

Assoc. Prof. SERHAT DEMİR

Personal Information

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International Researcher IDs

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ScopusID: 56180197200

Yoksis Researcher ID: 119185

Education Information

Doctorate, Karadeniz Technical University, -, İnşaat Mühendisliği, Turkey 2013 - 2018

Postgraduate, Karadeniz Technical University, -, İnşaat Mühendisliği, Turkey 2011 - 2013

Undergraduate, Erciyes University, Mühendislik Fakültesi, İnşaat Mühendisliği, Turkey 2007 - 2011

Undergraduate, Hacettepe University, Fen Fakültesi, Kimya, Turkey 2004 - 2007

Foreign Languages

English, C1 Advanced

Certificates, Courses and Trainings

Quality Management, Ölçümlerin İzlenebilirliği ve Ölçüm Belirsizliği (Deney Laboratuvarları İçin), Türk Akreditasyon Kurumu (TÜRKAK), 2023

Quality Management, Metotların Doğrulanması ve Geçerli Kılınması (Validasyon) Eğitimi, Türk Akreditasyon Kurumu (TÜRKAK), 2023

Dissertations

Doctorate, Testere Tipi Sismik Enerji Sönümleyicilerin Tasarımı ve Çevrimsel Yük Etkisindeki Davranışlarının İncelenmesi, Karadeniz Technical University, -, İnşaat Mühendisliği, 2018

Postgraduate, Mevcut Betonarme Yapılarda Kısa Kolon Davranışlarının İncelenmesi, Karadeniz Technical University, -, İnşaat Mühendisliği, 2013

Research Areas

Civil Engineering, Structure, Steel Structures, Performance of Constructed Facilities, Concrete Structures, Repair and Strengthening in Buildings, Engineering and Technology

Academic Titles / Tasks

Associate Professor, Karadeniz Technical University, Mühendislik Fakültesi, İnşaat Mühendisliği, 2020 - Continues
Assistant Professor, Karadeniz Technical University, Mühendislik Fakültesi, İnşaat Mühendisliği, 2019 - 2020
Research Assistant, Karadeniz Technical University, -, İnşaat Mühendisliği, 2011 - 2018
Other, Oregon State University, College Of Engineering, School Of Civil And Construction Engineering, Civil And Construction Engineering, 2017 - 2017

Academic and Administrative Experience

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

Courses

Vocational English, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020
Reinforced Concrete I, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020
Reinforced Concrete II, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021
Yapıların Deneysel Davranışları, Postgraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022
İş Hayatında İngilizce, Undergraduate, 2021 - 2022
Depreme Dayanıklı Yapı Tasarımı, Undergraduate, 2020 - 2021, 2019 - 2020
Betonarme II, Undergraduate, 2019 - 2020
Betonarme I, Undergraduate, 2019 - 2020
Teknik Resim ve Bilgisayar Uygulamaları, Undergraduate, 2018 - 2019

Advising Theses

Demir S., Experimental investigation of the behavior of cold-formed stainless and carbon steel braces under cyclic loading, Postgraduate, M.İKRAM(Student), 2022

