

# SERKAN BEKİROĞLU

## ASSOC. PROF.



**Address** : Yıldız Teknik Üniversitesi İnşaat  
Fakültesi İnşaat Mühendisliği Bölüm Başkanlığı, B  
Blok Zemin Kat, Davutpaşa Kapüsü, 34220,  
Esenler/İstanbul

### Learning Knowledge

Doctorate 2003 - 2010	Karadeniz Teknik Üniversitesi, Faculty of Education, Computer And Instructional Technologies Education, Turkey
Post Graduate 2000 - 2003	Karadeniz Teknik Üniversitesi, Mühendislik Ve Mimarlık, İnşaat Mühendisliği, Turkey
Under Graduate 1996 - 2000	Karadeniz Teknik Üniversitesi, Mühendislik Ve Mimarlık, İnşaat Mühendisliği, Turkey

### Certificates, Courses and Trainings

Education Management and Planning, High Performance Computations for Engineering, Faculty of Engineering, University of Pécs, 2006  
Education Management and Planning, Erasmus Programı, Ruhr Üniversitesi, 2004  
Education Management and Planning, İngilizce Eğitim Programı, Bilkent Üniversitesi, 2002

### Dissertations

Doctorate, P-yöntemine dayalı üç boyutlu sonlu elemanlar ile yapıların elastostatik ve elastodinamik analizi, Karadeniz Technical University, 2010  
Post Graduate, Genetik algoritma ile çelik çerçevelerin optimum boyutlandırılması, Karadeniz Technical University, 2003

### Academic Titles / Tasks

Associate Professor 2017 - Continues	Yıldız Teknik Üniversitesi, Faculty of Construction, İnşaat Mühendisliği
Assistant Professor 2010 - 2017	Yıldız Teknik Üniversitesi, Faculty of Construction, İnşaat Mühendisliği
Assistant Professor 2010 - 2012	Gümüşhane Üniversitesi, Mühendislik Fakültesi, İnşaat Mühendisliği

Lecturer  
2008 - 2010

Gümüşhane Üniversitesi, Mühendislik Fakültesi, İnşaat Mühendisliği

Lecturer  
2007 - 2008

Karadeniz Teknik Üniversitesi, Gümüşhane Mühendislik Fakültesi,  
İnşaat Mühendisliği Bölümü

Research Assistant  
2001 - 2007

Karadeniz Teknik Üniversitesi, Fen Bilimleri Enstitüsü, İnşaat  
Mühendisliği

## Supported Projects

1. Altunışık A. C. , Sevim B., Bekiroğlu S., Alemdar F., Project Supported by Higher Education Institutions, Mühendislik Yapılarının Dinamik Yükler Altındaki Performanslarının Sarsma Masası Kullanılarak Belirlenmesi, 2017 - 2019
2. BEKİROĞLU S., 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
3. BEKİROĞLU S., TUBITAK Project, Karadeniz'in güney-batı sahillerinin sahip olduğu dalga enerji potansiyelinin zamansal ve mekansal analizi, 2015 - 2017
4. 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

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

1. **Wave energy potential and variability for the south west coasts of the Black Sea: The WEB-based wave energy atlas**  
Bingölbali B., Jafali H., Akpınar A., Bekiroğlu S.  
RENEWABLE ENERGY, vol.154, pp.136-150, 2020 (Journal Indexed in SCI Expanded)
2. **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, 2019 (Journal Indexed in SCI)
3. **Seismic Performance of Post-Northridge Welded Connections**  
YILMAZ O., BEKİROĞLU S.  
LATIN AMERICAN JOURNAL OF SOLIDS AND STRUCTURES, vol.15, 2018 (Journal Indexed in SCI)
4. **Determination of structural performance of 3D steel pipe rack suspended scaffolding systems**  
ARSLAN G., SEVİM B., BEKİROĞLU S.  
STRUCTURAL ENGINEERING AND MECHANICS, vol.64, pp.671-681, 2017 (Journal Indexed in SCI)
5. **EXPERIMENTAL EVALUATION OF TIE BAR EFFECTS ON STRUCTURAL BEHAVIOR OF SUSPENDED SCAFFOLDING SYSTEMS**  
SEVİM B., BEKİROĞLU S., ARSLAN G.  
ADVANCED STEEL CONSTRUCTION, vol.13, pp.62-77, 2017 (Journal Indexed in SCI)
6. **A new developed approach for EDL induced from a single concentrated force**  
Bekiroğlu S., Arslan G., Sevim B.  
STEEL AND COMPOSITE STRUCTURES, vol.21, pp.1105-1119, 2016 (Journal Indexed in SCI)
7. **THE EFFECT OF REINFORCING PANEL ZONE OF BOLTED END PLATE COLUMN BEAM CONNECTIONS**

