

## Assoc. Prof. Fatih ALEMDAR

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: AAZ-7389-2020

ScopusID: 36019155100

Yoksis Researcher ID: 37482

### Biography

Assistant Professor Fatih Alemdar Ph.D. Fatigue expertise in the Yildiz Technical University. Prof Fatih holds a PhD. in Structural Engineer, The University of Kansas/ USA 2011, an MS degree, in Structural Engineer, The University of Kansas/ USA 2010, BS degree, in civil engineering, Yıldız Technical University,2000, He had been promoted in 2013 to an assistant professor/ Yildiz Technical University. He had supervised more than 10 Ph. D. and M. Sc these in Civil Engineer. He had published 30 scientific articles and conference papers in international refereed journals.

### Education Information

Undergraduate, Yildiz Technical University, Faculty Of Civil Engineering, İnşaat Mühendisliği, Turkey 1996 - 2000

### Foreign Languages

English, B2 Upper Intermediate

### Certificates, Courses and Trainings

Education Management and Planning, Statik çekme basma test sistemleri tanıtımı, ITW test sistemleri, 2016

Education Management and Planning, Plastik ve çelik malzeme testleri, ITW test sistemleri, 2016

### Dissertations

Doctorate, Repair of steel bridge girders damaged by distortion-induced fatigue, University of Kansas, yüksek lisans fakültesi, 2011

Postgraduate, Use of Composite Materials to Repair Steel Structures Vulnerable to Fatigue Damage, University of Kansas, yüksek lisans fakültesi, 2010

## Research Areas

Civil Engineering, Structure, Steel Structures, Engineering and Technology

## Academic Titles / Tasks

Associate Professor, Yildiz Technical University, Faculty Of Civil Engineering, Civil Engineering Department, 2024 - Continues

Assistant Professor, Yildiz Technical University, Faculty Of Civil Engineering, Civil Engineering Department, 2018 - 2023

Assistant Professor, Yildiz Technical University, Faculty Of Civil Engineering, Civil Engineering Department, 2013 - 2018

## Courses

Çok Katlı Çelik Yapılar, Undergraduate, 2019 - 2020

Doctorate, 2019 - 2020

Doctorate, 2020 - 2021

## Supervised Theses

Alemdar F., Definition and validation of hyperelastic material using finite element hyperelastic models, Postgraduate, F.AHMED(Student), 2021

Alemdar F., Endüstriyel raf sistemlerinde kullanılan raf ayağı profillerinin kapasitelerinin incelenmesi, Postgraduate, C.YILDIRIM(Student), 2021

Alemdar F., Use of Carbon Fiber Layers and Steel Plates to Repair Fatigue Damage at the Rib-To-Rib Butt-Welded Connections of Orthotropic Steel Deck under Fatigue Loading, Doctorate, S.ALDIEN(Student), 2020

Alemdar F., EXPERIMENTAL STUDY OF EARTHQUAKE SIMULATOR FOR COLD-FORMED LIGHTWEIGHT STEEL STRUCTURES, Postgraduate, F.MOHAMMED(Student), 2020

Alemdar F., ANALYTICAL STUDY OF BOLTED LIGHTWEIGHT COLD FORMED STEEL CONNECTION, Postgraduate, H.DECHASA(Student), 2020

Alemdar F., Investigation of elastomeric bearings' behavior under fatigue loading, Postgraduate, K.EKŞİ(Student), 2019

Alemdar F., Çelik çekme kirişlerde bağlantıların yorulmasının deneysel incelenmesi, Postgraduate, N.DAWOOD(Student), 2019

Alemdar F., Sarsma Masası Deneyi Ve Sayısal Analizlerde Elde Edilen Dinamik Parametrelerin Görüntü İşleme Tekniği İle Karşılaştırılması, Postgraduate, N.AVCI(Student), 2019

Alemdar F., Asma Köprülerde Kullanılan Askı Halatlarının İncelenmesi, Postgraduate, A.KAAN(Student), 2019

