

## Assoc. Prof. MUHAMMET AYDIN

### Personal Information

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**Address:** RTEÜ Turgut Kiran Denizcilik Fakültesi, Tersane Mahallesi, Derepazari-Rize

### International Researcher IDs

ScholarID: Fp\_grtoAAAAJ

ORCID: 0000-0002-5478-0909

Publons / Web Of Science ResearcherID: HKO-1099-2023

ScopusID: 57218907605

Yoksis Researcher ID: 261100

### Education

Doctorate, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Turkey 2019 - 2022

Postgraduate, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Turkey 2008 - 2015

Undergraduate, Istanbul Technical University, Turkey 2001 - 2005

### Foreign Languages

English, B2 Upper Intermediate

### Certificates, Courses and Trainings

Education Management and Planning, Denizde Güvenlik Eğiticileri Eğitimi, Karadeniz Teknik Üniversitesi KTÜ, Sürmene Deniz Bilimleri Fakültesi, Deniz Ulaştırma İşletme Mühendisliği, 2020

Education Management and Planning, Denizci Eğiticilerin Eğitimi Kursu, Karadeniz Teknik Üniversitesi Sürmene Deniz Bilimleri Fakültesi Deniz Ulaştırma İşletme Mühendisliği Bölüm Başkanlığı, 2016

Other, Uzakyol 1. Zabit, Ulaştırma ve Altyapı Bakanlığı, 2014

### Dissertations

Doctorate, KILAVUZ KAPTANLARIN TRANSFER SÜRECİNE AİT OPERASYONEL RİSKLERİN DEĞERLENDİRİLMESİ, Karadeniz Technical University, Fen Bilimleri Enstitüsü, 2022

Postgraduate, DENİZ HAYDUTLUĞU EYLEMLERİNİN DENİZCİLİK TİCARETİ ÜZERİNE ETKİSİ, Karadeniz Technical University, Deniz Ulaştırma İşletme Mühendisliği, Deniz Ulaştırma İşletme Mühendisliği Anabilimdalı, 2015

### Research Areas

Marine Sciences and Technology, Engineering and Technology

## Academic Positions

Assistant Professor, Recep Tayyip Erdogan University, Turgut Kiran Denizcilik Fakültesi, Deniz Ulaştırma İşletme Mühendisliği, 2023 - Continues

Research Assistant, Recep Tayyip Erdogan University, Turgut Kiran Denizcilik Fakültesi, Gemi Makineleri İşletme Mühendisliği, 2017 - Continues

## Academic and Administrative Experience

Deputy Head of Department, Recep Tayyip Erdogan University, Turgut Kiran Denizcilik Fakültesi, Deniz Ulaştırma İşletme Mühendisliği, 2024 - Continues

## Courses

### Postgraduate

Deniz Taşımacılığında Kılavuzluk Hizmetleri, Postgraduate, 2024 - 2025, 2023 - 2024

Deniz Taşımacılığında Emniyet Mühendisliği, Postgraduate, 2024 - 2025, 2023 - 2024

Deniz Kaza İncelemeleri ve Emniyet Analizi, Postgraduate, 2024 - 2025, 2023 - 2024

Seminer, Postgraduate, 2024 - 2025, 2023 - 2024

Uzmanlık alan dersi 1, Postgraduate, 2024 - 2025, 2023 - 2024

Denizcilikte Güvenlik Yönetimi, Postgraduate, 2023 - 2024

Denizcilik Sektöründe Kalite Yönetim Sistemleri, Postgraduate, 2023 - 2024

### Undergraduate

Denizde Emniyet II, Undergraduate, 2024 - 2025, 2023 - 2024, 2022 - 2023

Bitirme çalışması, Undergraduate, 2024 - 2025, 2023 - 2024, 2022 - 2023

Seyir IV, Undergraduate, 2024 - 2025, 2023 - 2024, 2022 - 2023

Seyir III, Undergraduate, 2024 - 2025, 2023 - 2024, 2022 - 2023

Denizde emniyet 5, Undergraduate, 2024 - 2025

Denizde Emniyet I, Undergraduate, 2024 - 2025, 2023 - 2024

## Jury Memberships

Doctorate, Doctorate, İstanbul Teknik Üniversitesi, April, 2024

## Journal articles indexed in SCI, SSCI, and AHCI

- I. **An interval type-2 fuzzy MARCOS modelling to assess performance effectiveness of survival craft on cargo ship**  
Aydın M., Camliyurt G., Gül M., Sezer S. I., Çelik E., Akyüz E.  
OCEAN ENGINEERING, vol.326, 2025 (SCI-Expanded)
- II. **Prediction of human error probability in helicopter to ship transfer operation under an evidential reasoning extended CREAM approach**  
Arıcı S. S., Tekeli M. M., Sezer S. I., Akyüz E., Arslan Ö., Aydın M.  
INTERNATIONAL JOURNAL OF OCCUPATIONAL SAFETY AND ERGONOMICS, vol.31, no.1, pp.12-23, 2025 (SSCI)
- III. **Predicting human reliability for emergency fire pump operational process on tanker ships utilising fuzzy Bayesian Network CREAM modelling**  
AYDIN M., Sezer S. I., Arıcı S. S., Akyüz E.  
OCEAN ENGINEERING, vol.314, 2024 (SCI-Expanded)
- IV. **Enhancing shipboard oil pollution prevention: Machine learning innovations in oil discharge monitoring equipment**

