

# Assoc. Prof. BARBAROS ATMACA

## Personal Information

**Office Phone:** [+90 462 377 2687](tel:+904623772687)

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**Web:** <https://avesis.ktu.edu.tr/atmaca>

### International Researcher IDs

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ORCID: 0000-0003-3336-2756

ScopusID: 55241148000

Yoksis Researcher ID: 181008



## Education Information

|             |                                                                                                               |
|-------------|---------------------------------------------------------------------------------------------------------------|
| 2019 - 2019 | Post Doctorate, Czestochowa University Of Technology, Faculty of Civil Engineering, Civil Engineering, Poland |
| 2012 - 2018 | Doctorate, Karadeniz Technical University, Fen Bilimleri, İnşaat Mühendisliği, Turkey                         |
| 2009 - 2012 | Postgraduate, Karadeniz Technical University, Fen Bilimleri, İnşaat Mühendisliği, Turkey                      |
| 2004 - 2009 | Undergraduate, Karadeniz Technical University, Mühendislik Fakültesi, İnşaat Mühendisliği, Turkey             |

## Foreign Languages

English, C1 Advanced

## Dissertations

|      |                                                                                                                                                                                                 |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2018 | ÖNGERİLMELİ KIRIŞLI KÖPRÜ ÜSTYAPISININ HESAP VE TASARIMININ İRDELENMESİ VE BİLGİSAYAR PROGRAMININ GELİŞTİRİLMESİ, Karadeniz Technical University, Fen Bilimleri, İnşaat Mühendisliği, Doctorate |
| 2012 | Kablolu Köprülerin Yapım Aşamasına Göre Analizi, Karadeniz Technical University, Fen Bilimleri, İnşaat Mühendisliği, Postgraduate                                                               |

## Research Areas

Civil Engineering, Structure, Earthquake Engineering, Concrete Structures, Engineering and Technology

## Academic Titles / Tasks

|                  |                                                                                                 |
|------------------|-------------------------------------------------------------------------------------------------|
| 2022 - Continues | Associate Professor, Karadeniz Technical University, Mühendislik Fakültesi, İnşaat Mühendisliği |
| 2019 - 2022      | Assistant Professor, Karadeniz Technical University, Mühendislik Fakültesi, İnşaat Mühendisliği |
| 2010 - 2019      | Research Assistant, Karadeniz Technical University, Mühendislik Fakültesi, İnşaat Mühendisliği  |

## Academic and Administrative Experience

|                  |                                                                                                       |
|------------------|-------------------------------------------------------------------------------------------------------|
| 2022 - Continues | Deputy Head of Department, Karadeniz Technical University, Mühendislik Fakültesi, İnşaat Mühendisliği |
|------------------|-------------------------------------------------------------------------------------------------------|

## Courses

|             |                                                                  |
|-------------|------------------------------------------------------------------|
| 2021 - 2022 | YAPI SİSTEMLERİ ÇÖZÜMÜNDE MATRİS YÖNTEMLER , Postgraduate        |
| 2021 - 2022 | Introduction to Earthquake Engineering, Undergraduate            |
| 2019 - 2020 | Betonarme Projelerin Bilgisayar Yardımıyla Çözümü, Undergraduate |
| 2018 - 2019 | Bilgisayar Destekli Çizim, Undergraduate                         |
| 2018 - 2019 | Computer-Aided Drawing, Undergraduate                            |
| 2018 - 2019 | Sayısal Çözümleme, Undergraduate                                 |
| 2018 - 2019 | Yapı Statiği, Undergraduate                                      |
| 2018 - 2019 | Structural Elements, Undergraduate                               |

## Advising Theses

|      |                                                                                                                                           |
|------|-------------------------------------------------------------------------------------------------------------------------------------------|
| 2022 | Atmaca B., Postgraduate, R.GHAFOORI(Student), Gergin eğik askılı köprü davranışına farklı kablo düzenlerinin ve öngerme kuvvetinin etkisi |
|------|-------------------------------------------------------------------------------------------------------------------------------------------|

