



## Assoc. Prof. Dr. AYKUT ERKAL

Mahmutbey Technology Campus  
+90 (212) 604 01 00 / 4014  
aykut.erkal@altinbas.edu.tr

0000-0002-1679-7937

Aykut Erkal

H-4143-2018

### EDUCATIONAL INFORMATION

| Degree            | University                  | Department                                 | Year(s)     |
|-------------------|-----------------------------|--|-------------|
| Doctoral Degree   | Bosphorus University        | Civil Engineering (Phd)                    | 2001 - 2007 |
| Master's Degree   | Bosphorus University        | Civil Engineering (Master's) (with Thesis) | 1998 - 2001 |
| Bachelor's Degree | Yildiz Technical University | Department of Civil Engineering            | 1994 - 1998 |

### RESEARCH AREAS

Structural Analysis, Conservation of Cultural Heritage, Mechanics of Structures

### ACADEMIC DUTIES

| Duty   | University                | Area                            | Year(s)     |
|--|---------------------------|---------------------------------|-------------|
| Research Assistant (I Worked As A  | University of Bath        | Civil Engineering               | 2010 - 2012 |
| Research Assistant (I Worked As A "scientific Researcher" On "minimization of Transport-induced Vibration Impacts On Existing Buildings" Under The Direction of Prof. Dr. Debra Laefer.) | University College Dublin | Civil Engineering               | 2008 - 2010 |
| Research Assistant (I Worked As A  | University College Dublin | Civil Engineering               | 2008 - 2008 |
| Research Assistant (I Worked As A research Assistant in the Department of Civil Engineering.   | Bosphorus University      | Department of Civil Engineering | 2001 - 2007 |

### ADMINISTRATIVE DUTIES

| Duty | University | Year(s) |
|------|------------|---------|
|------|------------|---------|

### ACADEMIC AND PROFESSIONAL MEMBERSHIPS

| Organisation                       | Membership | Year(s)     |
|------------------------------------|------------|-------------|
| Turkish Chamber of Civil Engineers | Member     | 2014 - 2025 |

### NON-UNIVERSITY EXPERIENCE

| Country | Organisation | Duty | Year(s) |
|---------|--------------|------|---------|
|---------|--------------|------|---------|

### BOOKS

**Seismic Base Isolation and Energy Absorbing Devices**  
Tezcan S.S. and Erkal A.  
Yüksek Öğrenim Eğitim ve Araştırma Vakfı, Yayın No: KT005/02, 2002  
[Scientific Book](#) [All](#)

### ARTICLES

**ARTICLES****Interaction of Vibrations of Road and Rail Traffic with Buildings and Surrounding Environment**

ERKAL AYKUT, Kocagöz Muhammed Şerif

Journal of Performance of Constructed Facilities, 2020

**International** DOI: 10.1061/(ASCE)CF.1943-5509.0001442**Impact of Traffic-Induced Vibrations on Residential Buildings and Their Occupants in Metropolitan Cities**

ERKAL AYKUT

PROMET - Traffic&amp;Transportation, 2019

**International** DOI: 10.7307/ptt.v31i3.3000**TREN GEÇİŞLERİNİN KÜÇÜK AYASOFYA CAMİ ÜZERİNDE VE YANINDAKİ SERBEST ZEMİN YÜZEYİNDE OLUŞTURDUĞU TİTREŞİMLERİN DENEYSEL OLARAK İNCELENMESİ**

ERKAL AYKUT

Uludağ University Journal of The Faculty of Engineering, 2017

**National** DOI: 10.17482/uumfd.336345**Transmission of Traffic-induced Vibrations on and around the Minaret of Little Hagia Sophia**

ERKAL AYKUT

INTERNATIONAL JOURNAL OF ARCHITECTURAL HERITAGE, 2017

**International** DOI: 10.1080/15583058.2016.1230657**Selection, production, and testing of scaled reinforced concrete models and their components**

Laefer Debra F., ERKAL AYKUT

CONSTRUCTION AND BUILDING MATERIALS, 2016

**International** DOI: 10.1016/j.conbuildmat.2016.08.129**Advantages of Infinite Elements over Prespecified Boundary Conditions in Unbounded Problems**

ERKAL AYKUT, Laefer Debra F., Tezcan Semih

JOURNAL OF COMPUTING IN CIVIL ENGINEERING, 2015

**International** DOI: 10.1061/(ASCE)CP.1943-5487.0000391**Environmental performance assessment using monitoring and DVS testing**

