **Doğu Akdeniz Bölgesindeki tsunami tehlikesinin araştırılması**
BAYAZITOĞLU Ö., AYDIN B., SHARGHIVAND N., KÂNOĞLU U.
9. Kıyı Mühendisliği Sempozyumu, Adana, Turkey, 1 - 03 November 2018, pp.496-508
- III. **THE JULY 20, 2017 BODRUM/KOS EARTHQUAKE AND TSUNAMI: FIELD SURVEYS, LESSONS and MODELING**
YALÇINER A. C., ANNUNZIATO A., PAPADOPOULOS G. A., DOĞAN G. G., GÜLER H. G., ÖZER SÖZDİNLER C., ULUTAŞ E., ARIKAWA T., SÜZEN M. L., KANOĞLU U., et al.
International Conference on Coastal Engineering 2018, Baltimore, United States Of America, 29 July - 04 August 2018
- IV. **Comparison of maximum runup through analytical and numerical approaches for different fault parameters estimates**
WRONNA M., BAPTISTA M. A., KÂNOĞLU U., MIRANDA J. M.
2017 American Geophysical Union Fall Meeting, New Orleans, United States Of America, 11 - 15 December 2017
- V. **Preliminary assessment of hazard from tectonic tsunamis in the Eastern Mediterranean**
AYDIN B., BAYAZITOĞLU Ö., SHARGHIVAND N., KÂNOĞLU U.
American Geophysical Union (AGU) Fall Meeting 2017, New Orleans, United States Of America, 11 - 15 December 2017
- VI. **New formulations for tsunami runup estimation**
KÂNOĞLU U., AYDIN B., CEYLAN N.
American Geophysical Union (AGU) Fall Meeting 2017, New Orleans, United States Of America, 11 - 15 December 2017
- VII. **The Bodrum-Kos strong (Mw6.6) earthquake and the associated tsunami of 20 July 2017: results of post-event field surveys**
YALÇINER A. C., ANNUNZIATO A., PAPADOPOULOS G., DOĞAN G. G., GÜLER H. G., ÇAKIR T. E., ÖZER SÖZDİNLER C., ULUTAŞ E., TARO A., SÜZEN M. L., et al.
ITS 2017 – International Tsunami Symposium, Balvi, Indonesia, 21 - 25 August 2017
- VIII. **New Design Code for Coastal Structures in Turkey in respect to Marine Extreme Events including Tsunami**
YUKSEL Y., YUKSEL T., GÜLER I., ERGİN A., YALÇINER A. C., KÂNOĞLU U.
26th International Tsunami Symposium ITS 2017, Balvi, Latvia, 21 - 23 August 2017
- IX. **Inundation and Runup caused by two transatlantic tsunamis in the 18th century in Cadiz**
WRONNA M., BAPTISTA M. A., KÂNOĞLU U., MIRANDA J. M.
26th International Tsunami Symposium ITS 2017, 21 - 25 August 2017
- X. **Long wave maximum runup and propagation features with respect to earthquake source parameters**
Shargivand N., KÂNOĞLU U.
26th International Tsunami Symposium ITS 2017, Balvi, Latvia, 21 - 25 August 2017
- XI. **Tsunami focusing and leading amplitude**
KÂNOĞLU U.
American Geophysical Union Fall Meeting, 12 - 16 December 2016
- XII. **Validation of the 2D 1D runup estimation methodology with field data of the 2010 Maule tsunami**
Wronna M., KÂNOĞLU U., Baptista M. A.