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

- I. **Field Observations and Damage Evaluation in Reinforced Concrete Buildings After the February 6th, 2023, Kahramanmaraş-Türkiye Earthquakes**  
Altunışık A. C., Arslan M. E., Kahya V., Aslan B., Sezdirmiş T., Dok G., Kirtel O., Öztürk H., Sunca F., Baltacı A., et al.  
JOURNAL OF EARTHQUAKE AND TSUNAMI, vol.17, no.6, 2023 (SCI-Expanded)
- II. **Mechanical properties of quenched and tempered steel welds**  
Uzunali U. Y., Çuvalcı H., Atmaca B., Demir S., Özkaya S.  
MATERIALS TESTING, vol.64, no.11, pp.1662-1674, 2022 (SCI-Expanded)
- III. **The effect of post-tensioning force and different cable arrangements on the behavior of cable-stayed bridge**  
ATMACA B., Ghafoori R., DEDE T., ATEŞ Ş.  
STRUCTURES, vol.44, pp.1824-1843, 2022 (SCI-Expanded)
- IV. **Optimal design of dome structures with recently developed algorithm: Rao series**  
DEDE T., ATMACA B., Grzywinski M., Rao R. V.  
STRUCTURES, vol.42, pp.65-79, 2022 (SCI-Expanded)
- V. **Assessment of Structural Damage Following the October 30, 2020 Aegean Sea Earthquake and Tsunami**  
ALTUNIŞIK A. C., ATMACA B., Kartal M. E., GÜNAYDIN M., DEMİR S., Ulsan A.  
JOURNAL OF EARTHQUAKE AND TSUNAMI, vol.15, no.06, 2021 (SCI-Expanded)
- VI. **Size and post-tensioning cable force optimization of cable-stayed footbridge**  
ATMACA B.  
Structures, vol.33, pp.2036-2049, 2021 (SCI-Expanded)
- VII. **Determination of proper post-tensioning cable force of cable-stayed footbridge with TLBO algorithm**  
ATMACA B.  
STEEL AND COMPOSITE STRUCTURES, vol.40, no.6, pp.805-816, 2021 (SCI-Expanded)
- VIII. **Performance Evaluation of Reinforced Concrete Buildings During the Sivrice-Elazığ Earthquake (M<sub>w</sub>=6.8, January 24, 2020) in Accordance with Turkish Earthquake Code**  
DEMİR S., GÜNAYDIN M., ATMACA B., ALTUNIŞIK A. C., HÜSEM M., ADANUR S., ANGİN Z., ATEŞ Ş.  
JOURNAL OF EARTHQUAKE AND TSUNAMI, vol.15, no.04, 2021 (SCI-Expanded)
- IX. **Seismic damage assessment of masonry buildings in Elazığ and Malatya following the 2020 Elazığ-Sivrice earthquake, Turkey**  
GÜNAYDIN M., ATMACA B., DEMİR S., ALTUNIŞIK A. C., HÜSEM M., ADANUR S., ATEŞ Ş., ANGİN Z.  
BULLETIN OF EARTHQUAKE ENGINEERING, vol.19, no.6, pp.2421-2456, 2021 (SCI-Expanded)