Alemdar F., Enine takviyenin kirişler üzerindeki davranışının incelenmesi, Postgraduate, H.ALMUKHTAR(Student), 2019

Alemdar F., Eksenel Yüklü Tel Demet ve Halatların Çap ve Tel İlişkilerinin Karşılaştırılması, Postgraduate, A.AYKUT(Student), 2019

Alemdar F., Experimental and analytical investigation of fatigue life on trapezoidal longitudinal ribbed on steel bridge decks, Postgraduate, M.NAJEEB(Student), 2018

Alemdar F., Deprem etkisi altında demiryolu köprülerinin zayıf zeminlerde yapı-kazık-zemin etkileşimi için farklı analiz yöntemleri ile çözümü ve sonuçların karşılaştırılması, Postgraduate, A.GÜLSUYU(Student), 2018

Alemdar F., Experimental testing of fatigue life and improvement of trapezoidal longitudinal ribbed on bridge decks, Postgraduate, Z.HUSHAM(Student), 2017

Alemdar F., Güçlendirilmiş çelik kirişlerin yorulma analizi, Postgraduate, H.CEM(Student), 2017

Alemdar F., Çelik çubuk takviyeli ahşap kirişlerin taşıyıcı performansının deneysel ve analitik yöntemle incelenmesi, Postgraduate, Ö.FURKAN(Student), 2016

## Research Infrastructure Information

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

- I. **Investigation of Corrosion Effects on Collapse of Truss Structures**  
Firat Alemdar Z., Alemdar F.  
Buildings, vol.13, no.3, 2023 (SCI-Expanded)
- II. **Experimental Study of Earthquake Simulator for 3D Cold-Formed Steel Frame Structure**  
Alemdar F., Ahmed Al-Gaad F. M.  
Latin American Journal of Solids and Structures, vol.19, no.1, 2022 (SCI-Expanded)
- III. **Progressive collapse of a steel structure under expected snow loads**  
Firat Alemdar Z., Alemdar F.  
ENGINEERING FAILURE ANALYSIS, vol.125, 2021 (SCI-Expanded)
- IV. **Experimental investigation of bolted stiffened end-plate and bolted flange-plate connections**  
Yılmaz O., Bekiroğlu S., Alemdar F., Arslan G., Sevim B., Ayvaz Y.  
LATIN AMERICAN JOURNAL OF SOLIDS AND STRUCTURES, vol.16, no.3, 2019 (SCI-Expanded)
- V. **Experimental Study of Fatigue Crack Behavior of Rib-To-Rib Butt Welded Connections in Orthotropic Steel Decks**  
Saifaldien-Shakir S., Alemdar F.  
LATIN AMERICAN JOURNAL OF SOLIDS AND STRUCTURES, vol.15, 2018 (SCI-Expanded)
- VI. **Use of CFRP Overlays to Repair Fatigue Damage in Steel Plates under Tension Loading**  
Alemdar F., Gangel R., Matamoros A., Bennett C., Barrett-Gonzalez R., Rolfe S., Liu H.  
JOURNAL OF COMPOSITES FOR CONSTRUCTION, vol.18, no.4, 2014 (SCI-Expanded)
- VII. **Repairing Distortion-Induced Fatigue Cracks in Steel Bridge Girders Using Angles-with-Plate Retrofit Technique. I: Physical Simulations**  
Alemdar F., Nagati D., Matamoros A., Bennett C., Rolfe S.  
JOURNAL OF STRUCTURAL ENGINEERING, vol.140, no.5, 2014 (SCI-Expanded)
- VIII. **Repairing Distortion-Induced Fatigue Cracks in Steel Bridge Girders Using Angles-with-Plate Retrofit Technique. II: Computer Simulations**  
Alemdar F., Overman T., Matamoros A., Bennett C., Rolfe S.  
JOURNAL OF STRUCTURAL ENGINEERING, vol.140, no.5, 2014 (SCI-Expanded)
- IX. **Use of CFRP overlays to strengthen welded connections under fatigue loading**  
Alemdar F., Matamoros A., Bennett C., Barrett-Gonzalez R., Rolfe S. T.  
Journal of Bridge Engineering, vol.17, no.3, pp.420-431, 2012 (SCI-Expanded)
- X. **Fatigue enhancement of welded details in steel bridges using CFRP overlay elements**  
Kaan B. N., Alemdar F., Bennett C. R., Matamoros A., Barrett-Gonzalez R., Rolfe S.  
Journal of Composites for Construction, vol.16, no.2, pp.138-149, 2012 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Dynamic parameter identification of cold-formed storage rack systems using shaking table test**  
AL-Gaadi F. M., ALEMDAR F.  
Results in Engineering, vol.22, 2024 (ESCI)
- II. **Evaluation of the Crack Model of V Type Longitudinal Ribs on Orthotropic Deck Using Finite Element Analysis**  
Alemdar F.  
ARID International Journal for Science and Technology (AIJST), vol.4, no.7, pp.72-89, 2021 (Peer-Reviewed Journal)

