

## **Prof. UĞURHAN AKYÜZ**

### **Personal Information**

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### **Education Information**

Doctorate, Middle East Technical University, Graduate School Of Natural And Applied Sciences, Yapı Mekaniği Anabilim Dalı, Turkey 1992 - 1998

### **Foreign Languages**

English, C1 Advanced

### **Research Areas**

Engineering and Technology

### **Academic Titles / Tasks**

Professor, Middle East Technical University, Faculty Of Engineering, Department Of Civil Engineering, 2010 - Continues  
Associate Professor, Middle East Technical University, Faculty Of Engineering, Department Of Civil Engineering, 2005 - 2010

Assistant Professor, Middle East Technical University, Faculty Of Engineering, Department Of Civil Engineering, 1998 - 2005

Lecturer PhD, University of Texas at Austin, Mühendislik, İnşaat Mühendisliği, 2002 - 2002

Lecturer, Indiana University-Purdue University at Indianapolis, Mühendislik, Makina, 1997 - 1998

Research Assistant, Middle East Technical University, Faculty Of Engineering, Department Of Civil Engineering, 1990 - 1998

### **Academic and Administrative Experience**

Middle East Technical University, Faculty of Engineering, 2012 - 2015

Middle East Technical University, Faculty of Engineering, 2009 - 2012

### **Advising Theses**

AKYÜZ U., A Method for the design of FRC tunnel linings reinforced with FRP bars, Postgraduate, M.Demir(Student), 2019

AKYÜZ U., Investigating the effect of different number of horizontal as well as vertical ground motions on base isolated structures with different heights, Postgraduate, B.Elçik(Student), 2019

AKYÜZ U., AN EXPERIMENTAL STUDY TO INVESTIGATE THE POSSIBILITY OF USING MACRO-SYNTHETIC FIBERS IN PRECAST TUNNEL SEGMENTS, Postgraduate, O.TENGİLİMOĞLU(Student), 2019

AKYÜZ U., ŞAHİN GÜÇHAN N., Structural analysis, evaluation and recommendations for conservation of the Lahore museum, Postgraduate, S.SHUJA(Student), 2018

AKYÜZ U., ŞAHİN GÜÇHAN N., Structural analysis, evaluation and recommendations for conservation of the lahore museum /, Postgraduate, S.Shuja(Student), 2018

AKYÜZ U., A new method to increase effectiveness of base isolation on torsionally unrestrained structures, Postgraduate, E.CAN(Student), 2016

AKYÜZ U., ŞAHİN GÜÇHAN N., Structural analysis of current condition of Kosovo Yashar Pasha Mosque and strengthening proposals /, Postgraduate, M.Emre(Student), 2014

AKYÜZ U., Structural analysis of current condition of Kosovo Yashar Pasha mosque and strengthening proposals, Postgraduate, M.EMRE(Student), 2014

AKYÜZ U., Experimental studies on fiber mesh reinforced elastomeric bearings, Doctorate, A.KARIMZADEH(Student), 2013

YAMAN İ. Ö. , AKYÜZ U., Behavior of cfrp confined concrete specimens under temperature cycles and sustained loads, Doctorate, B.ERDİL(Student), 2012

AKYÜZ U., A comparative study on direct analysis method and effective length method in one-story semi-rigid frames, Postgraduate, A.EMRAH(Student), 2012

AKYÜZ U., Response of asymmetric isolated buildings under bidirectional excitations of near-fault ground motions, Postgraduate, H.EDA(Student), 2012

AKYÜZ U., YAKUT A., Comparative study of commercial structural analysis programs in view of seismic assessment procedures in Turkish Earthquake Code 2007, Postgraduate, S.YILDIRIM(Student), 2011

AKYÜZ U., CANER A., Development of a new seismic isolator named "ball rubber bearing", Doctorate, C.ÖZKAYA(Student), 2010

AKYÜZ U., Vertical ground motion influence on seismically isolated & unisolated bridges, Postgraduate, N.Eser(Student), 2010

AKYÜZ U., Response of isolated structures under bi-directional excitations of near-field ground motions, Doctorate, G.ÖZDEMİR(Student), 2010

AKYÜZ U., Vertical ground motion influence on seismically isolated and unisolated bridges, Postgraduate, N.ESER(Student), 2010

AKYÜZ U., Modelling damage for elastoplasticity, Doctorate, C.Soyarslan(Student), 2009

AKYÜZ U., A new formulation for the analysis of bonded elastic layers, Doctorate, S.PINARBAŞI(Student), 2007

AKYÜZ U., Comparison of design specifications for seismically isolated buildings, Postgraduate, E.ACAR(Student), 2006

AKYÜZ U., Mechanical properties of cfrp anchorages, Postgraduate, G.Özdemir(Student), 2005