Camliyurt G., Tapiquén E. P., Park S., Kang W., Kim D., AYDIN M., Akyüz E., Park Y.

MARINE POLLUTION BULLETIN, vol.208, 2024 (SCI-Expanded)

- V. **Investigating the influence of human errors in master-pilot information exchange on maritime accident risk during pilotage**  
Öztürk O. B., Kartal Ş. E., Aydın M.  
OCEAN ENGINEERING, vol.305, pp.1-12, 2024 (SCI-Expanded)
- VI. **A holistic safety assessment for cargo holds and decks fire & explosion risks under fuzzy Bayesian network approach**  
AYDIN M., Akyüz E., Boustras G.  
SAFETY SCIENCE, vol.176, 2024 (SCI-Expanded)
- VII. **Assessment of human error contribution to container loss risk under fault tree analysis and interval type-2 fuzzy logic-based SLIM approach**  
Erdem P., Akyüz E., AYDIN M., ÇELİK E., Arslan Ö.  
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART M-JOURNAL OF ENGINEERING FOR THE MARITIME ENVIRONMENT, vol.238, no.3, pp.553-566, 2024 (SCI-Expanded)
- VIII. **Analyzing human reliability for the operation of cargo oil pump using fuzzy CREAM extended Bayesian Network (BN)**  
Sezer S. I., Elidolu G., Aydın M., Ahn S. I., Akyuz E., Kurt R. E.  
OCEAN ENGINEERING, vol.299, pp.1-15, 2024 (SCI-Expanded)
- IX. **Quantifying potential cyber-attack risks in maritime transportation under Dempster-Shafer theory FMECA and rule-based Bayesian network modelling**  
Uflaz E., Sezer S. I., Tunçel A. L., AYDIN M., Akyüz E., Arslan Ö.  
RELIABILITY ENGINEERING & SYSTEM SAFETY, vol.243, 2024 (SCI-Expanded)
- X. **A holistic risk assessment under the D-S evidential theory and FMECA approach of ship recycling process hazards in the maritime environment**  
Sezer S. I., Camliyurt G., AYDIN M., Akyüz E., Boustras G., Park S.  
HUMAN AND ECOLOGICAL RISK ASSESSMENT, vol.30, no.1-2, pp.201-216, 2024 (SCI-Expanded)
- XI. **Evaluation of human error in oil spill risk in tanker cargo handling operations**  
Aydın M., Kamal B., Çakır E.  
Environmental science and pollution research international, vol.31, no.3, pp.3995-4011, 2024 (SCI-Expanded)
- XII. **Analysing human error contribution to ship collision risk in congested waters under the evidential reasoning SPAR-H extended fault tree analysis**  
Uflaz E., Akyuz E., Arslan O., Gardoni P., Turan O., Aydın M.  
OCEAN ENGINEERING, vol.287, pp.1-11, 2023 (SCI-Expanded)
- XIII. **An analysis of human error and reliability in the operation of fixed CO2 systems on cargo ships using HEART Dempster-Shafer evidence theory approach**  
AYDIN M.  
OCEAN ENGINEERING, vol.286, 2023 (SCI-Expanded)
- XIV. **A bow-tie extended D-S evidence-HEART modelling for risk analysis of cargo tank cracks on oil/chemical tanker.**  
Sezer S. I., Camliyurt G., Aydın M., Akyuz E., Gardoni P.  
RELIABILITY ENGINEERING & SYSTEM SAFETY, vol.237, pp.1-11, 2023 (SCI-Expanded)
- XV. **A statistical analysis-based Bayesian Network model for assessment of mobbing acts on ships**  
Uğurlu O., Kartal Ş. E., Gündoğan O., Aydın M., Wang J.  
MARITIME POLICY & MANAGEMENT, vol.50, no.6, pp.750-775, 2023 (SSCI)
- XVI. **Numerical risk analysis of gas freeing process in oil/chemical tanker ships**  
Elidolu G., Uflaz E., AYDIN M., ÇELİK E., Akyüz E., Arslan Ö.  
OCEAN ENGINEERING, vol.266, 2022 (SCI-Expanded)
- XVII. **Assessment of human error contribution to maritime pilot transfer operation under HFACS-PV and SLIM approach**  
Aydın M., Uğurlu Ö., Boran M.

