

## Assoc. Prof. AYŞEGÜL DURMUŞ DEMİR

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: F-3680-2018

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### Education Information

Doctorate, Karadeniz Technical University, Fen Bilimleri Enstitüsü, İnşaat Mühendisliği Bölümü, Turkey 2007 - 2013

Postgraduate, Karadeniz Technical University, Fen Bilimleri Enstitüsü, İnşaat Mühendisliği Bölümü, Turkey 2005 - 2007

Undergraduate, Karadeniz Technical University, Mühendislik Fakültesi, İnşaat Mühendisliği Bölümü, Turkey 2001 - 2005

### Foreign Languages

English, B2 Upper Intermediate

### Certificates, Courses and Trainings

Education Management and Planning, FEN BİLİMLERİNDE ARAŞTIRMA PROJESİ HAZIRLAMA EĞİTİMİ, Karadeniz Teknik Üniversitesi, 2014

### Dissertations

Doctorate, Betonarme Silindirik Siloların Stok Malzemesi-Yapı-Zemin Etkileşimleri Dikkate Alınarak Deprem Davranışlarının İncelenmesi, Karadeniz Technical University, Fen Bilimleri Enstitüsü, 2013

Postgraduate, Silolar Konusunda Bazı Teoriler ve Stok Yapılarının Tasarımına İlişkin Genel Bir Yaklaşım, Karadeniz Technical University, Fen Bilimleri Enstitüsü, İnşaat Mühendisliği Bölümü, 2007

### Research Areas

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

### Academic Titles / Tasks

Assistant Professor, Karadeniz Technical University, Mühendislik Fakültesi, İnşaat Mühendisliği, 2018 - Continues

Assistant Professor, Karadeniz Technical University, Mühendislik Fakültesi, İnşaat Mühendisliği Bölümü, 2015 - 2018

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

- I. **Prediction of load-bearing capacity of sigma section CFS beam-column members using ensemble and deep learning algorithms**  
YILMAZ Y., Öztürk F., DEMİR S., Demir A. D.  
Journal of Constructional Steel Research, vol.228, 2025 (SCI-Expanded)
- II. **Development of a machine learning based automated model to predict the load-bearing capacity of circular hollow section brace members having accidental joint eccentricity**  
Yılmaz Y., Demir S., Sannah N., Demir A.  
Structures, vol.70, 2024 (SCI-Expanded)
- III. **Effect of accidental joint eccentricity on the behavior of concentric braces**  
Sannah N., Demir S., Cebir F., Demir A. D.  
STRUCTURES, vol.69, 2024 (SCI-Expanded)
- IV. **SSI effects on seismic response of RC flat-bottom circular silos**  
Demir A., LİVAOĞLU R.  
STRUCTURES, vol.57, 2023 (SCI-Expanded)
- V. **Simplified seismic response model for a bulk solid- silo-embedded foundation/soil system**  
Demir A. D., LİVAOĞLU R.  
Soil Dynamics and Earthquake Engineering, vol.165, 2023 (SCI-Expanded)
- VI. **Investigation of thermal effects on silos caused by thermal differentials between stored solid and the silo structure**  
Demir A. D.  
Advances in Concrete Construction, vol.14, no.4, pp.227-239, 2022 (SCI-Expanded)
- VII. **Sandwich type cold formed tubular braces: design, analysis and cyclic loading test**  
DEMİR S., DURMUŞ DEMİR A., HÜSEM M.  
Structures, vol.25, pp.35-46, 2020 (SCI-Expanded)
- VIII. **Investigation of Load Bearing Capacities of Grouted Rock Bolts with New Auxetic Head Designs**  
Komurlu E., Demir A., Celik A. G.  
PERIODICA POLYTECHNICA-CIVIL ENGINEERING, vol.64, no.3, pp.782-791, 2020 (SCI-Expanded)
- IX. **The role of slenderness on the seismic behavior of ground-supported cylindrical silos**  
Demir A. D., LİVAOĞLU R.  
ADVANCES IN CONCRETE CONSTRUCTION, vol.7, no.2, pp.65-74, 2019 (SCI-Expanded)
- X. **Determination of Cohesion values of Rock Materials using Double Shear Jaws**  
Komurlu E., Demir A. D.  
PERIODICA POLYTECHNICA-CIVIL ENGINEERING, vol.62, no.4, pp.881-892, 2018 (SCI-Expanded)
- XI. **Dog bone shaped specimen testing method to evaluate tensile strength of rock materials**  
Komurlu E., KESİMAL A., Demir A.  
GEOMECHANICS AND ENGINEERING, vol.12, no.6, pp.883-898, 2017 (SCI-Expanded)
- XII. **A simplified approximation for seismic analysis of silo-bulk material system**  
Livaoglu R., Durmus A.  
BULLETIN OF EARTHQUAKE ENGINEERING, vol.14, no.3, pp.863-887, 2016 (SCI-Expanded)
- XIII. **A simplified 3 DOF model of A FEM model for seismic analysis of a silo containing elastic material accounting for soil-structure interaction**  
DURMUŞ DEMİR A., LİVAOĞLU R.  
SOIL DYNAMICS AND EARTHQUAKE ENGINEERING, vol.77, pp.1-14, 2015 (SCI-Expanded)
- XIV. **Investigation of wall flexibility effects on seismic behavior of cylindrical silos**  
Livaoglu R., Durmuş Demir A.