AKYÜZ U., YAKUT A., Effects of masonry infill walls on the seismic performance of buildings, Postgraduate, M.SELİM(Student), 2005

AKYÜZ U., Mechanical properties of CFRP anchor dowels, Postgraduate, G.ÖZDEMİR(Student), 2005

AKYÜZ U., Comparison of design codes for seismically isolated structures, Postgraduate, E.Acar(Student), 2005

AKYÜZ U., Finite element analysis of composite laminates subjected to axial and transverse loading, Postgraduate, İ.CEM(Student), 2004

AKYÜZ U., Strengthening of existing reinforced concrete frames, Postgraduate, İ.ERDEM(Student), 2003

AKYÜZ U., Comparative study of base isolated systems, Postgraduate, F.TÜRKMEN(Student), 2002

AKYÜZ U., Implementation of a generalized finite element program for hyperelastic materials., Postgraduate, C.SOYARSLAN(Student), 2002

AKYÜZ U., Numerical investigation of the elastic behaviour of rubber based seismic isolators., Postgraduate, Ş.GÜZEY(Student), 2002

AKYÜZ U., Mechanical properties of the urinary bladder during filling and emptying., Postgraduate, Y.ÖZEREN(Student), 2002

AKYÜZ U., Forced vibration testing of existing reinforced concrete buildings., Postgraduate, O.CEM(Student), 2002

## Jury Memberships

Associate Professor Exam, Associate Professor Exam, Karadeniz Teknik Üniversitesi, April, 2021

## Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Detailed Investigation of Glass Balustrade in Kashirskaya Shopping Mall Project**  
Demirel I. O. , YAKUT A., AKYÜZ U., Yigin H., Dikbayir H. E.  
TEKNIK DERGI, vol.32, no.1, pp.10565-10575, 2021 (Journal Indexed in SCI)
- II. **Experimental study on hybrid precast tunnel segments reinforced by macro-synthetic fibres and glass fibre reinforced polymer bars**  
Tengilimoglu O., AKYÜZ U.  
TUNNELLING AND UNDERGROUND SPACE TECHNOLOGY, vol.106, 2020 (Journal Indexed in SCI)
- III. **Forced Vibration Testing and Finite Element Modeling of a Nine-Story Reinforced Concrete Flat Plate-Wall Building**  
ÇELİK O. C. , SUCUOĞLU H., AKYÜZ U.  
EARTHQUAKE SPECTRA, vol.31, no.2, pp.1069-1081, 2015 (Journal Indexed in SCI)
- IV. **Lateral Response Comparison of Unbonded Elastomeric Bearings Reinforced with Carbon Fiber Mesh and Steel**  
Naghshineh A. K. , Akyuz U., Caner A.  
SHOCK AND VIBRATION, 2015 (Journal Indexed in SCI)
- V. **Seismic Resistance Evaluation of Traditional Ottoman Timber-Frame Himis Houses: Frame Loadings and Material Tests**  
Aktas Y. D. , AKYÜZ U., TÜREK A., Erdil B., ŞAHİN GÜÇHAN N.  
EARTHQUAKE SPECTRA, vol.30, no.4, pp.1711-1732, 2014 (Journal Indexed in SCI)
- VI. **Comparison of fundamental properties of new types of fiber-mesh-reinforced seismic isolators with conventional isolators**  
Naghshineh A. K. , AKYÜZ U., CANER A.  
EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS, vol.43, no.2, pp.301-316, 2014 (Journal Indexed in SCI)
- VII. **CFRP-confined concrete columns under different environmental conditions**  
Erdil B., AKYÜZ U., YAMAN İ. Ö.  
MAGAZINE OF CONCRETE RESEARCH, vol.65, no.12, pp.731-743, 2013 (Journal Indexed in SCI)
- VIII. **Dynamic analyses of isolated structures under bi-directional excitations of near-field ground motions**  
Ozdemir G., AKYÜZ U.  
SHOCK AND VIBRATION, vol.19, no.4, pp.505-513, 2012 (Journal Indexed in SCI)
- IX. **Mechanical behavior of CFRP confined low strength concretes subjected to simultaneous heating-cooling cycles and sustained loading**  
Erdil B., AKYÜZ U., YAMAN İ. Ö.  
MATERIALS AND STRUCTURES, vol.45, pp.223-233, 2012 (Journal Indexed in SCI)
- X. **Development of a new rubber seismic isolator: 'Ball Rubber Bearing (BRB)'**  
ÖZKAYA C., AKYÜZ U., CANER A., DİCLELİ M., Pinarbasi S.  
EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS, vol.40, no.12, pp.1337-1352, 2011 (Journal Indexed in SCI)
- XI. **Analytical Investigation of Lateral Strength of Masonry Infilled RC Frames Retrofitted with CFRP**  
Erdem I., AKYÜZ U.  
JOURNAL OF PERFORMANCE OF CONSTRUCTED FACILITIES, vol.24, no.4, pp.302-310, 2010 (Journal Indexed in SCI)
- XII. **Compression of solid and annular circular discs bonded to rigid surfaces**  
Pinarbasi S., Mengi Y., AKYÜZ U.