- OCEAN ENGINEERING, vol.266, 2022 (SCI-Expanded)
- XVIII. **Application of fuzzy Bayesian approach on bankruptcy causes for container liner industry**  
KAMAL B., AYDIN M.  
RESEARCH IN TRANSPORTATION BUSINESS AND MANAGEMENT, vol.43, 2022 (SSCI)
- XIX. **Prediction of human-machine interface (HMI) operational errors for maritime autonomous surface ships (MASS)**  
Liu J., AYDIN M., Akyüz E., Arslan Ö., Uflaz E., Kurt R. E., Turan O.  
JOURNAL OF MARINE SCIENCE AND TECHNOLOGY, vol.27, no.1, pp.293-306, 2022 (SCI-Expanded)
- XX. **Analysis of occupational burnout utilising Maslach inventory: a case study of Turkish male seafarers**  
Ugurlu O., YILDIZ S., AYDIN M., Aydin T., Kaptan M., Wang J.  
MARITIME POLICY & MANAGEMENT, vol.48, no.8, pp.1124-1137, 2021 (SSCI)
- XXI. **A probabilistic risk assessment for asphyxiation during gas inerting process in chemical tanker ship**  
AYDIN M., Arıcı S. S., Akyüz E., Arslan Ö.  
PROCESS SAFETY AND ENVIRONMENTAL PROTECTION, vol.155, 2021 (SCI-Expanded)
- XXII. **Analyzing human error contributions to maritime environmental risk in oil/chemical tanker ship**  
AYDIN M., Camliyurt G., Akyüz E., Arslan Ö.  
HUMAN AND ECOLOGICAL RISK ASSESSMENT, vol.27, no.7, pp.1838-1859, 2021 (SCI-Expanded)
- XXIII. **Validation of risk analysis for ship collision in narrow waters by using fuzzy Bayesian networks approach**  
AYDIN M., Akyuz E., Turan O., Arslan O.  
OCEAN ENGINEERING, vol.231, 2021 (SCI-Expanded)
- XXIV. **A hybrid model for human-factor analysis of engine-room fires on ships: HFACS-PV&FFTA**  
Sarialioglu S., Ugurlu O., AYDIN M., Vardar B., Wang J.  
OCEAN ENGINEERING, vol.217, 2020 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Risk Assessment of Solid Bulk Cargo Liquefaction Consequences in Maritime Transportation under a Fuzzy Bayesian Network Approach**  
Aydın M.  
Journal of Transportation and Logistics, vol.8, no.1, pp.36-47, 2023 (Peer-Reviewed Journal)
- II. **An extended human reliability analysing under fuzzy logic environment for ship navigation**  
UFLAZ E., ÇELİK E., AYDIN M., ERDEM P., AKYÜZ E., ARSLAN Ö., Kurt R. E., Turan O.  
Australian Journal of Maritime & Ocean Affairs, vol.15, no.2, pp.189-209, 2023 (Scopus)
- III. **A Fuzzy-Bayesian Approach on the Bankruptcy of Hanjin Shipping**  
Aydın M., Kamal B.  
Journal of ETA Maritime Science, vol.10, no.1, pp.2-15, 2022 (ESCI)
- IV. **Aden Körfezi'nde Yaşanan Deniz Haydutluğu Eylemlerinin Dünya ve Türk Deniz Ticareti Üzerindeki Etkisi**  
Aydın M., Gedik N., Uğurlu Ö., Yıldırım U.  
JOURNAL OF ETA MARITIME SCIENCE, vol.4, no.1, pp.61-71, 2016 (Peer-Reviewed Journal)

## Books

- I. **ELEKTRONİK SEYİR YARDIMCILARININ SİBER SALDIRI ZAFİYETLERİNİN VAKA ANALİZLERİ İLE İNCELENMESİ VE BİBLİYOMETRİK ANALİZ**  
AYDIN M.  
in: DENİZCİLİKTE DISİPLİNLERARASI ÇALIŞMALAR, Doç. Dr. Murat Yorulmaz, Editor, NOBEL AKADEMİK YAYINCILIK EĞİTİM DANIŞMANLIK TİC. LTD. ŞTİ, Ankara, pp.511-522, 2023

