

Res. Asst. PhD Bahar Ayhan

Personal Information

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Education Information

Doctorate, Ecole Normale Superieure de Cachan, France 2009 - 2013

Doctorate, Istanbul Technical University, İnşaat Fakültesi, İnşaat Mühendisliği Bölümü, Turkey 2006 - 2013

Undergraduate, Istanbul Technical University, İnşaat Fakültesi, İnşaat Mühendisliği Bölümü, Turkey 1999 - 2003

Dissertations

Doctorate, Damage evaluation of civil engineering structures under extreme loadings, Ecole Normale Supérieure De Cachan, 2013

Doctorate, Damage evaluation of civil engineering structures under extreme loadings, İstanbul Teknik Üniversitesi, İnşaat Fakültesi, İnşaat Mühendisliği Bölümü, 2013

Research Areas

Technical Sciences, Civil Engineering, Mechanical, Mechanics of Solid Bodies

Courses

Strength of Materials for Mining Engineers, Undergraduate, 2018 - 2019, 2019 - 2020, 2020 - 2021, 2021 - 2022

Dynamics, Undergraduate, 2018 - 2019, 2019 - 2020, 2020 - 2021

Mechanics of Inelastic Materials, Undergraduate, 2019 - 2020, 2020 - 2021, 2021 - 2022

Strength of Materials I, Undergraduate, 2019 - 2020

Technical Drawing, Undergraduate, 2018 - 2019

Numerical Methods, Undergraduate, 2017 - 2018

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Modeling strain rate effect on tensile strength of concrete using damage plasticity model**

Ayhan B., Lale E.

International Journal Of Impact Engineering, vol.162, 2022 (Journal Indexed in SCI)

II. **Coupled damage-plasticity model for cyclic loading: Theoretical formulation and numerical implementation**

Ayhan B., JEHEL P., Brancherie D., IBRAHIMBEGOVIC A.

ENGINEERING STRUCTURES, vol.50, pp.30-42, 2013 (Journal Indexed in SCI)

ARTICLES PUBLISHED IN OTHER JOURNALS

I. Size Effect Analysis of Concrete Beams Under Bending Using Crack-Band Approach

Ayhan B., Lale E., Çelik Muhtaroğlu N.

Politeknik Dergisi, pp.1, 2021 (National Refreed University Journal)

Refereed Congress / Symposium Publications in Proceedings

I. Identification Of Constitutive Parameters For Coupled And Softening Models

Ayhan B.

International Congress on Engineering and Architecture (ENAR 2018), Antalya, Turkey, 14 - 16 November 2018

II. BİRLEŞİK OLMAYAN AKMA KURALI UYGULAYARAK ANİZOTROPIK BÜNYE MODELLERİ DEĞERLENDİRMESİ

Ayhan B., İbrahimbegovic A.

20. ULUSAL MEKANİK KONGRESİ, Bursa, Turkey, 5 - 09 September 2017

III. STOCHASTIC COMPUTATIONAL METHOD FOR EVALUATION OF BEHAVIOR OF RANDOM ELASTIC MEDIA

Ayhan B., Graham Brady L.

20. ULUSAL MEKANİK KONGRESİ, Bursa, Turkey, 5 - 09 September 2017

IV. DETERMINATION OF MECHANICAL PROPERTIES OF MULTIPHASE COMPOSITE MATERIALS

Ayhan B., Graham Brady L.

2016 EMI (Engineering Mechanics Institute of the ASCE) International Conference, Metz, France, 25 - 27 October 2016

V. MULTISCALE ANALYSIS OF LOCALIZED FAILURE WITH COUPLED DAMAGE-PLASTICITY AND COMBINED ED-FEM AND X-FEM APPROACH

İbrahimbegovic A., Nikolic M., Marenic E., Ayhan B., Brancherie D.

8th International Congress of Croatian Society of Mechanics, Dubrovnik, Croatia, 29 September - 02 October 2015

VI. EFFECT OF STRAIN RATE ON STRUCTURAL STEEL DUCTILITY

Ayhan B., Ayhan D.

International Conference on Advances in Applied and Computational Mechanics, İzmir, Turkey, 5 - 07 August 2015

VII. IDENTIFICATION OF CONSTITUTIVE PARAMETERS FOR COUPLED PLASTICITY-DAMAGE AND SOFTENING MODELS

İmamovic I., Knopf Lenoir C., Ayhan B., İbrahimbegovic A.

2nd International Conference on Multi-scale Computational Methods for Solids and Fluids, Sarajevo, Bosnia And Herzegovina, 10 - 12 June 2015

VIII. MATERIAL MODELLING FOR METALS CONSIDERING DYNAMIC PLASTICITY

Ayhan B., İbrahimbegovic A.