- STRUCTURAL ENGINEERING AND MECHANICS, vol.53, no.1, pp.159-172, 2015 (SCI-Expanded)
- XV. **A reliable approach for determining concrete strength in structures by using cores**  
DURMUŞ A., ÖZTÜRK H. T., DURMUŞ A.  
COMPUTERS AND CONCRETE, vol.11, no.5, pp.463-473, 2013 (SCI-Expanded)
- XVI. **Optimum design of a reinforced concrete beam using artificial bee colony algorithm**  
ÖZTÜRK H. T., Durmus A., Durmus A.  
COMPUTERS AND CONCRETE, vol.10, no.3, pp.295-306, 2012 (SCI-Expanded)

### Articles Published in Other Journals

- I. **The behavior of the RC grouped silos under earthquake excitation according to different internal loadings**  
DEMİR A.  
Journal of Structural Engineering & Applied Mechanics (Online), vol.6, no.1, pp.84-97, 2023 (Peer-Reviewed Journal)
- II. **Kutu Enkesitli Sandviç Tipi Çelik Çaprazların Çevrimsel Yük Etkisindeki Davranışlarının Deneysel Olarak İncelenmesi**  
DURMUŞ DEMİR A.  
Düzce Üniversitesi Bilim ve Teknoloji Dergisi, vol.8, no.1, pp.60-68, 2020 (Peer-Reviewed Journal)