Yılmaz O., Bekiroğlu S.

JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.31, pp.241-253, 2016 (Journal Indexed in SCI)

**8. Doğrusal Olmayan Rüzgâr Etkisindeki Dairesel Kesitlerde Geliştirilmiş Sonlu Elemanlar Uygulaması**

Bekiroğlu S., Ayvaz Y.

Teknik Dergi, vol.26, pp.7027-7054, 2015 (Journal Indexed in SCI Expanded)

**9. Performance evaluation of parametric models in the hindcasting of wave parameters along the south coast of Black Sea**

Akpınar A., Özger M., BEKİROĞLU S., Kömürcü M. İ.

INDIAN JOURNAL OF GEO-MARINE SCIENCES, vol.43, pp.899-914, 2014 (Journal Indexed in SCI)

**10. The comparison of different mathematical methods to determine the BOD parameters, a new developed method and impacts of these parameters variations on the design of WWTPs**

Sibil R., Berkun M., BEKİROĞLU S.

APPLIED MATHEMATICAL MODELLING, vol.38, pp.641-658, 2014 (Journal Indexed in SCI)

**11. Evaluation of rigid-end offset effect on seismic behavior of a structure subjected to Van earthquake**

Bekiroğlu S., Sahin A., Sevim B., Ayvaz Y.

STRUCTURAL ENGINEERING AND MECHANICS, vol.47, pp.857-879, 2013 (Journal Indexed in SCI)

**12. Weight minimization of trusses with genetic algorithm**

DEDE T., Bekiroglu S., AYVAZ Y.

APPLIED SOFT COMPUTING, vol.11, pp.2565-2575, 2011 (Journal Indexed in SCI)

**13. Implementation of different encoding types on structural optimization based on adaptive genetic algorithm**

Bekiroglu S., DEDE T., Ayvaz Y.

FINITE ELEMENTS IN ANALYSIS AND DESIGN, vol.45, pp.826-835, 2009 (Journal Indexed in SCI)

**14. Shear locking-free analysis of thick plates using Mindlin's theory**

Özdemir Y. I. , Bekiroğlu S., Ayvaz Y.

STRUCTURAL ENGINEERING AND MECHANICS, vol.27, pp.311-331, 2007 (Journal Indexed in SCI)

## Articles Published in Other Journals

**1. ASSESSMENT OF WIND PRESSURE BY EUROCODE-1, TS 498 AND CFD ANALYSES FOR DOUBLE-SLOPED ROOF BUILDING**

Zeyrek H., Bekiroğlu S.

SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI, vol.37, pp.251-272, 2019 (Journal Indexed in ESCI)

**2. A Study on Effect of Sizing Bolt Hole in Single-Lap Connection Using FEA**

Zafer A., YILMAZ O., BEKİROĞLU S.