11th World Congress on Computational Mechanics (WCCM XI), Barcelona, Spain, 20 - 25 July 2014

IX. HASAR-PLASTİSİTE ÇİFTİ MODELİ İLE ÇEVİRİMSSEL ELASTİK OLMAYAN DAVRANIŞLARIN İNCELENMESİ

Ayhan B., İbrahimbegovic A., Engin H.

XVIII. Ulusal Mekanik Kongresi, Manisa, Turkey, 26 - 30 August 2013

X. RATCHETING STRAIN SIMULATIONS OF METALLIC STRUCTURES

Ayhan B., Jehel P., İbrahimbegovic A., Engin H.

10th World Congress on Computational Mechanics (WCCM X), Sao-Paulo, Brazil, 8 - 13 July 2012

XI. THE ENERGY DISSIPATION IN METAL MEMBRANE UNDER CYCLIC LOADING

Ayhan B., Jehel P., İbrahimbegovic A.

7th International Conference on Computational Mechanics for Spatial Structures, Sarajevo, Bosnia And Herzegovina, 2 - 04 April 2012, pp.41-44

XII. COUPLED DAMAGE-PLASTICITY BASED CONSTITUTIVE MODELING OF METALLIC MEMBRANE ELEMENT UNDER CYCLIC LOADING

Ayhan B., Jehel P., İbrahimbegovic A., Engin H.

III ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Ioannina, Greece, 25 - 28 May 2011

- XIII. **Mixed finite element solution for in-plane free vibration analysis of circular composite beams**
Kadioğlu F., Ayhan B.
16th International Conference on Composites/Nano Engineering, ICCE-16, Kunming, China, 20 - 26 July 2008, pp.152-154
- XIV. **The Out-Of-Plane Natural Frequencies of Curved Composite Beams Including the Effect of the Rotary Inertia and Shear Deformation**
Ayhan B., Kadioğlu F.
The 9th International Conference on Computational Structures Technology, Athens, Greece, 2 - 05 September 2008
- XV. **IN-PLANE VIBRATION ANALYSIS OF CURVED COMPOSITE BEAM BY MIXED FINITE ELEMENT FORMULATION**
Ayhan B., Kadioğlu F.
16th INT. CONFERENCE on COMPOSITES/NANO ENGINEERING, Kunming, China, 20 - 26 July 2008
- XVI. **MIXED FINITE ELEMENT SOLUTION ON THE-OUT-OF PLANE NATURAL FREQUENCIES OF COMPOSITE CIRCULAR BEAMS**
Ayhan B., Kadioğlu F.
8th. World Congress on Computational Mechanics (WCCM8), Venice, Italy, 30 June - 05 July 2008
- XVII. **DAİRE EKSENLİ ÇUBUKLARIN DİNAMİK ANALİZİ**
Çoban M., Ayhan B., Kadioğlu F.
XV.Ulusal Mekanik Kongresi, Isparta, Turkey, 3 - 07 September 2007, pp.299-307
- XVIII. **FREE VIBRATION ANALYSIS OF CURVED COMPOSITE BEAM BY MIXED FINITE ELEMENT FORMULATION**
Ayhan B., Kadioğlu F.
15th INT. CONFERENCE on COMPOSITES/NANO ENGINEERING, Haikou, China, 15 - 21 July 2007, pp.39-40

Supported Projects

Ayhan B., Project Supported by Higher Education Institutions, DETERMINATION OF MECHANICAL PROPERTIES OF MULTIPHASE COMPOSITE MATERIALS, 2016 - 2018

Ayhan B., Project Supported by Higher Education Institutions, Effect Of Strain Rate On Structural Steel Ductility, 2015 - 2018

Ayhan B., Project Supported by Higher Education Institutions, Material Modelling for Metals Considering Dynamic Plasticity, 2014 - 2018

Scientific Refereeing

Coupled Systems Mechanics, Journal Indexed in ESCI, May 2022

ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, SCI Journal, January 2022

ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, SCI Journal, July 2021

ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, SCI Journal, March 2021

ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, SCI Journal, January 2020

Thin-Walled Structures, SCI Journal, April 2017

Thin-Walled Structures, SCI Journal, March 2017

Computers and Concrete, SCI Journal, September 2016

International Journal of Solids and Structures, SCI Journal, September 2014

Coupled Systems Mechanics, Other Indexed Journal, May 2014

Coupled Systems Mechanics , Other Indexed Journal, February 2014

Citations

Total Citations (WOS):16

h-index (WOS):1