INTERNATIONAL JOURNAL OF SOLIDS AND STRUCTURES, vol.45, no.16, pp.4543-4561, 2008 (Journal Indexed in SCI)

- XIII. **Application of Continuum Damage Mechanics in discontinuous crack formation: Forward extrusion chevron**  
Soyarslan C., TEKKAYA A. E. , AKYÜZ U.  
ZAMM-ZEITSCHRIFT FÜR ANGEWANDTE MATHEMATIK UND MECHANIK, vol.88, no.6, pp.436-453, 2008 (Journal Indexed in SCI)
- XIV. **An experimental study on two different strengthening techniques for RC frames**  
Erdem I., Akyuz U., Ersoy U., Ozcebe G.  
ENGINEERING STRUCTURES, vol.28, no.13, pp.1843-1851, 2006 (Journal Indexed in SCI)
- XV. **A new formulation for the analysis of elastic layers bonded to rigid surfaces**  
Pinarbasi S., Akyuz U., Mengi Y.  
INTERNATIONAL JOURNAL OF SOLIDS AND STRUCTURES, vol.43, pp.4271-4296, 2006 (Journal Indexed in SCI)
- XVI. **Separation at the interface of non-linearly elastic spinning tube-rigid shaft subjected to circumferential shear**  
Akyuz U.  
INTERNATIONAL JOURNAL OF NON-LINEAR MECHANICS, vol.39, no.8, pp.1333-1341, 2004 (Journal Indexed in SCI)
- XVII. **Stability and breathing motions of pressurized compressible hyperelastic spherical shells**  
Akyuz U., Ertepinar A.  
JOURNAL OF SOUND AND VIBRATION, vol.247, no.2, pp.293-304, 2001 (Journal Indexed in SCI)
- XVIII. **Stability and asymmetric vibrations of pressurized compressible hyperelastic cylindrical shells**  
Akyuz U., Ertepinar A.  
INTERNATIONAL JOURNAL OF NON-LINEAR MECHANICS, vol.34, no.3, pp.391-404, 1999 (Journal Indexed in SCI)
- XIX. **Breathing motions and loss of stability of pre-stressed compressible hyperelastic cylindrical shells**  
Akyuz U., Ertepinar A.  
INTERNATIONAL JOURNAL OF ENGINEERING SCIENCE, vol.35, no.14, pp.1265-1275, 1997 (Journal Indexed in SCI)

## Books & Book Chapters

- I. **Restoration Project for Andron A in Labraunda**  
Bilgin Altınöz A. G. , Coutignies S., Erdil B., AKYÜZ U., TOPAL T., Akoğlu G., DİRİ F., ŞAHİN GÜÇHAN N.  
ODTÜ, 2013
- II. **Confinement Effectiveness of CFRP in Axial Members under Various Loading Conditions**  
ERDİL B., AKYÜZ U., YAMAN İ. Ö.  
in: Advanced Materials Research, , Editor, MULTI-FUNCTIONAL MATERIALS AND STRUCTURES IV Book Series, pp.277-281, 2013
- III. **Binalar için Deprem Mühendisliği Temel İlkeler**  
CANBAY E., GÜLKAN H. P. , YAKUT A., tankut t., ÖZCEBE G., SUCUOĞLU H., AKKAR D. S. , ersoy u., BAKIR B. S. , YILMAZ M. T. , et al.  
EVRİM, 2008

## Refereed Congress / Symposium Publications in Proceedings

- I. **A Comparative Experiment Study on Precast Tunnel Segments**  
Akyüz U., Tengilimoglu O., Talu E., Mert S.  
WORLD TUNNEL CONGRESS 2020, Kuala-Lumpur, Malaysia, 11 September 2020 - 17 February 2021, pp.327-332
- II. **A Method for the Design of FRC Tunnel Linings Reinforced with GFRP Bars**  
Akyüz U., Demir M., Erkus G.