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Buckling behavior of cold-formed steel sigma and lipped channel section beam-columns: Experimental and numerical investigation**
Yılmaz Y., Öztürk F., Demir S.
Journal of Constructional Steel Research, vol.214, 2024 (SCI-Expanded)
- II. **Buckling and fracture behavior of cold formed carbon/stainless steel tubular braces under far field and near fault loadings**
Demir S., İKRAM M., Yılmaz Y., Soalih H.
Journal of Constructional Steel Research, vol.214, 2024 (SCI-Expanded)
- III. **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)
- IV. **A new type notched slab approach for timber-concrete composite construction: Experimental and numerical investigation**
YILMAZ S., KARAHASAN O. Ş., ALTUNIŞIK A. C., VURAL N., DEMİR S.
STRUCTURAL ENGINEERING AND MECHANICS, vol.81, no.6, pp.737-750, 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. **Performance Evaluation of Reinforced Concrete Buildings During the Sivrice-Elazig Earthquake (M_w=6.8, January 24, 2020) in Accordance with Turkish Earthquake Code**
DEMİR S., GÜNAYDIN M., ATMACA B., ALTUNIŞIK A. C., HÜSEM M., ADANUR S., ANGIN Z., ATEŞ Ş.
JOURNAL OF EARTHQUAKE AND TSUNAMI, vol.15, no.04, 2021 (SCI-Expanded)
- VII. **Experimental investigation of a prefabricated timber-concrete composite floor structure: Notched-slab approach**
Yılmaz S., Demir S., Vural N.
ADVANCES IN CONCRETE CONSTRUCTION, vol.12, no.1, pp.13-23, 2021 (SCI-Expanded)
- VIII. **Seismic damage assessment of masonry buildings in Elazig and Malatya following the 2020 Elazig-Sivrice earthquake, Turkey**
GÜNAYDIN M., ATMACA B., DEMİR S., ALTUNIŞIK A. C., HÜSEM M., ADANUR S., ATEŞ Ş., ANGIN Z.
BULLETIN OF EARTHQUAKE ENGINEERING, vol.19, no.6, pp.2421-2456, 2021 (SCI-Expanded)
- IX. **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)
- X. **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)
- XI. **Determination of Direct Tensile Strength Values of Rock Materials by a New Test Method of Drilled Disc Tension**
Komurlu E., DEMİR S.
PERIODICA POLYTECHNICA-CIVIL ENGINEERING, vol.64, no.1, pp.33-41, 2020 (SCI-Expanded)
- XII. **The cyclic behavior of steel-polyoxymethylene composite braces**
DEMİR S.
STRUCTURAL ENGINEERING AND MECHANICS, vol.70, no.5, pp.591-600, 2019 (SCI-Expanded)
- XIII. **Drilled Core Specimen Testing Method for Determination of Tensile Strength Values of Rock Materials**
Komurlu E., DEMİR S.
PERIODICA POLYTECHNICA-CIVIL ENGINEERING, vol.63, no.1, pp.18-24, 2019 (SCI-Expanded)
- XIV. **Length Effect on Load Bearing Capacities of Friction Rock Bolts**
Komurlu E., DEMİR S.
PERIODICA POLYTECHNICA-CIVIL ENGINEERING, vol.63, no.3, pp.718-725, 2019 (SCI-Expanded)
- XV. **Saw type seismic energy dissipaters: development and cyclic loading test**
Demir S., Hüsem M.
JOURNAL OF CONSTRUCTIONAL STEEL RESEARCH, vol.150, pp.264-276, 2018 (SCI-Expanded)
- XVI. **Experimental Determination of Cohesion and Internal Friction Angle on Conventional Concretes**
Pul S., Ghaffari A., Oztekin E., Hüsem M., Demir S.
ACI MATERIALS JOURNAL, vol.114, pp.407-416, 2017 (SCI-Expanded)
- XVII. **Diagonal bracing of steel frames with multi-cable arrangements**
HÜSEM M., DEMİR S., Park H. G., Cosgun S. I.
STRUCTURAL ENGINEERING AND MECHANICS, vol.59, no.6, pp.1121-1137, 2016 (SCI-Expanded)
- XVIII. **Experimental and numerical analyses on determination of indirect (splitting) tensile strength of cemented paste backfill materials under different loading apparatus**
Komurlu E., KESİMAL A., DEMİR S.
GEOMECHANICS AND ENGINEERING, vol.10, no.6, pp.775-791, 2016 (SCI-Expanded)
- XIX. **The behaviour of high-strength reinforced concrete columns under low eccentric loading**
HÜSEM M., PUL S., Gorkem S. E., DEMİR S.
EUROPEAN JOURNAL OF ENVIRONMENTAL AND CIVIL ENGINEERING, vol.20, no.4, pp.486-502, 2016 (SCI-Expanded)

- XX. **Effect of Adhesive Type on the Measurement of Modulus of Elasticity Using Electrical Resistance Strain Gauges**
Komurlu E., CİHANGİR F., KESİMAL A., DEMİR S.
ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.41, no.2, pp.433-441, 2016 (SCI-Expanded)
- XXI. **Experimental and numerical study on determination of indirect (splitting) tensile strength of rocks under various load apparatus**
Komurlu E., KESİMAL A., DEMİR S.
CANADIAN GEOTECHNICAL JOURNAL, vol.53, no.2, pp.360-372, 2016 (SCI-Expanded)
- XXII. **Investigation of bond-slip modeling methods used in FE analysis of RC members**
DEMİR S., HÜSEM M.
STRUCTURAL ENGINEERING AND MECHANICS, vol.56, no.2, pp.275-291, 2015 (SCI-Expanded)
- XXIII. **Failure analysis of steel column-RC base connections under lateral cyclic loading**
DEMİR S., HÜSEM M., PUL S.
STRUCTURAL ENGINEERING AND MECHANICS, vol.50, no.4, pp.459-469, 2014 (SCI-Expanded)