- X. **Field Investigation on the Performance of Mosques and Minarets during the Elazig-Sivrice Earthquake**  
ATMACA B., DEMİR S., GÜNAYDIN M., ALTUNIŞIK A. C., HÜSEM M., ATEŞ Ş., ADANUR S., ANGIN Z.  
JOURNAL OF PERFORMANCE OF CONSTRUCTED FACILITIES, vol.34, no.6, 2020 (SCI-Expanded)
- XI. **Optimization of cables size and prestressing force for a single pylon cable-stayed bridge with Jaya algorithm**  
ATMACA B., DEDE T., Grzywinski M.  
STEEL AND COMPOSITE STRUCTURES, vol.34, no.6, pp.853-862, 2020 (SCI-Expanded)
- XII. **Determination of minimum depth of prestressed concrete I-Girder bridge for different design truck**  
ATMACA B.  
COMPUTERS AND CONCRETE, vol.24, no.4, pp.303-311, 2019 (SCI-Expanded)
- XIII. **Camber calculation of prestressed concrete I-Girder considering geometric nonlinearity**  
ATMACA B., ATEŞ Ş.  
COMPUTERS AND CONCRETE, vol.19, no.1, pp.1-6, 2017 (SCI-Expanded)
- XIV. **Nonlinear dynamic analysis of base isolated cable-stayed bridge under earthquake excitations**  
ATMACA B., Yurdakul M., ATEŞ Ş.  
SOIL DYNAMICS AND EARTHQUAKE ENGINEERING, vol.66, pp.314-318, 2014 (SCI-Expanded)
- XV. **Effects of soil-structure interaction on construction stage analysis of highway bridges**  
ATEŞ Ş., ATMACA B., Yildirim E., Demiroz N. A.  
COMPUTERS AND CONCRETE, vol.12, no.2, pp.169-186, 2013 (SCI-Expanded)
- XVI. **Construction stage analysis of three-dimensional cable-stayed bridges**  
ATMACA B., ATEŞ Ş.  
STEEL AND COMPOSITE STRUCTURES, vol.12, no.5, pp.413-426, 2012 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Analytical, numerical, and experimental determination of dynamic characteristics of prestressed concrete girders**  
Atmaca B., Ateş Ş., Günaydin M.  
Journal of Structural Engineering & Applied Mechanics, vol.5, no.1, pp.1-12, 2022 (Peer-Reviewed Journal)
- II. **THE SIZE OPTIMIZATION OF STEEL BRACED BARREL VAULT STRUCTURE BY USING RAO-1 ALGORITHM**  
Dede T., Grzywniński M., Rao R. V., Atmaca B.  
Sigma Journal of Engineering and Natural Sciences, vol.38, no.3, pp.1415-1425, 2020 (ESCI)
- III. **Lessons learned from the past earthquakes on building performance in Turkey**  
ATMACA B., DEMİR S., GÜNAYDIN M., ALTUNIŞIK A. C., HÜSEM M., ATEŞ Ş., ADANUR S., ANGIN Z.  
Journal of Structural Engineering Applied Mechanics, vol.3, no.2, pp.61-84, 2020 (Peer-Reviewed Journal)
- IV. **Optimization of post-tensioning forces in stay-cables of cable-stayed bridges**  
ATMACA B., Grzywinski M., DEDE T.  
Construction of optimized energy potential, vol.8, no.2, pp.69-76, 2019 (Peer-Reviewed Journal)
- V. **THE EFFECT OF DEPTH OF FUSION ON THE BEHAVIOR OF STEEL WELDED JOINTS**  
Uzunali U. Y., Çuvalcı H., Atmaca B.  
SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI, vol.37, no.3, pp.941-952, 2019 (ESCI)
- VI. **Comparison of Dynamic Characteristics of Prestressed and Reinforced Concrete Beams**  
ATMACA B.  
DÜZCE ÜNİVERSİTESİ BİLİM VE TEKNOLOJİ DERGİSİ, vol.7, no.7, pp.37-44, 2019 (Peer-Reviewed Journal)
- VII. **THE MOST APPROPRIATE EARTHQUAKE RECORD GROUPS FOR DYNAMIC ANALYSIS OF A BUILDING**  
ATMACA B., ERGÜN M., ATEŞ Ş.  
SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI,

vol.36, no.4, pp.1047-1079, 2018 (ESCI)

- VIII. **The Effect of Strand Configuration on Stress Distribution and Debonding Parameters of Prestressed Girder After Detensioning**  
ATMACA B., ATEŞ Ş.  
Düzce Üniversitesi Bilim ve Teknoloji Dergisi, 2018 (Peer-Reviewed Journal)
- IX. **EFFECTS OF STRAND CONFIGURATION ON PRE-TENSIONED I-GIRDERS**  
ATMACA B., ATEŞ Ş., Gunaydin M., ALTUNIŞIK A. C.  
SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI, vol.36, no.1, pp.179-190, 2018 (ESCI)
- X. **Determination of bearing type effect on elastomeric bearing selection with SREI-CAD**  
ATMACA B., ATEŞ Ş.  
ADVANCES IN COMPUTATIONAL DESIGN, vol.2, no.1, pp.43-56, 2017 (ESCI)