### Papers Published in Refereed Scientific Meetings

- I. **An Experimental Investigation of a New Tensile Strength Test Method for Concrete**  
DURMUŞ DEMİR A., SÜLEYMANOĞLU H.  
3rd GLOBAL CONFERENCE on ENGINEERING RESEARCH, Turkey, 13 - 16 September 2023
- II. **A Numerical Investigation on Determining the Ideal Size and Geometry of Hollow Block-Shaped Concrete Specimens for Indirect Tensile Strength Testing**  
DURMUŞ DEMİR A., SÜLEYMANOĞLU H.  
The Second International Congress on the Phenomenological Aspects of Civil Engineering, Erzurum, Turkey, 20 - 23 June 2023, pp.303-309
- III. **A Numerical Study on Support Performance of Thin Spray-on Liners (TSLs)**  
KÖMÜRLÜ E., DURMUŞ DEMİR A.  
25th International Mining Congress and Exhibition of Turkey, Antalya, Turkey, 11 - 14 April 2017, pp.105-112
- IV. **A Numerical Study for Determining Ideal Size and Geometry of Dog bone shaped direct tensile strength test specimens**  
KÖMÜRLÜ E., KESİMAL A., DURMUŞ DEMİR A.  
European Rock Mechanics Symposium 2016 (Eurock 2016), Nevşehir, Turkey, 29 - 31 August 2016, vol.In Press, pp.1-6
- V. **Determination of Horizontal Bulk Material Pressures in Rigid Cylindrical Slender Silos under Seismic Excitation using FEM and EN1998-4**  
DURMUŞ DEMİR A., LİVAOĞLU R.  
International Conference on Civil and Environmental Engineering, Nevşehir, Turkey, 20 - 23 May 2015, pp.1-9
- VI. **Yapı Zemin Etkileşiminin Bodur Betonarme Siloların Deprem Davranışına Etkileri**  
DURMUŞ DEMİR A., LİVAOĞLU R.  
Zemin Mekaniği ve Temel Mühendisliği 2. Özel Konulu Sempozyumu- Teori ve Uygulamada Zemin Yapı Etkileşimi Sempozyumu, Antalya, Turkey, 24 - 25 April 2014
- VII. **Depremlerde Göçen Betonarme Binalardan Öğrenilenler: Kocaeli Örneği**  
DURMUŞ A., DURMUŞ DEMİR A., ÖZTÜRK H. T.  
2. Türkiye Deprem Mühendisliği ve Sismoloji Konferansı, Turkey, 25 - 27 September 2013

- VIII. **Seismic Behavior of Squat Bulk Material-Silo-Foundation/Soil System**  
LİVAOĞLU R., DURMUŞ DEMİR A.  
International Conference on Earthquake Geotechnical Engineering: From Case History to Practice, İstanbul, Turkey, 17 - 19 June 2013
- IX. **Hydrodynamic Pressure Variation on 100m<sup>3</sup>-Container of Elevated Tank Due to Soil Structure Interaction**  
LİVAOĞLU R., DURMUŞ DEMİR A., DOĞANGÜN A., ÖZEN S., TİMURAĞAOĞLU M. Ö.  
International Conference on Earthquake Engineering, Skopje, Macedonia, 29 - 31 May 2013
- X. **Evaluation of Seismic Behavior of Rigid Squat Silo-Bulk Material System**  
DURMUŞ DEMİR A., LİVAOĞLU R.  
International Conference on Earthquake Engineering, Skopje, Macedonia, 29 - 31 May 2013
- XI. **Principles of Analysis of Granular Materials Storage Structures and Calculation of Silos**  
DOĞANGÜN A., DURMUŞ DEMİR A., DURMUŞ A.  
8th International Congress on Advances in Civil Engineering, Famagusta, Cyprus (Kktc), 15 September 2008
- XII. **Barit Agregasıyla Üretilen Ağır Bir Betonun Özellikleri**  
AKGÜN Y., DURMUŞ DEMİR A., DURMUŞ A.  
7. Ulusal Beton Kongresi, İstanbul, Turkey, 24 - 30 November 2007

## Supported Projects

DEMİR S., YILMAZ S., DURMUŞ DEMİR A., SOALIH H., CEBİR F., Project Supported by Higher Education Institutions, AhşapBeton Kompozit Döşeme Sistemleri İçin Kısmen İzole Edilmiş Kayma Bağlantısı Geliştirilmesi, 2024 - Continues

## Metrics

Publication: 31  
Citation (WoS): 124  
Citation (Scopus): 139  
H-Index (WoS): 7  
H-Index (Scopus): 7

## Scholarships

TÜBİTAK YURTIÇİ DOKTORA BURSUSU, TÜBİTAK, 2007 - Continues  
TÜBİTAK YURTIÇİ YÜKSEKLİSANS BURSUSU, TÜBİTAK, 2006 - Continues