Articles Published in Other Journals

- I. **Investigation of a new drilling design for loading core specimens with triple holes to determine direct tensile strength values of rock materials**
KÖMÜRLÜ E., DEMİR S.
Material Design Processing Communications, vol.3, pp.1-10, 2021 (Scopus)
- II. **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)
- III. **Kaya Kütleli Poisson Oranı ve Elastisite Modülü Değerlerinin Tünel Etrafındaki Plastik Zon Sınırları üzerinde Etkileri**
KÖMÜRLÜ E., DEMİR S.
MT Bilimsel, vol.16, pp.15-23, 2019 (Peer-Reviewed Journal)
- IV. **USE OF ROCK MASS RATING (RMR) VALUES FOR SUPPORT DESIGNS OF TUNNELS EXCAVATED IN SOFT ROCKS WITHOUT SQUEEZING PROBLEM**
KÖMÜRLÜ E., DEMİR S.
GeoScience Engineering, vol.65, no.2, pp.1-17, 2019 (Peer-Reviewed Journal)
- V. **Çelik Tel Örgülerin Betonarme Kirişlerin Kesme Davranışına Etkisi**
DEMİR S.
DÜZCE ÜNİVERSİTESİ BİLİM VE TEKNOLOJİ DERGİSİ, vol.7, no.1, pp.477-487, 2019 (Peer-Reviewed Journal)
- VI. **Finite Element Analysis of RC Beams Include BondSlip Effect**
DEMİR S., HÜSEM M.
International Journal of Structural Analysis Design – IJSAD, vol.1, no.3, pp.152-156, 2014 (Non Peer-Reviewed Journal)
- VII. **The Experimental Investigation of Crack Mechanism in High Strength Concrete with Steel and Polypropylene Fiber**
HÜSEM M., DEMİR S.
International Journal of Structural Analysis and Design, vol.1, no.3, pp.147-151, 2014 (Peer-Reviewed Journal)
- VIII. **THE EFFECT OF FRACTURE AND CRACK GROWTH OF STEEL AND POLYPROPYLENE FIBERS IN THE ORDINARY AND HIGH STRENGTH CONCRETE**
HÜSEM M., DEMİR S.
E-Journal of New World Sciences Academy, vol.8, no.4, pp.182-191, 2013 (Non Peer-Reviewed Journal)
- IX. **Tarihi Yapılarda Onarım-Güçlendirme Yöntemlerinin Uygulanması ve Etkinliği**
HÜSEM M., DEMİR S.
TMMOB İnşaat Mühendisleri Odası Trabzon Şubesi Mühendislik Bülteni, no.27, pp.44-48, 2013 (Non Peer-

Reviewed Journal)

- X. **Çelik ve Polipropilen liflerin geleneksel ve yüksek dayanımlı betonlarda kırılma ve çatlak gelişimine etkisi**

HÜSEM M., DEMİR S.