- Americal Geophysical Union Fall Meeting, 12 - 16 December 2016
- XIII. **The Global Tsunami Model GTM**
Lovholt F., Thio H. K., Carl H., Jascha P., Lorito S., Basili R., Volpe M., Romano F., Selva J., Piatanesi A., et al.
American Geophysical Union Fall Meeting, 12 - 16 December 2016
- XIV. **Tsunamis Leading wave**
KÂNOĞLU U.
International Conference on Coastal Engineering, 17 - 19 November 2016
- XV. **Relate the earthquake parameters to the maximum tsunami runup**
Sharghivand N., KÂNOĞLU U.
European Geosciences Union, 17 - 22 April 2016
- XVI. **How prepared individuals and communities are for evacuation in tsunami prone areas in Europe Findings from the ASTARTE EU Programme**
Lavigne F., Grancher D., Goeldner Gianella L., KARANCI A. N., Doğulu N., KÂNOĞLU U., ve d.
European Geosciences Union General Assembly 2016, 17 - 22 April 2016
- XVII. **Case study of small harbor excitation under storm and tsunami conditions**
Synolakis C., Maravelakis N., Kalligeris N., Skanavis V., KÂNOĞLU U., YALÇINER A. C., Lynett P.
European Geosciences Union General ssembly 2016, 17 - 22 April 2016
- XVIII. **Tsunami focusing and leading wave height**
KÂNOĞLU U.
European Geosciences Union General Assembly 2016, Austria, 17 - 22 April 2016
- XIX. **Leading wave amplitude of a tsunami**
KÂNOĞLU U.
American Geophysical Union Fall Meeting, San-Francisco, Costa Rica, 14 - 18 December 2015
- XX. **Benchmarking on tsunami currents with ComMIT**
SHARGHIVAND N., KÂNOĞLU U.
American Geophysical Union Fall Meeting, San-Francisco, Costa Rica, 14 - 18 December 2015
- XXI. **Post Fukushima tsunami hazard assessment**
KÂNOĞLU U., SYNOLAKIS C.
Post-SMIRT23 SEMİNAR, İstanbul, Turkey, 21 - 23 October 2015
- XXII. **Analytical modeling of nonlinear evolution of long waves**
AYDIN B., KÂNOĞLU U.
International Union of Geodesy and Geophysics, Prag, Czech Republic, 22 June - 02 July 2015
- XXIII. **Tsunamis bridging science engineering and society**
KÂNOĞLU U., TITOV V., BERNARD E., SYNOLAKIS C.
International Union of Geodesy and Geophysics, Prag, Czech Republic, 22 June - 02 July 2015
- XXIV. **Tsunami forecast modeling development for Turkish coastlines**
SHARGHIVAND N., KÂNOĞLU U.
International Union of Geodesy and Geophysics, Prag, Czech Republic, 22 June - 02 July 2015
- XXV. **Tsunami hazard analysis for Gulluk Bay Turkey**
ACAR S., AYTÖRE B., KÂNOĞLU U., YALÇINER A. C.
International Union of Geodesy and Geophysics, Prag, Czech Republic, 22 June - 02 July 2015
- XXVI. **Fukushima nuclear power plant accident was preventable**
KÂNOĞLU U., SYNOLAKIS C.
European Geosciences Union, Viyena, Austria, 12 - 17 April 2015, vol.17
- XXVII. **TSUNAMI HYDRODYNAMIC MODELING: STANDARDS AND GUIDELINES**
Synolakis C., KANOĞLU U.
Symposium held in Honor of Philip LF Liu 60th Birthday on Nonlinear Wave Dynamics, New-York, United States Of America, 01 September 2006, pp.127-129
- XXVIII. **NONLINEAR EVOLUTION OF LONG WAVES OVER A SLOPING BEACH**
KANOĞLU U.
3rd International Workshop on Long-Wave Runup Models, California, United States Of America, 11 - 12 June 2004,

Activities in Scientific Journals

PURE AND APPLIED GEOPHYSICS, Editor, 2021 - Continues

Pure And Applied Geophysics, Special Issue Editor, 2020 - 2020

Pure And Applied Geophysics, Special Issue Editor, 2019 - 2020

Pure And Applied Geophysics, Special Issue Editor, 2018 - 2019

Philosophical Transactions Of The Royal Society A-Mathematical Physical And Engineering Sciences, Special Issue Editor, 2015 - 2015

Peer Reviews in Scientific Publications

Journal Of Fluid Mechanics, SCI Journal, April 2019

EUROPEAN JOURNAL OF MECHANICS B-FLUIDS, SCI Journal, January 2007

SURVEYS IN GEOPHYSICS, SCI Journal, January 2006

JOURNAL OF FLUID MECHANICS, SCI Journal, January 2006

JOURNAL OF FLUID MECHANICS, SCI Journal, January 2006

JOURNAL OF WATERWAY PORT COASTAL AND OCEAN ENGINEERING-ASCE, SCI Journal, May 1996

Metrics

Publication: 64

Citation (WoS): 1656

Citation (Scopus): 123

H-Index (WoS): 16

H-Index (Scopus): 5