- III. **The Effect of Weld Length on the Tension Capacity of Hollow Structural Section (HSS)**  
Alemdar F., Salman N.  
International Journal of Science and Technology, vol.3, no.5, pp.42-58, 2020 (Peer-Reviewed Journal)
- IV. **Sarsma masası testlerindeki dinamik parametrelerin görüntü işleme yöntemi ile ölçülmesi**  
Alemdar F., Avcı N.  
Dicle Üniversitesi Mühendislik Fakültesi, vol.10, no.3, pp.1099-1112, 2019 (Peer-Reviewed Journal)
- V. **Shaking table test and numerical simulation of 3D steel frame system**  
Alemdar F., Avcı N.  
Journal of Structural Engineering & Applied Mechanics, vol.2, no.2, pp.88-95, 2019 (Peer-Reviewed Journal)
- VI. **DEFORMATION MEASUREMENT IN A STEEL BRIDGE SYSTEM BY USING IMAGE PROCESSING METHOD**  
FIRAT ALEMDAR Z., BİLİCİ S., Alemdar F.  
Sigma Journal of Engineering and Natural Sciences, vol.9, no.2, pp.149-156, 2018 (ESCI)
- VII. **DEVELOPMENT OF DESIGN STRENGTH PROGRAM FOR STEEL PROFILES USING THE NEW TURKISH STEEL CODE**  
Aydın L., Alemdar F.  
Sigma Mühendislik ve Fen Bilimleri, vol.35, pp.633, 2017 (Peer-Reviewed Journal)