E-Journal of New World Sciences Academy, no.8, pp.182-191, 2013 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. **Effect of accidental joint eccentricity on the performance of concentric steel braces**
Sannah N., Demir S., Soalih H.
3RD INTERNATIONAL CIVIL ENGINEERING & ARCHITECTURE CONFERENCE , Trabzon, Turkey, 12 - 14 October 2023, vol.1, no.1, pp.1380-1390
- II. **Temperlenmiş Martensitik Çelik Kaynaklı Bağlantıların Mekanik Özelliklerine Tek Taraflı ve Çift Taraflı Kaynağın Etkisi**
ÇUVALCI H., UZUNALI U. Y., ATMACA B., DEMİR S.
Kaynak Teknolojisi XI. Ulusal Kongre ve Sergisi, Ankara, Turkey, 15 - 16 November 2019, vol.-
- III. **A REPAIR METHOD FOR BUCKLED STEEL BRACES**
DEMİR S.
8th INTERNATIONAL STEEL STRUCTURES SYMPOSIUM, Konya, Turkey, 24 - 26 October 2019, vol.1, pp.431-439
- IV. **A NEW PASSIVE ENERGY DISSIPATION DEVICE FOR EARTHQUAKE PROTECTION OF STRUCTURES**
DEMİR S., HÜSEM M.
5th International Conference on Earthquake Engineering and Seismology, Ankara, Turkey, 8 - 11 October 2019, vol.-
- V. **Geleneksel Çelik Çaprazların Onarımı**
DEMİR S.
7. Yapı Mekaniği Laboratuvarları Çalıştayı, Konya, Turkey, 4 - 05 October 2019, vol.-
- VI. **CYCLIC BEHAVIOR OF THE TUBULAR BRACE INFILLED WITH A POLYMER ENCASED STEEL TUBE**
DEMİR S.
VI. INTERNATIONAL EARTHQUAKE SYMPOSIUM, Kocaeli, Turkey, 25 - 27 September 2019, vol.-
- VII. **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.-
- VIII. **Kaya Kütlesi Poisson Oranı ve Elastisite Modülü Değerlerinin Tünel Etrafındaki Plastik Zon Sınırları üzerinde Etkileri**
Kömürlü E., DEMİR S.
Maden Mühendisliği Sempozyumu, Trabzon, Turkey, 01 March 2019, vol.-, pp.7
- IX. **Metalik Sönümleyicili Çelik Çapraz Sistemi**
DEMİR S., HÜSEM M.
Ulusal Yapı Mekaniği Laboratuvarları 6. Toplantısı, Trabzon, Turkey, 17 - 18 November 2017
- X. **Strengthening of Steel Frames with Steel Wire Ropes**
DEMİR S., HÜSEM M., SESLİ H., COŞĞUN S. İ.
4th ICEES-International Earthquake Engineering and Seismology Conference, Eskişehir, Turkey, 11 - 14 October 2017, pp.1-9
- XI. **Behavior of the Reinforced Concrete Coupled Wall Systems And Wall Boundary Elements**
SESLİ H., COŞĞUN S. İ., HÜSEM M., DEMİR S.
ADVANCES IN CIVIL ENGINEERING, İstanbul, Turkey, 21 - 23 September 2016, vol.1, no.1, pp.1-8
- XII. **NUMERICAL INVESTIGATION OF STEEL TUBULAR K-JOINT UNDER IMPACT LOADING**
COŞĞUN S. İ., HÜSEM M., DEMİR S., SESLİ H.
ADVANCES IN CIVIL ENGINEERING, İstanbul, Turkey, 21 - 23 September 2016, vol.1, no.1, pp.1-8

- XIII. **A Numerical Study on Deformation Measurement of Rock Materials Using Electrical Resistance Strain Gauges: Investigation of Adhesive Type and Thickness Effect**
Kömürlü E., CİHANGİR F., Kesimal A., Demir S.
Proceedings of the 24th International Mining Congress of Turkey, Antalya, Turkey, 14 - 17 April 2015, pp.407-412
- XIV. **Finite Element Analysis of RC Beams Include Bond Slip Effect**
DEMİR S., HÜSEM M.
Proc. of the Intl. Conf. on Advances In Civil, Structural And Construction Engineering, Roma, Italy, 7 - 08 May 2014, pp.43-47
- XV. **The Experimental Investigation of Crack Mechanism in High Strength Concrete with Steel and Polypropylene Fiber**
HÜSEM M., DEMİR S.
Proc. of the Intl. Conf. on Advances In Civil, Structural And Construction Engineering, Roma, Italy, 7 - 08 May 2014, pp.38-42
- XVI. **Mevcut Betonarme Yapılarda Kısa Kolon Davranışlarının İyileştirilmesi**
Demir S., HÜSEM M., Altın S., PUL S., Bıkçe M., Emsen E.
2. Türkiye Deprem Mühendisliği ve Sismoloji Konferansı, Hatay, Turkey, 25 - 27 September 2013, vol.1, no.1, pp.1-10
- XVII. **Soğuk Şekillendirilmiş Hafif Profillerle Üretilen Endüstriyel Çerçeve Sistemlerin Optimizasyonu**
Öztürk F., PUL S., HÜSEM M., Demir S.
Ulusal Yapı Mekaniği Laboratuvarları 4. Toplantısı, Trabzon, Turkey, 3 - 04 May 2013, vol.1, no.1, pp.1-2

Supported Projects

DEMİR S., HÜSEM M., Project Supported by Higher Education Institutions, Bir Sismik Enerji Sönümleyici Çelik Çapraz Kompleksi - TASARIM, 2018 - 2020

HÜSEM M., DEMİR S., Project Supported by Higher Education Institutions, SİSMİK ENERJİ SÖNÜMLEYİCİ ÇELİK ÇAPRAZ, 2017 - 2020

HÜSEM M., DEMİR S., BİRİNCİ KAYAALP F., Project Supported by Higher Education Institutions, Farklı Şekillerde Donatılandırılmış Yığma Yapıların Tekrarlı Yatay Yükler Etkisi Altındaki Davranışları, 2015 - 2016