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

- I. **Optimal Weight Design of 3D Truss Tower Structure with SAP-Rao Algorithm**  
DEDE T., Grzywiński M., ATMACA B., Rao R. V.  
International Conference on Advanced Engineering Optimization Through Intelligent Techniques, AEOTIT 2022, Surat, India, 28 - 30 January 2022, pp.185-193
- II. **Computation of Post-tensioning Force of Cable-Stayed Bridge with Jaya Algorithm**  
ATMACA B., Ghafoori R., DEDE T., ATEŞ Ş.  
International Conference on Advanced Engineering Optimization Through Intelligent Techniques, AEOTIT 2022, Surat, India, 28 - 30 January 2022, pp.195-202
- III. **Optimal weight design of 3D truss tower structure with SAP-Rao algorithm**  
Dede T., Grzywiński M., Atmaca B., Rao R. V.  
Advanced Engineering Optimization Through Intelligent Techniques (AEOTIT), Surat, India, 28 - 30 January 2022
- IV. **Computation of post-tensioning force of cable-stayed bridge with Jaya Algorithm**  
Atmaca B., Ghafoori R., Dede T., Ateş Ş.  
Advanced Engineering Optimization Through Intelligent Techniques (AEOTIT), Surat, India, 28 - 30 January 2022
- V. **OPTIMUM DESIGN OF BARREL VAULTS STRUCTURES USING RAO ALGORITHM**  
Grzywiński M., Dede T., Atmaca B.  
LIGHTWEIGHT STRUCTURES in CIVIL ENGINEERING CONTEMPORARY PROBLEMS, Lodz, Poland, 2 - 03 December 2021, pp.65-68
- VI. **SIZE OPTIMIZATION OF CYCLIC SYMMETRIC STRUCTURES WITH DYNAMIC CONSTRAINTS**  
Atmaca B., Dede T.  
4TH INTERNATIONAL EUROPEAN CONFERENCE ON INTERDISCIPLINARY SCIENTIFIC RESEARCHES, Warszawa, Poland, 8 - 09 August 2021, pp.333
- VII. **The effect of post-tensioning forces of stay-cable on the structural behavior of cable-stayed bridge**  
ATMACA B.  
Uluslararası Bilim, Teknoloji ve Sosyal Bilimlerde Güncel Gelişmeler Sempozyumu, Ankara, Turkey, 20 - 22 December 2019, pp.1-6
- VIII. **Temperlenmiş Martenzitik Çelik Kaynaklı Bağlantıların Mekanik Özelliklerine Tek Taraflı ve Çift Taraflı Kaynağın Etkisi**  
ÇUVALCI H., ATMACA B., UZUNALI U. Y., Demir S.  
XI. Ulusal Kaynak Kongre ve Sergisi, Ankara, Turkey, 15 - 16 November 2019, pp.188-193
- IX. **Öngerilmeli Kirişli Köprü Üstyapısının Hesap ve Tasarımını Gerçekleştiren Bilgisayar Programı**  
ATMACA B., ATEŞ Ş.  
4. Köprüler ve Viyadükler Sempozyumu, Ankara, Turkey, 1 - 02 November 2019, pp.1-10
- X. **Improvement of Earthquake Performance of Tall Buildings with Using Diagonals**  
ATMACA B., BAŞAR M., ATEŞ Ş.

- XI. **Determination of Mechanical Properties for Welded Steel Joints**  
UZUNALI U. Y., ÇUVALCI H., ATMACA B., DEMİR S.  
3rd International Conference on Advanced Engineering Technologies, Bayburt, Turkey, 19 - 21 September 2019, vol.-
- XII. **Cables Size Optimization of Cable-Stayed Bridge**  
ATMACA B., DEDE T., Grzywinski M., SELEJDAK J.  
3rd International Conference on Advanced Engineering Technologies, Bayburt, Turkey, 19 - 21 September 2019, pp.431-439
- XIII. **The Effect of Depth of Fusion on the Displacement of Steel Welded Joints**  
UZUNALI U. Y., ÇUVALCI H., ATMACA B.  
International Conference on Advanced Engineering Technologies, Bayburt, Turkey, 21 - 23 September 2017, pp.150
- XIV. **Nonlinear Modal Analysis of Prestressed Girder After Detensioning**  
ATMACA B., ATEŞ Ş.  
International Conference on Advanced Engineering Technologies, Bayburt, Turkey, 21 - 23 September 2017, pp.134
- XV. **The Effect of Strand Configuration on Stress Distribution and Debonding Parameters of Prestressed Girder After Detensioning**  
ATMACA B., ATEŞ Ş.  
International Multidisciplinary Congress of Eurasia, Roma, Italy, 23 - 25 August 2017, pp.536
- XVI. **The Effect of Weld Penetration on the Strength of Tempered Martensite and Thermomechanically Rolled Steel Welded Joints**  
UZUNALI U. Y., ÇUVALCI H., ATMACA B.  
International Multidisciplinary Congress of Eurasia, Roma, Italy, 23 - 25 August 2017, pp.1
- XVII. **Camber Calculation of Prestressed Concrete Girder After Detensioning**  
ATMACA B., ATEŞ Ş.  
International Conference on Advances and Innovations in Engineering, Elazığ, Turkey, 10 - 12 May 2017, pp.398-401
- XVIII. **Effects of Strand Configuration on Pretensioned I Girder After Detensioning**  
ATMACA B., ATEŞ Ş., GÜNAYDIN M., ALTUNIŞIK A. C.  
3rd International Conference on Computational and Experimental Science, 19 - 24 October 2016
- XIX. **UNİFORM YER HAREKETLERİNE MARUZ EĞİK ASKILI KÖPRÜNÜN DİNAMİK DAVRANIŞI**  
YURDAKUL M., TONYALI Z., ATMACA B., ATEŞ Ş.  
Mühendislikte Yeni Teknolojiler Sempozyumu, Bayburt, Turkey, 22 - 25 October 2015, pp.67
- XX. **MESNETLERİNDEN FARKLI YER HAREKETLERİNE MARUZ KABLOLU KÖPRÜLERDE KABLO DAVRANIŞLARININ İNCELENMESİ**  
TONYALI Z., ATMACA B., YURDAKUL M., ATEŞ Ş.  
Mühendislikte Yeni Teknolojiler Sempozyumu, Bayburt, Turkey, 22 - 25 October 2015, pp.56-66
- XXI. **Dynamic behaviour of cables of cable-stayed bridge isolated with SCFP placed under pylon**  
ATMACA B., Yurda kul M., ATEŞ Ş.  
Advances in Structural Engineering and Mechanics (ASEM 15), Incheon, South Korea, 25 - 29 August 2015, pp.11
- XXII. **Köprülerde Kullanılan Kauçuk Mesnetlerin Hesap ve Tasarım Yazılımı**  
ATMACA B., ATEŞ Ş., ALTUNIŞIK A. C.  
3. Köprüler ve Viyadükler Sempozyumu, Bursa, Turkey, 8 - 10 May 2015, vol.1, no.1, pp.1-10
- XXIII. **The effects of seismic isolation on the dynamic behavior of cable-stayed bridges**  
ATMACA B., YURDAKUL M., ATEŞ Ş.  
2nd International Balkan Conference on Challenges of Civil Engineering, Tiran, Albania, 23 - 25 May 2013, pp.8
- XXIV. **Kablolu Köprülerin Yapım Aşamasına Göre Analizi**  
ATMACA B., ATEŞ Ş., ALTUNIŞIK A. C.  
2. Köprüler ve Viyadükler Sempozyumu, Eskişehir, Turkey, 28 - 30 September 2011, pp.73