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

- I. **Partial Prototype Tests of a Developed Seismic Connection Apparatus**  
Yılmaz O., Bekiroğlu S., Alemdar F., Yılmaz M. O., Fırat Alemdar Z., Sevim B., Arslan G., Ayvaz Y.  
9. Yapı Mekaniği Laboratuvarları Çalıştayı, Düzce, Turkey, 18 - 19 October 2024, pp.155-160
- II. **C Kesitli Hafif Çelik Profilin Çekme Analizi**  
Kapıcıoğlu S., Alemdar F.  
9. Yapı Mekaniği Laboratuvarlar Çalıştayı, Düzce, Turkey, 18 - 19 October 2024, vol.1, no.1, pp.118-123
- III. **Çelik köprü kaynaklı birleşim detaylarında farklı parametrelerin yorulma davranışı üzerindeki etkisinin deneysel olarak incelenmesi**  
Alemdar F., Aydın E.  
9. yapı mekaniği laboratuvarlar çalıştayı, Düzce, Turkey, 18 - 19 October 2024, vol.1, no.1, pp.81-86
- IV. **Evaluation of Friction Behaviour in Metal-Metal Contact Surfaces under Cyclic Motions for Seismic Damping**  
Koyuncu T., Bekiroğlu S., Yılmaz O., Alemdar F., Yılmaz M. O., Fırat Alemdar Z., Sevim B., Arslan G., Ayvaz Y.  
XXIV International Scientific Conference VSU'2024, Sofija, Bulgaria, 10 - 12 October 2024, pp.1-10
- V. **Numeric Comparisons on the Mechanical Behavior of Some Metallic Yielding Type Hysteretic Energy Dissipation Device Components**  
Karabacak A., Peker K., ALEMDAR F.  
18th World Conference on Seismic Isolation, Energy Dissipation, and Active Vibration Control of Structures, WCSI 2023, Antalya, Turkey, 6 - 10 November 2023, vol.412 LNCE, pp.57-72
- VI. **Şubat 2023 Depremlerinin Bölgede Oluşturduğu Etkiler ve Yapay Zeka ile Afet Yönetim Planlaması**  
Doğan U., Yüzer N., Acar U., Akbaba M. F., Akbulut M. T., Akgün C., Akın O., Akkaya H. C., Akpınar B., Aktaş Z., et al.  
Türkiye Ulusal Jeodezi Komisyonu (TUJK) XXII. Sempozyumu 2023, Trabzon, Turkey, 29 November - 01 December 2023, pp.5-6
- VII. **Seismic Performance of Light Weight (Cold-Formed) Steel Frame Structure**  
Alemdar F., Algaadi F.  
International Civil Engineering & Architecture Conference (ICEARC 2019), Trabzon, Turkey, 17 - 20 April 2019, vol.1, no.1, pp.193-205
- VIII. **The Behavior of Cold Formed Steel Structure Connections**  
Alemdar F., Geleta H. D.  
International Civil Engineering & Architecture Conference (ICEARC 2019), Trabzon, Turkey, 17 - 20 April 2019, vol.1, no.1, pp.180-192