Journal of Scientific Research and Reports, vol.19, pp.1-14, 2018 (Refereed Journals of Other Institutions)

**3. Least Weight Design of Space Trusses by using Value Encoding in GA with Discrete Design Variables**

Dede T., Bekiroğlu S., Ayvaz Y.

e-Journal of New World Sciences Academy, vol.4, pp.414-427, 2009 (Refereed Journals of Other Institutions)

## Book & Book Chapters

1. **in: Advanced and Innovations in Systems, Computing Sciences and Software Engineering**  
Tođan V., Bekirođlu S.  
A finite element program based on object-oriented framework for spatial trusses, Khaled Elleithy, Editor, Springer, London/Berlin , Dordrecht, pp.445-450, 2007

## Refereed Congress / Symposium Publications in Proceedings

1. **INVESTIGATION OF REINFORCED CONCRETE BEAM-COLUMN JOINT BEHAVIOUR THROUGH NUMERICAL SIMULATIONS**  
Yılmaz M. O. , Demirbađ A. T. , Bekirođlu S.  
International Civil Engineering and Architecture Conference 2019, Trabzon, Turkey, 17 - 20 Nisan 2019, pp.1519-1528
2. **A Research Study on Dynamic Interaction of Adjacent Deck on Pile Wharf Modules**  
Karakas N., Bekirođlu S.  
International Civil Engineering & Architecture Conference (ICEARC 2019), Trabzon, Turkey, 17 - 20 Nisan 2019, pp.2094-2108
3. **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 Ekim 2017
4. **Numerical Simulation of a Building on Shaking Table**  
Abdulghafoor H. M. , Bekirođlu S.  
8th International Advanced Technologies Symposium, Elaziđ, Turkey, 19 - 20 Ekim 2017, pp.2461-2467
5. **Investigation of Reinforcing Beam-Web on Bolted Unstiffened End-Plate Connections**  
Yılmaz O., Bekirođlu S.  
XVII International Scientific Conference VSU'2017, Sofija, Bulgaria, 8 - 09 Haziran 2017, pp.142-149
6. **Finite Element Modelling Of A Retaining Wall With Functionally Graded Material**  
Alimam H., BEKİROĐLU S.  
1th INTERNATIONAL CONFERENCE ON ADVANCES IN SCIENCE AND ARTS, İstanbul, Turkey, 29 Mart 2017, pp.278-289
7. **Performance Evaluation of Weak-Axis Steel Moment Connections**  
Yılmaz O., Bekirođlu S.  
Proceedings ?VI International Scientific Conference VSU'2016, Sofija, Bulgaria, 9 - 10 Haziran 2016, pp.352-358
8. **DBYBHY-2007'deki Moment Aktaran Kaynaklı Birleşimlerin Monotonik Yükleme Altındaki Davranışı**  
Yılmaz O., Bekirođlu S.  
6. Çelik Yapılar Sempozyumu, Eskişehir, Turkey, 15 - 17 Ekim 2015, pp.117-126
9. **Response spectral analysis of orthotropic steel deck as per Turkish local design spectrums**  
Fettahođlu A., Bekirođlu S., Bal İ. E.  
International Conference On Civil And Environmental Engineering, Nevşehir, Turkey, 20 - 23 Mayıs 2015, pp.1123-1134
10. **DBYBHY-2007'ye Göre Moment Aktaran Bulonlu Birleşimlerin Sonlu Elemanlar Yöntemi ile Analizi**  
Yılmaz O., Bekirođlu S.  
Sekizinci Ulusal Deprem Mühendisliđi Konferansı, İstanbul, Turkey, 11 - 15 Mayıs 2015, pp.383-394
11. **Behaviour of Pretensioned Bolted Steel Column – Beam Connections Subjected to Monotonic Loading**  
Yılmaz O., Bekirođlu S.