Aktas Yasemin Didem, D'Ayala Dina, ERKAL AYKUT, Stephenson Victoria

PROCEEDINGS OF THE INSTITUTION OF CIVIL ENGINEERS-ENGINEERING HISTORY AND HERITAGE, 2015

**International** DOI: 10.1680/ehah.14.00016**Laboratory testing of non-standard original historic building materials and related implications for conservation**

ERKAL AYKUT, D'Ayala Dina

QUARTERLY JOURNAL OF ENGINEERING GEOLOGY AND HYDROGEOLOGY, 2015

**International** DOI: 10.1144/qjegh2013-078**Climate threats to the earth-built heritage of Scotland**

Parkin Simon J., Adderley W. Paul, Kennedy Craig J., Aktas Yasemin Didem, D'Ayala Dina, ERKAL AYKUT

PROCEEDINGS OF THE INSTITUTION OF CIVIL ENGINEERS-ENGINEERING HISTORY AND HERITAGE, 2015

**International** DOI: 10.1680/ehah.14.00017**Value and vulnerability assessment of a historic tomb for conservation**

ERKAL AYKUT, Ozhan HO

TheScientificWorldJournal, 2014

**International** DOI: 10.1155/2014/357679**Evaluation of environmental impact on historical stone masonry through on-site monitoring appraisal**

ERKAL AYKUT, D'Ayala Dina, Stephenson Victoria

QUARTERLY JOURNAL OF ENGINEERING GEOLOGY AND HYDROGEOLOGY, 2013

**International** DOI: 10.1144/qjegh2012-060**Assessment of wind-driven rain impact, related surface erosion and surface strength reduction of historic building materials**

ERKAL AYKUT, D'Ayala Dina, Sequeira Lourenco

BUILDING AND ENVIRONMENT, 2012

**International** DOI: 10.1016/j.buildenv.2012.05.004

## ARTICLES

### **Manufacturing, assembly, and testing of scaled, historic masonry for one-gravity, pseudo-static, soil-structure experiments**

Laefer Debra F., Hong Linh Truong, ERKAL AYKUT, Long James H., Cording Edward J.

CONSTRUCTION AND BUILDING MATERIALS, 2011

International DOI: 10.1016/j.conbuildmat.2011.03.066

### **Assessment and Code Considerations for the Combined Effect of Seismic Base Isolation and Viscoelastic Dampers**

ERKAL AYKUT, Tezcan Semih, Laefer Debra F.

ISRN Civil Engineering, 2011

International DOI: 10.5402/2011/861451

### **Theoretical Solutions for Strength-Scaled Unreinforced Masonry for Scaled Soil-Structure Experimentation**

Laefer Debra F., ERKAL AYKUT, Cording Edward J., Long James H., Hong Linh Truong

JOURNAL OF TESTING AND EVALUATION, 2010

International DOI: 10.1520/JTE102420

## PROCEEDINGS

### **Engineering Risk Assessment and Cultural Analyses of Historic Nisanci Hamza Pasa Tomb in Istanbul**

ERKAL AYKUT, ÖZHAN HAKKI ORAL

2nd Specialty International Conference on Monumental Cemeteries: Knowledge, Conservation and Restyling, 2013

International

### **The Parnassus Project: archaeology and engineering collaboration for 3D data collection and analysis**

D'Ayala Dina, Copeland Penny, Aktaş Yasemin Didem, Earl Graeme, ERKAL AYKUT, Miles James, Richley Elizabeth, Stephenson

Victoria, Strutt Kris

41st Annual Conference of Computer Applications and Quantitative Methods in Archaeology (CAA), 2013

International

### **Structural Assessment of Ancient Building Components, the Temple of Artemis at Corfu**

Herdt Georg, ERKAL AYKUT, D'Ayala Dina, Jones Mark Wilson

Computer Applications and Quantitative Methods in Archaeology, 2012, 2012

International

### **The Role of Environmental Monitoring in Conservation of Cultural Heritage**

D'Ayala Dina, ERKAL AYKUT

WCCE-ECCE-TCCE Joint Conference 2, Seismic Protection of Cultural Heritage, 2011

International

### **Investigation of the Rail-induced Vibrations on a Masonry Historical Building**

ERKAL AYKUT, Laefer Debra F., Fanning Paul, Durukal Eser, HANCILAR UFUK, Kaya Yavuz

7TH INTERNATIONAL CONFERENCE ON STRUCTURAL ANALYSIS OF HISTORIC CONSTRUCTIONS:

STRENGTHENING AND RETROFITTING, PTS 1 AND 2, 2010

International

### **Factors affecting traffic-generated vibrations on structures and the masonry minaret of Little Hagia Sophia**

ERKAL AYKUT, Laefer Debra F., Fanning Paul, Durukal Eser, HANCILAR UFUK, Kaya Yavuz

BCRI Symposium 2010 (Bridge, Infrastructure and Concrete Research in Ireland), 2010

International

### **Building Response to Traffic-induced Vibrations and Related Human Disturbance**

ERKAL AYKUT, Laefer Debra F., Fanning Paul

Transportation Research Board 89th Annual Meeting, 2010

International

## SEISMIC BASE ISOLATION AND ENERGY ABSORBING DEVICES

ERKAL AYKUT, Tezcan Semih

ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, 2007

International

## PROCEEDINGS

### Case Studies A Rapid Technique to Determine Allowable Bearing Pressure

Tezcan Semih, Özdemir Zuhul, Keçeli Ali, ERKAL AYKUT

Seventh International Symposium on Field Measurements in Geomechanics (ASCE), 2007

International

### A Rapid Technique to Determine Allowable Bearing Pressure

Tezcan Semih, Özdemir Zuhul, Keçeli Ali, ERKAL AYKUT

International Earthquake Symposium Kocaeli 2007, 2007

International

## PROJECTS

### Minimization of transport-induced vibration impacts on existing buildings MOTIVOM (Executive)

Other Official Institutions and Organizations, 01.07.2008 - 01.08.2010

International Completed

### Hygrothermal Monitoring of the Timber Structures in İstanbul for Conservation (MOTIC) (Executive)

Scientific research project supported by Higher Education Institutions, 08.12.2013 - 08.12.2014

National Completed

### Quantification of Thermo-mechanical Impact on Historic Masonry: Environmental Monitoring and Numerical Modelling (Executive)

Scientific research project supported by Higher Education Institutions, 02.12.2012 - 02.12.2013

National Completed

## THESIS SUPERVISION

### Architectural appraisal and current condition assessment of Ottoman minarets in İstanbul

ATYAF AKRAM AHMED AL-DOORI

2024 Master's Degree

### A critical assessment of health and safety regulations and trainings in the construction industry of Pakistan

KHAWAJA AHMED WAHAJ WANI

2024 Master's Degree

### Developing a maintenance management system for water treatment plants in Najaf Al-Ashraf (Iraq)

MOHAMMED JALAL HABEEB AL-GRAITI

2024 Master's Degree

### Efficient Formulations for The Prediction of Natural Periods of Minarets Through Extensive Parametric Modal Analyses

ZAHRAA HUSHAM IBRAHIM HILMI

2024 Master's Degree

### Assesment of the dynamic properties and response of masonry minarets in Istanbul

MOHAMAD AL- ASWAD

2023 Master's Degree

### Dynamic analysis using the superposition of modes and horizontal earthquake spectra: Comparison with static analysis in the example of a 20-storey building

BASHAR HAMMOODI KHALAF AL-JANABI

2023 Master's Degree

### Tarihi minarelerin dinamik özellikleri ve deprem performansları

CİHAN CALP

2018 Master's Degree

### Tarihi Minarelerin Dinamik Özellikleri ve Deprem Performansları

Cihan Calp

Master's Degree

## COURSES

| Course Type       | Course Code | Course Name                         |
|-------------------|-------------|-------------------------------------|
| Bachelor's Degree | CVE202      | ENGINEERING MECHANICS II            |
| Bachelor's Degree | CVE102.1    | ENGINEERING MECHANICS I             |
| Bachelor's Degree | CVE491      | CIVIL ENGINEERING DESIGN PROJECT I  |
| Bachelor's Degree | CVE492      | CIVIL ENGINEERING DESIGN PROJECT II |
| Bachelor's Degree | CVE337      | COMPUTER AIDED STRUCTURAL ANALYSIS  |
| Bachelor's Degree | CVE232.1    | STRENGTH OF MATERIALS I             |
| Bachelor's Degree | CVE335      | STRUCTURAL ANALYSIS                 |
| Bachelor's Degree | CVE333      | STRENGTH OF MATERIALS II            |
| Bachelor's Degree | CVE232      | STRENGTH OF MATERIALS I             |
| Bachelor's Degree | CVE201      | ENGINEERING MECHANICS I             |

## PERSONAL INFORMATION

### CONTACT INFORMATION

Mahmutbey Technology Campus

Mahmutbey Dilmenler Caddesi, No:26, 34217 Bağcılar - İSTANBUL

+90 (212) 604 01 00 / 4014