DEMİR S., HÜSEM M., PUL S., TUBITAK Project, Drucker-Prager Akma Kriteri Parametrelerinin Geleneksel Beton İçin DeneySEL Olarak Belirlenmesi (1002), 2013 - 2015

Patent

Demir S., HÜSEM M., Sismik Enerji Sönümleyici Çelik Çapraz, Utility Model, CHAPTER E Constructed Constructions (Construction), The Invention Registration Number: 2017/22584 , Standard Registration, 2020

Demir S., Yapı Elemanları (Köşebentler), Trademark, CHAPTER E Constructed Constructions (Construction), The Invention Registration Number: 2018/04034 , Standard Registration, 2018

Memberships / Tasks in Scientific Organizations

Earthquake Engineering Research Institute, Member, 2014 - Continues

İnşaat Mühendisleri Odası, Member, 2011 - Continues

Scientific Refereeing

ENGINEERING STRUCTURES, SCI Journal, April 2021

ENGINEERING STRUCTURES, SCI Journal, March 2020

Advances in Concrete Construction, SCI Journal, March 2018
Advances in Concrete Construction, SCI Journal, February 2018
Earthquakes and Structures, SCI Journal, December 2017
Structural Engineering and Mechanics, SCI Journal, July 2017
Advances in Structural Engineering, SCI Journal, May 2017
Advances in Structural Engineering, SCI Journal, January 2016
Advances in Structural Engineering, SCI Journal, December 2015
Experimental Techniques, SCI Journal, October 2015
Advances in Structural Engineering, SCI Journal, October 2015
Advances in Structural Engineering, SCI Journal, August 2015
Civil Engineering and Architecture, Other Indexed Journal, August 2015
Advances in Structural Engineering, SCI Journal, June 2015
Advances in Structural Engineering, SCI Journal, April 2015
Advances in Structural Engineering, SCI Journal, January 2015
ACI Structural and Materials Journals, SCI Journal, May 2014
ACI Structural and Materials Journals, SCI Journal, September 2013

Metrics

Publication: 51
Citation (WoS): 161
Citation (Scopus): 200
H-Index (WoS): 8
H-Index (Scopus): 8

Congress and Symposium Activities

Yapı Mekaniği Laboratuvarları 6. Toplantısı, Attendee, Trabzon, Turkey, 2018
69th Annual Meeting of the Earthquake Engineering Research Institute, Attendee, Oregon, United States Of America, 2017
14th Annual Undergraduate Seismic Design Competition, Attendee, Oregon, United States Of America, 2017
12th Annual Undergraduate Seismic Design Competition, Attendee, Boston, United States Of America, 2015
67th Annual Meeting of the Earthquake Engineering Research Institute. "Old Cities, New Earthquakes", Attendee, Boston, United States Of America, 2015
Yeni Nesil Deprem Yönetmelikleri ve Deprem Mühendisliğinde Yeni Teknolojiler Sempozyumu, Attendee, Ankara, Turkey, 2015
DASK Depreme Dayanıklı Bina Tasarımı Yarışması, Attendee, İstanbul, Turkey, 2014
Proc. of the Intl. Conf. on Advances In Civil, Structural And Construction Engineering, Attendee, Roma, Italy, 2014
2. Türkiye Deprem Mühendisliği ve Sismoloji Konferansı, Attendee, Hatay, Turkey, 2013
Ulusal Yapı Mekaniği Laboratuvarları 4. Toplantısı, Attendee, Trabzon, Turkey, 2013

Scholarships

Danışman, Honorable Mention for Best Architecture, 14th Seismic Design Competition, Official Institutions of Foreign Countries, 2017 - Continues
Danışman, 5th place, 12th Seismic Design Competition, Official Institutions of Foreign Countries, 2015 - Continues
Danışman, Mansiyon Ödülü, Special Institutions and Organizations, 2014 - Continues
Danışman, 3.'lük Ödülü, Special Institutions and Organizations, 2014 - Continues

Yurtiçi Doktora Bursu, TUBITAK, 2013 - Continues

Yurtdışı Staj Bursu, European Commission, 2009 - Continues

Awards

DEMİR S., Engineering Excellence Award, ANSYS Inc. USA, February 2017

Non Academic Experience

OREGON STATE UNIVERSITY

Business Establishment Private, Yda İnşaat, Milletvekili Lojmanları, Ankara