- 11th International Congress on Advances in Civil Engineering (ACE 2014), İstanbul, Turkey, 21 - 25 Ekim 2014, pp.1-8
12. **Numerical Simulations of Bolted Steel Connections in Single and Double Shear Under Pretension Effect**  
Bekirođlu S., Yılmaz O.  
11th International Congress on Advances in Civil Engineering (ACE 2014), İstanbul, Turkey, 21 - 25 Ekim 2014, pp.1-7
13. **Betonarme Yapı Üzerine Çelik Taşıyıcı Sisteme Sahip Çok Amaçlı Salon Tasarımı**  
Sevim B., Şahin A., Ayvaz Y., Bekirođlu S.  
5. Çelik Yapılar Sempozyumu, İstanbul, Turkey, 13 - 15 Kasım 2013, pp.297-305
14. **Usage of An Infill-Wall Model Having Only Compression Capacity to Determine Seismic Behavior.**  
Eser N., Bekirođlu S., Ayvaz Y.  
International Van Earthquake Symposium, Van, Turkey, 23 - 27 Ekim 2013, pp.1-10
15. **Van Gar Binası Modelinde Rijit Birleşim Bölgesi Tanımlamanın Van Depremleri Altında Doğrusal Olmayan Dinamik Analiz ile İrdelenmesi**  
Bekirođlu S., Şahin A., Sevim B., Ayvaz Y.  
İnşaat Mühendisliğinde 100. Yıl Teknik Kongresi, İstanbul, Turkey, 22 Kasım 2012, pp.1-11
16. **Effects of Considering Kinematic Hardening in Stress Calculations**  
Fettahođlu A., Bekirođlu S.  
10th International Congress on Advances in Civil Engineering, Ankara, Turkey, 17 - 19 Ekim 2012, pp.1-10
17. **Evaluation of h, p and hp FEM for Elastostatic Plane Problems**  
Bekirođlu S., Ayvaz Y., İtir Özdemir Y.  
The 8th International Congress on Advances in Civil Engineering, Gazimagusa, Cyprus (Kktc), 15 - 17 Eylül 2008, pp.123-131
18. **Nonlinear Modeling of Reinforced Concrete Beam**  
Dede T., Ayvaz Y., Bekirođlu S., Çelik H.  
The 8th International Congress on Advances in Civil Engineering, Gazimagusa, Cyprus (Kktc), 15 - 17 Eylül 2008, pp.133-140
19. **Effects of Some Parameters in a Genetic Algorithm for Large Truss Structures**  
Dede T., Bekirođlu S., Ayvaz Y.  
The Ninth International Conference on the Application of Artificial Intelligence to Civil, Structural and Environmental Engineering: Soft Computing Tools for Structural Optimisation, Sighghiewi, Malta, 18 - 21 Eylül 2007, pp.1-11
20. **Parallelization of A Serial Frame Analysis Program Based on MPI**  
Bekirođlu S., Leimbach K. R.  
Proceeding of ACE 2006 Advances in Civil Engineering 7th International Conference, İstanbul, Turkey, 11 - 13 Ekim 2006, pp.1-12
21. **Betonarme Yapıların Lineer Olmayan Davranışının Modellenmesi**  
Dede T., Çelik H., Bekirođlu S.  
Proceeding of ACE 2006 Advances in Civil Engineering 7th International Conference, İstanbul, Turkey, 11 - 13 Ekim 2006, pp.1-10
22. **Development and Verification of hp-FEM for Elastostatic Plane Problems**  
Bekirođlu S., Kuhl D.  
Proceeding of ACE 2006 Advances in Civil Engineering 7th International Conference, İstanbul, Turkey, 11 - 13 Ekim 2006, pp.1-11
23. **Genetik Algoritmalarda Bazı Parametrelerin Etkisi**  
Bekirođlu S., Ayvaz Y., Dede T.  
The seventh International Congress on Advances in Civil Engineering, ACE 2006, İstanbul, Turkey, 11 - 13 Ekim 2006, pp.1-10
24. **Optimization of Steel Frame with Genetic Algorithm Using Different Encoding Types**  
Bekirođlu S., Ayvaz Y., Dede T.

The 6th International Conference on Advances in Civil Engineering, ACE 2004, İstanbul, Turkey, 6 - 08 Ekim 2004, pp.241-250

25. **Genetik Algoritma ile Çelik Düzlem Çerçevesinin Optimizasyonu**

Bekiroğlu S., Ayvaz Y., Dede T.

Türkiye İnşaat Mühendisliği XVII. Teknik Kongre ve Sergisi, İstanbul, Turkey, 15 - 17 Nisan 2004, pp.1-12

26. **Optimization of Truss Structures Using Value Encoding in a Genetic Algorithm**

Dede T., Ayvaz Y., Bekiroğlu S.