- IX. Multi-Layer Strand Wire Cable Analysis under the Different Diameter**  
Alemdar F., Narinođlu A.  
International Civil Engineering & Architecture Conference (ICEARC 2019), Trabzon, Turkey, 17 - 20 April 2019, vol.1, no.1, pp.206-219
- X. Investigation of Elastomeric Bearings' Behaviour under Fatigue Loading**  
ALEMDAR F., Ekşi K.  
INTERNATIONAL CONGRESS ON ENGINEERING AND LIFE SCIENCE, Kastamonu, Turkey, 26 April 2018, vol.1, no.1, pp.296
- XI. Project About Earthquake Simulator**  
ALEMDAR F.  
Seismic Loss, Rehabilitation and Post-Earthquake Crisis Management of Critical Infrastructure, İstanbul, Turkey, 20 November 2017, vol.1, no.1, pp.1-10
- XII. ALIN LEVHALI BULONLU KOLON-KİRİŞ BİRLEŞİMİNİN ÇEVİRİMSSEL YÜKLEME ALTINDA DENEYSEL ÇALIŞMASI**  
Yılmaz O., Bekirođlu S., Alemdar F., Arslan G., Sevim B., Ayvaz Y.  
4. Uluslararası Deprem Mühendisliđi ve Sismoloji Konferansı, Eskişehir, Turkey, 11 - 13 October 2017
- XIII. Estimation of the Performance of Closed Longitudinal Ribs Orthotropic Bridge deck sections on Stress Distribution**  
ALEMDAR F., Shakir S. ..  
INTERNATIONAL CONFERENCE ON ADVANCES IN SCIENCE AND ARTS, İstanbul, Turkey, 13 September 2017, vol.1, no.0, pp.250-254
- XIV. Parametric study of stress and displacement of the trapezoidal rib using 3-D finite element**  
ALEMDAR F., Mohamedawi Z. H. J. A.  
INTERNATIONAL CONFERENCE ON ADVANCES IN SCIENCE AND ARTS, İstanbul, Turkey, 13 September 2017, vol.1, no.0, pp.261-266
- XV. Parametric studies on trapezoidal longitudinal Ribs on orthotropic Bridge decks**  
ALEMDAR F., Abdulghani M. N.  
INTERNATIONAL CONFERENCE ON ADVANCES IN SCIENCE AND ARTS, İstanbul, Turkey, 13 September 2017, vol.1, no.0, pp.255-260
- XVI. Fatigue Performance of Steel Beams Strengthened with Steel Plates and CFRP Materials**  
AKKAYA H. C., ALEMDAR F.  
INTERNATIONAL CONFERENCE ON ADVANCES IN SCIENCE AND ARTS, İstanbul, Turkey, 13 September 2017, vol.1, no.0, pp.267-271
- XVII. Türkiye Bina Deprem Yönetmeliđine Taslađına Göre Yalıtım Birimi Testleri**  
ALEMDAR F.  
SİSMİK İZOLASYON ÇALIŞTAYI, Bursa, Turkey, 14 February 2017
- XVIII. YATAY TAŞIYICI AHŞAP ELEMANLARIN ÇELİK BAZLI ÇUBUKLARLA EĐİLME MOMENTİNE KARŞI PERFORMANSININ ARTIRILMASI**  
ALEMDAR F., SARAL Ö. F.  
Ahşabın Tasarım Serüveni, Turkey, 23 - 24 October 2016
- XIX. Evaluation of the Performance of Stress Measures for Longitudinal Ribs on Orthotropic deck Using Finite Element Analysis**  
Alemdar F.  
International Symposium on Steel Bridges, 2014, İstanbul, Turkey, 14 - 16 September 2015, vol.1, no.1, pp.121-128
- XX. Evaluation of the performance of retrofit measures for distortion-induced fatigue using finite element analysis**  
ALEMDAR F., Matamoros A., Bennett C., Rolfe S.  
World Steel Bridge Symposium (WSBS), 01 April 2012
- XXI. Improved method for bonding CFRP overlays to steel for fatigue repair**  
Alemdar F., MATAMOROS A. B., BENNETT C. R., BARRETT-GONZALEZ R., ROLFE S. T.  
Structures Congress 2011, Las Vegas, NV, United States Of America, 14 - 16 April 2011, pp.133-144

- XXII. **Parameters Affecting Behavior of CFRP Overlay Elements as Retrofit Measure for Fatigue Vulnerable Steel Bridge Girders**  
ALEMDAR F., KAAAN B., MATAMOROS A., BENNETT C., BARRET R. G., ROLFE S.  
Proceedings of Second International Conference on Fatigue and Fracture in the Infrastructure, 11 - 15 June 2009
- XXIII. **Parameters Affecting Behavior of CFRP Overlay Elements as Retrofit Measures for Fatigue Vulnerable Steel Bridge Girders**  
ALEMDAR F.  
Proceedings of the Fatigue and Fracture in the Infrastructure Conference, 01 June 2009