## Patent

2018 Patent

## Scientific Refereeing

|               |                                                                     |
|---------------|---------------------------------------------------------------------|
| May 2019      | International Journal of Civil Engineering, SCI Journal             |
| February 2019 | Doğal Afetler ve Çevre Dergisi, National Scientific Refreed Journal |
| November 2018 | Advances in Structural Engineering, SCI Journal                     |
| August 2018   | Advances in Structural Engineering, SCI Journal                     |
| November 2017 | EARTHQUAKE ENGINEERING AND ENGINEERING VIBRATION, SCI Journal       |
| November 2017 | Structural Engineering International, SCI Journal                   |
| October 2017  | INTERNATIONAL JOURNAL OF STEEL STRUCTURES, SCI Journal              |
| July 2017     | PLOS ONE, SCI Journal                                               |

## Mobility Activity

2019 - 2019 Post Doc, Post Doc, Czestochowa University of Technology, Poland

## Metrics

Publication: 50  
Citation (WoS): 180  
Citation (Scopus): 220  
H-Index (WoS): 8  
H-Index (Scopus): 9

## Congress and Symposium Activities

|      |                                                                                                                  |
|------|------------------------------------------------------------------------------------------------------------------|
| 2022 | Advanced Engineering Optimization Through Intelligent Techniques, Attendee, Surat, India                         |
| 2021 | XXVII LSCE 2021 LIGHTWEIGHT STRUCTURES IN CIVIL ENGINEERING CONTEMPORARY PROBLEMS, Attendee, Lodz, Poland        |
| 2021 | 4th INTERNATIONAL EUROPEAN CONFERENCE ON INTERDISCIPLINARY SCIENTIFIC RESEARCH, Attendee, Warszawa, Poland       |
| 2019 | 3 rd International Conference on Advanced Engineering Technologies (ICADET) , Session Moderator, Bayburt, Turkey |
| 2017 | IV. International Multidisciplinary Congress of Eurasia (IMCOFE), Attendee, Rome, Italy                          |
| 2017 | International Conference on Advances and Innovations in Engineering, Attendee, Elazığ, Turkey                    |
| 2016 | INTERNATIONAL CONFERENCE ON COMPUTATIONAL AND EXPERIMENTAL SCIENCE AND ENGINEERING, Attendee, Antalya, Turkey    |
| 2015 | Mühendislikte Yeni Teknolojiler Sempozyumu, Attendee, Bayburt, Turkey                                            |
| 2015 | Advances in Structural Engineering and Mechanics, Attendee, Incheon, South Korea                                 |
| 2015 | 3. Köprüler ve Viyadükler Sempozyumu, Attendee, Bursa, Turkey                                                    |
| 2013 | 2 nd International Balkan Conference on Challenges of Civil Engineering, Attendee, Tiran, Albania                |
| 2011 | 2. Köprüler ve Viyadükler Sempozyumu, Attendee, Eskişehir, Turkey                                                |

## Non Academic Experience