## Papers Presented at Peer-Reviewed Scientific Conferences

- I. **DENİZCİLİK SEKTÖRÜNDE STAJYERLERİN GEMİ TİPİ TERCİHLERİNİ ETKİLEYEN FAKTÖRLER**  
Aydın M.  
KARADENİZ 16th INTERNATIONAL CONFERENCE ON APPLIED SCIENCES, 16 - 18 August 2024, pp.71-72,  
(Summary Text)
- II. **EVALUATING THE IMPACT OF ARCTIC ROUTES ON MARITIME TRANSPORTATION COSTS AND RISKS**  
Aydın M.  
6. INTERNATIONAL BLACK SEA MODERN SCIENTIFIC RESEARCH CONGRESS, 23 - 25 August 2024, pp.139,  
(Summary Text)
- III. **Risk Assessment of Human Errors in Maritime Pilot Transfers Using the Bayesian Method**  
AYDIN M., BORAN M.  
3rd International Conference on Innovative Academic Studies ICIAS 2023, Konya, Turkey, 26 - 28 September 2023,  
pp.146, (Summary Text)
- IV. **GEMİ KAPALI ALAN KAZALARININ DEMOGRAFİK YAPISININ ANALİZİ**  
AYDIN M.  
5. INTERNATIONAL DICLE SCIENTIFIC RESEARCH AND INNOVATION CONGRESS, Diyarbakır, Turkey, 9 - 10  
September 2023, pp.18-30, (Full Text)
- V. **GEMİ SEYİR GÜVENLİĞİNE YÖNELİK SİBER SALDIRILARIN FMEA ANALİZİ (FMEA ANALYSIS OF  
CYBER ATTACKS ON SHIP NAVIGATIONAL SAFETY)**  
AYDIN M.  
6. INTERNATIONAL SCIENTIFIC RESEARCHES AND INNOVATION CONGRESS, Ankara, Turkey, 2 - 03 September  
2023, pp.419, (Summary Text)
- VI. **Risk assessment of root causes of fires in ship engine rooms with Bayesian Network**  
AYDIN M.  
2nd International Conference on Scientific and Academic Research ICSAR 2023, Konya, Turkey, 15 March 2023,  
vol.1, pp.571, (Summary Text)
- VII. **Safety assessment of ship recycling hazards in marine environment under D-S evidence FMECA  
approach**  
Aydın M., Sezer Ş. İ., Akyüz E.  
4th International Conference on Applied Engineering and Natural Science, Konya, Turkey, 10 November 2022,  
pp.82-87, (Full Text)
- VIII. **Development of intelligent detecting and monitoring system for ship-caused marine pollution in  
Istanbul Strait**  
Aydın M., Akyüz E., Arslan Ö.  
16th SILK ROAD INTERNATIONAL CONFERENCE, Tbilisi, Georgia, 14 - 15 October 2021, pp.146-150, (Full Text)
- IX. **Prediction of human error probability for conventional buoy mooring (CBM) cargo operation under  
interval type-2 HEART approach.**  
Arıcı S. S., Aydın M., Akyüz E., Arslan Ö.  
1st International Conference on the Stability and Safety of Ships and Ocean Vehicles, Glasgow, United Kingdom, 7 -  
11 June 2021, pp.1-12, (Full Text)

## Funded Projects

AYDIN M., ÇAMLIYURT G., ÇELİK E., AKYUZ E., Project Supported by Higher Education Institutions, Kargo Gemilerindeki Toplu Can Kurtarma Araçlarının Performans Etkinliğini Değerlendirmek için Tip2 Aralık Bulanık MARCOS Modellemesi, 2024 - 2025

## **Peer Reviews in Scientific Publications**

ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE, Journal Indexed in SCI-E, February 2025

RISK ANALYSIS, Journal Indexed in SCI-E, December 2023

Journal of Transportation and Logistics, National Scientific Refreed Journal, December 2023

JOURNAL OF MARINE SCIENCE AND ENGINEERING, Journal Indexed in SCI-E, July 2023

ENVIRONMENTAL ENGINEERING AND MANAGEMENT JOURNAL, Journal Indexed in SCI-E, June 2023

OCEAN ENGINEERING, Journal Indexed in SCI-E, March 2023

RELIABILITY ENGINEERING AND SYSTEM SAFETY, Journal Indexed in SCI-E, March 2023

Turkish Journal of Maritime and Marine Sciences, Other Journals, March 2022

OCEAN ENGINEERING, Journal Indexed in SCI-E, February 2022

MARITIME POLICY & MANAGEMENT, Journal Indexed in SSCI, September 2021

Journal of ETA Maritime Science, Journal Indexed in ESCI, August 2021

## **Metrics**

Publication: 39

Citation (WoS): 498

Citation (Scopus): 547

H-Index (WoS): 12

H-Index (Scopus): 12

## **Non Academic Experience**

Business Establishment Private, Sarı Denizcilik

Business Establishment Private, Poyraz Gemi Donanım Ve Denetim Ltd

Business Establishment Private, Poyraz Denizcilik

Business Establishment Private, İnce Denizcilik ,Corn Shipping,Karadeniz Roro,Sarı Denizcilik