WORLD TUNNEL CONGRESS 2020, Kuala-Lumpur, Malaysia, 11 - 17 September 2020, pp.333-338

- III. **COMPARISON OF MODELING APPROACHES FOR HIGH DAMPING RUBBER BEARINGS**  
YAKUT A., AKYÜZ U., çabuk e., murota n., suzuki s.  
16th world conference on seismic isolation, energy dissipation and active vibration control of structures, Saint Peter, Guernsey And Alderney, 1 - 06 July 2019
- IV. **BASE ISOLATION APPLICATIONS IN TURKEY**  
AKYÜZ U., YAKUT A.  
Elevent U.S. National Conference on Earthquake Engineering, Los-Angeles, Chile, 25 - 29 June 2018
- V. **A Comparative Study on Seismic Isolation Applications in Turkey**  
AKYÜZ U., CANER A., YAKUT A.  
15th World Conference on Seismic Isolation, Energy Dissipation and Active Vibration Control of Structures, Wellington, New Zealand, 27 - 29 April 2017
- VI. **Seismic retrofit of buildings with backbone dampers**  
Shaban N., Ozdemir S., CANER A., AKYÜZ U.  
6th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, COMPDYN 2017, Rhodes Island, Greece, 15 - 17 June 2017, vol.1, pp.2110-2118
- VII. **Remaining service life assessment of river bridges with cracked members**  
Ozdemir S., Topkara N., YAKUT A., AKYÜZ U., CANER A.  
8th International Conference on Bridge Maintenance, Safety and Management (IABMAS), Foz do Iguacu, Brazil, 26 - 30 June 2016, pp.412-413
- VIII. **Behavior of traditional timber frames under reverse cyclic loading**  
Aktaş Y. D. , AKYÜZ U., TÜRER A., ERDİL B., ŞAHİN GÜÇHAN N.  
Pacific Conference on Earthquake Engineering, 6 - 08 November 2015
- IX. **Confinement Effectiveness of CFRP in Axial Members under Various Loading Conditions**  
ERDİL B., AKYÜZ U., YAMAN İ. Ö.  
4th International Conference on Multi-Functional Materials and Structures (MFMS 2013), Bangkok, Thailand, 14 - 17 July 2013, vol.747, pp.277-279
- X. **Behaviour of CFRP confined low strength concrete columns under temperature changes**  
Erdil B., AKYÜZ U., YAMAN İ. Ö.  
fib Symposium 2012: Concrete Structures for Sustainable Community, Stockholm, Sweden, 11 - 14 June 2012, pp.307-310
- XI. **A comparative study of force-deformation relationship of FRP-confined concrete columns**  
Erdil B., AKYÜZ U., YAMAN İ. Ö. , Irfanoglu A.  
3rd International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, COMPDYN 2011, Corfu, Greece, 25 - 28 May 2011
- XII. **Dokuz Katlı Tünel Kalıp Bina Sonlu Eleman Modelinin Zorlamalı Titreşim Test Verileri ile Güncellenmesi**  
Çelik O. C. , Sucuoğlu H., Akyüz U.  
1. Türkiye Deprem Mühendisliği ve Sismoloji Konferansı, Ankara, Turkey, 11 - 14 October 2011, pp.1-7
- XIII. **Testing and Seismic Capacity Evaluation of a Typical Traditional Ottoman Timber Frame**  
aktaş y. d. , TÜRER A., ERDİL B., AKYÜZ U., ŞAHİN GÜÇHAN N.  
7TH INTERNATIONAL CONFERENCE ON STRUCTURAL ANALYSIS OF HISTORIC CONSTRUCTIONS: STRENGTHENING AND RETROFITTING, PTS 1 AND 2, Shanghai, China, 6 - 08 October 2010, vol.133134, pp.629-634
- XIV. **Symmetric and asymmetric vibrations of cylindrical shells**  
AKYÜZ U., Ertepinar A.  
7th International Conference on Vibration Problems (ICOVP 2005), İstanbul, Turkey, 5 - 09 September 2005, vol.111, pp.27-28
- XV. **Tensile capacities of CFRP anchors**  
Ozdemir G., AKYÜZ U.  
Workshop on Advances in Earthquake Engineering for Urban Risk Reduction, İstanbul, Turkey, 30 May - 01 June

2005, vol.66, pp.471-472

**XVI. Forced Vibration Testing of Reinforced Concrete Buildings**

Çelik O. C. , Sucuoğlu H., Akyüz U.

Fifth National Conference on Earthquake Engineering, İstanbul, Turkey, 26 - 30 May 2003, pp.1-10

**XVII. A comparative study on the strengthening of RC frames**

Erdem I., Akyuz U., Ersoy U., Ozcebe G.

Workshop on Seismic Assessment and Rehabilitation of Existing Buildings, İzmir, Turkey, 13 May 2003, vol.29, pp.407-432

**XVIII. Strengthening of infilled walls with CFRP sheets**

Ersoy U., Ozcebe G., Tankut T., Akyuz U., Erduran E., Erdem I.

Workshop on Seismic Assessment and Rehabilitation of Existing Buildings, İzmir, Turkey, 13 May 2003, vol.29, pp.305-334

## Supported Projects

AKYÜZ U., TENGİLİMOĞLU O., Project Supported by Higher Education Institutions, Prekast tünel segmanlarında noktasal basınç deneylerinin yapılabilmesi için altyapı geliştirilmesi, 2018 - 2019

## Citations

Total Citations (WOS):293

h-index (WOS):10