The Seventh International Conference on the Application of Artificial Intelligence to Civil and Structural Engineering, Enschede, Netherlands, 2 - 04 Eylül 2003, pp.1-15

27. **Değer Kodlaması Kullanarak Kafes Sistemlerin Genetik Algoritma İle Minimum Ağırlıklı Boyutlandırılması**

Dede T., Ayvaz Y., Bekiroğlu S.

3. Uluslararası İleri Teknolojiler Sempozyumu, Ankara, Turkey, 18 - 20 Ağustos 2003, pp.287-300

28. **Değer Kodlaması Kullanarak Uzay Kafes Sistemlerin Genetik Algoritma İle Optimum Tasarımı**

Dede T., Ayvaz Y., Bekiroğlu S.

Deprem Sempozyumu Kocaeli 2003, Kocaeli, Turkey, 12 - 14 Mart 2003, pp.498-507

## Other Publications

1. **p-Yöntemine Dayalı Üç Boyutlu Sonlu Elemanlar ile Yapıların Elastostatik ve Elastodinamik Analizi**

BEKİROĞLU S.

Other, 2010

2. **Genetik Algoritma ile Çelik Çerçevesinin Optimum Boyutlandırılması**

BEKİROĞLU S.

Other, 2003

## Professional Experience

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2015 - Continues	<b>Assistant Manager of Research and Application Center</b>	Yıldız Teknik Üniversitesi
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## Advising Theses

BEKİROĞLU S., Rüzgâr Etkisindeki Binalarda Dış Yüzey Basınçlarının Hesaplamalı Akışkanlar Dinamiği ile Analizi, Post Graduate, H.Zeyrek(Student), 2019

BEKİROĞLU S., Çok Katlı Ahşap Yapıların Deprem Yükü Altında Performanslarının İncelenmesi, Post Graduate, Y.Gürel(Student), 2018

BEKİROĞLU S., Takviyeli Alın Levhalı Bulonlu Kiriş-Kolon Birleşimlerinin Sonlu Eleman Analizleri, Post Graduate, A.Zafer(Student), 2018

BEKİROĞLU S., Numerical Simulation for Investigation of Dynamic Behavior of Buildings with a Shaking Table, Post Graduate, H.Mohammed(Student), 2018

BEKİROĞLU S., Finite Element Analyses of Structural Problems With FGM Using High Order Elements, Post Graduate, H.Alimam(Student), 2017

BEKİROĞLU S., DBYBHY-2007'deki Moment Aktaran Çelik Birleşimlerin Sonlu Eleman Analizleri, Post Graduate, O.YILMAZ(Student), 2015

BEKİROĞLU S., Sonlu Elemanlar Yöntemi ile Ortotrop Çelik Köprülerin Boyutlandırılmasının Araştırılması, Doctorate, A.FETTAHOĞLU(Student), 2015

## **Scientific Refereeing**

Teknik Dergi, National Scientific Refreed Journal, December 2017  
Arabian Journal for Science and Engineering , National Scientific Refreed Journal, November 2017  
Arabian Journal for Science and Engineering , SCI Journal, August 2017  
Finite Element, SCI Journal, April 2015  
Optimization, SCI Journal, February 2015  
Civil Engineering, National Scientific Refreed Journal, February 2014  
Finite Element, SCI Journal, January 2014  
Finite Element, SCI Journal, October 2012  
Optimization, SCI Journal, June 2012

## **Tasks In Event Organizations**

Bekiroğlu S., International Civil Engineering and Architecture Conference 2019, Scientific Congress, Trabzon, Turkey, Nisan 2019

## **Invited Congress and Symposium Activities**

International Civil Engineering and Architecture Conference 2019, Session Moderator, Trabzon, Turkey, 2019  
Structural System Tests Using Shaking Table , Working Group, Trabzon, Turkey, 2019

## **Citations**

Total Citations (WOS):84  
h-index (WOS):3

## **Research Areas**

Civil Engineering, Structure, Structural Engineering, Steel Structures, Performance of Constructed Facilities, Concrete Structures, Engineering and Technology