## Supported Projects

- ALEMDAR F., Karabacak A., Project Supported by Higher Education Institutions, Çelik Çaprazlar için Yeni Bir Metalik Sönümleyicinin Geliştirilmesi, 2024 - Continues
- SEVİM B., AYVAZ Y., ARSLAN G., BEKİROĞLU S., ALEMDAR F., AYDINER M. F., KAPICIOĞLU S., Project Supported by Higher Education Institutions, Ölçüm Bazlı Akıllı Betonarme Çerçeve Sistemler, 2024 - Continues
- BEKİROĞLU S., AYVAZ Y., ARSLAN G., SEVİM B., YILMAZ O., YILMAZ M. O., FIRAT ALEMDAR Z., ALEMDAR F., Project Supported by Higher Education Institutions, Similasyon Ortamında Geliştirilen Sürtünmeli ve Elastomerli Sismik Birleşim Aparatının Kısmi Prototip Testleri, 2022 - Continues
- Alemdar F., Aydın E., TUBITAK Project, Çelik Yapıların Bıçak Plakalı Birleşimlerinde Değişken Parametrelerin Yorulma Ömrü Üzerindeki Etkisi, 2024 - 2025
- Yüzer N., Yardım M. S., Turgut S., Yılmaz Genç S., Dikçınar Sel B., Erdem Okumuş D., Kılıç B., Özarpacı S., Bayrak O. C., Sakarya A., et al., Project Supported by Higher Education Institutions, Şubat 2023 Depremlerinin Bölgede Oluşturduğu Etkiler ve Yapay Zeka ile Afet Yönetim Planlaması, 2023 - 2024
- Bekiroğlu S., Alemdar F., Sevim B., Altunışık A. C., Adanur S., Ateş Ş., Genç A. F., Okur F. Y., Günaydın M., Demirkır C., et al., Project Supported by Higher Education Institutions, Mühendislik Yapılarının Dinamik Yükler Altındaki Performanslarının Yüksek Kapasiteli Sarsma Masası Kullanılarak Belirlenmesi, 2018 - 2021
- SEVİM B., ARSLAN G., BEKİROĞLU S., AYVAZ Y., ALEMDAR F., Project Supported by Higher Education Institutions, Ölçeklendirilmiş Betonarme Çerçevelerin Dinamik Davranışının Belirlenmesi, 2017 - 2020
- ALEMDAR F., FIRAT ALEMDAR Z., Project Supported by Higher Education Institutions, Bogaziçi Köprüsünün 2,5/1000 ölçekli laboratuvar modelinde deney ve simulasyon çalışmaları, 2015 - 2018
- BEKİROĞLU S., ALEMDAR F., ARSLAN G., AYVAZ Y., SEVİM B., YILMAZ O., Project Supported by Higher Education Institutions, Alın Levhalı Bulonlu ve Alın Levhasız Bulonlu Çelik Kolon-Kiriş Birleşimlerinin Deneysel ve Sonlu Elemanlar Analizleri ile Karşılaştırılması, 2015 - 2018
- Alemdar F., Fırat Alemdar Z., Sevim B., Arslan G., Ayvaz Y., Şahin A., Bekiroğlu S., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, Sönümleyici mesnet test merkezi, 2015 - 2016
- Alemdar F., Matamoros A., Project Supported by Public Organizations in Other Countries, Yapma I profil çelik kirişli köprülerde Distorsiyonun neden olduğu yorulma çatlaklarının iyileştirilmesi, 2008 - 2013
- Alemdar F., Matamoros A., Project Supported by Public Organizations in Other Countries, Altyapı İyileştirilmesi Sürdürülebilirlik II: Çelik Köprülerinde Mevcut Yorulma Çatlakların CFRP Malzemelerinin Kullanımı ile Tamiri, 2010 - 2012
- Alemdar F., Matamoros A., Project Supported by Public Organizations in Other Countries, Köprü uygulamalarında kullanılmak üzere Kompozit Malzeme Sistemleri, 2006 - 2008

## Scientific Refereeing

Sigma Mühendislik ve Fen Bilimleri Dergisi, National Scientific Refreed Journal, July 2013

## Metrics

Publication: 43  
Citation (WoS): 58  
Citation (Scopus): 105  
H-Index (WoS): 5  
H-Index (Scopus): 6

## **Congress and Symposium Activities**

Workshop on Seismic Loss, Rehabilitation and Post-Earthquake Crisis Management of Critical Infrastructure, Invited Speaker, İstanbul, Turkey, 2017  
SİSMİK İZOLASYON ÇALIŞTAYI, Invited Speaker, Bursa, Turkey, 2017

## **Artistic Activity**

Alemdar F., Ahşap Kule Yarışması, Show, April 2019  
Alemdar F., Ahşap Kule Yarışması, Show, December 2017

## **Non Academic Experience**

The University of Kansas, Araştırmacı  
Alemdar Mühendislik, Müdür Yardımcısı