

## Assoc. Prof. Yeşim AKBULUT

### Personal Information

**Fax Phone:** [+90 442 231 4109](tel:+904422314109)

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### International Researcher IDs

ORCID: 0000-0003-2732-8900

Yoksis Researcher ID: 34425

### Education Information

Doctorate, Ataturk University, Fen Bilimleri Enstitüsü, Matematik, Turkey 2007 - 2012

Undergraduate, Ataturk University, Kâzım Karabekir Eğitim Fakültesi, Matematik Öğretmenliği, Turkey 2002 - 2007

### Dissertations

Doctorate, Hiperbolik bir problemde başlangıç şartının optimal kontrolü, Atatürk Üniversitesi, Matematik, Uygulamalı Matematik, 2012

### Research Areas

Mathematics, Differential Equations, Partial Differential Equations, Optimization, Natural Sciences

### Academic Titles / Tasks

Associate Professor, Ataturk University, Fen Fakültesi, Matematik, 2021 - Continues

Assistant Professor, Ataturk University, Fen Fakültesi, Matematik, 2018 - 2021

Assistant Professor, Ataturk University, Fen Fakültesi, Matematik, 2014 - 2018

Research Assistant, Ataturk University, Fen Fakültesi, Matematik, 2009 - 2014

### Courses

Sayısal Yöntemler, Undergraduate, 2023 - 2024

Fark Denklemler, Undergraduate, 2023 - 2024, 2022 - 2023

Bilgisayar Uygulamaları, Undergraduate, 2023 - 2024, 2020 - 2021

Partial differential equation, Undergraduate, 2023 - 2024, 2022 - 2023

Uzmanlık Alan Dersi, Postgraduate, 2023 - 2024

Sayısal Yöntemler (B), Undergraduate, 2023 - 2024

İleri Diferansiyel Denklemler I, Postgraduate, 2023 - 2024

Postgraduate, 2023 - 2024

Nümerik Analiz, Undergraduate, 2023 - 2024

Optimization, Undergraduate, 2023 - 2024

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

- I. **Sidewise Profile Control of 1-D Waves**  
SARAÇ Y., Zuazua E.  
JOURNAL OF OPTIMIZATION THEORY AND APPLICATIONS, vol.193, no.1-3, pp.931-949, 2022 (SCI-Expanded)
- II. **ON OPTIMAL CONTROL OF THE INITIAL VELOCITY OF AN EULER-BERNOULLI BEAM SYSTEM**  
Engin A., Sarac Y., Celik E.  
THERMAL SCIENCE, vol.26, 2022 (SCI-Expanded)
- III. **Existence and multiplicity of solutions for a Schrodinger-Kirchhoff type equation involving the fractional  $p(\cdot)$ -Laplacian operator in  $R^N$**   
Ayazoğlu R., Saraç Y., Şener Kılıç S. Ş., Alisoy G.  
COLLECTANEA MATHEMATICA, vol.72, no.1, pp.129-156, 2021 (SCI-Expanded)
- IV. **Estimating fixed points of non-expansive mappings with an application**  
Jubair M., Khan F. A., Ali J., SARAÇ Y.  
AIMS MATHEMATICS, vol.6, no.9, pp.9590-9601, 2021 (SCI-Expanded)
- V. **A comparative study on theoretical and experimental methods using basic electrical parameters of Au/CNTs/InP/Au-Ge diodes**  
Saraç Y., Sener S. Ş., Baltakesmez A., Güzeldir B., Sağlam M.  
JOURNAL OF ALLOYS AND COMPOUNDS, vol.824, 2020 (SCI-Expanded)
- VI. **Weak solutions to hyperbolic problems with inhomogeneous Dirichlet and Neumann boundary conditions**  
Şener S. Ş., SARAÇ Y., SUBAŞI M.  
Applied Mathematical Modelling, vol.37, no.5, pp.2623-2629, 2013 (SCI-Expanded)
- VII. **Symbolic and Numeric Computation of Optimal Initial Velocity in a Wave Equation**  
Sarac Y.  
JOURNAL OF COMPUTATIONAL AND NONLINEAR DYNAMICS, vol.8, no.1, 2013 (SCI-Expanded)
- VIII. **A minimizer for optimizing the initial velocity in a wave equation**  
SUBAŞI M., SARAÇ Y.  
Optimization, vol.61, no.3, pp.327-333, 2012 (SCI-Expanded)
- IX. **A variational technique for optimal boundary control in a hyperbolic problem**  
Subai M., Sara Y., Kaar A.  
APPLIED MATHEMATICS AND COMPUTATION, vol.218, no.12, pp.6629-6636, 2012 (SCI-Expanded)
- X. **On the Regularized Solutions of Optimal Control Problem in a Hyperbolic System**  
SARAÇ Y., SUBAŞI M.  
ABSTRACT AND APPLIED ANALYSIS, 2012 (SCI-Expanded)
- XI. **A procedure for the Galerkin method for a vibrating system**  
Subaşı M., Şener S. Ş., Saraç Y.  
Computers and Mathematics with Applications, vol.61, no.9, pp.2854-2862, 2011 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Promoting mathematics via banknotes: two examples from Turkey**  
Singh B., AKBULUT Y.  
BRITISH JOURNAL FOR THE HISTORY OF MATHEMATICS, 2024 (ESCI)
- II. **Identification of the Initial Temperature from the Given Temperature Data at the Left End of a Rod**  
Saraç Y., Şener Kılıç S. Ş.  
Applied Mathematics and Nonlinear Sciences, vol.4, no.2, pp.469-474, 2019 (ESCI)
- III. **On Approximate Solution of the Euler-Bernoulli Beam Equation via Galerkin Method**  
SARAÇ Y.  
Erzincan Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.11, no.2, pp.341-346, 2018 (Peer-Reviewed Journal)
- IV. **Identification of the Transverse Distributed Load in the Euler-Bernoulli Beam Equation from**

### **Boundary Measurement**

SARAÇ Y., ŞENER S. Ş.

International Journal of Modeling and Optimization, vol.8, no.1, pp.13-16, 2018 (Peer-Reviewed Journal)

#### **V. On solution of an optimal control problem governed by a linear wave equation**

SARAÇ Y.

New Trends in Mathematical Science, vol.4, pp.245, 2016 (Peer-Reviewed Journal)

#### **VI. A REGULARIZED OPTIMAL CONTROL PROBLEM FOR FIRST ORDER LINEAR DIFFERENTIAL EQUATIONS**

SARAÇ Y., SUBAŞI M.

Advances and Applications in Mathematical Sciences, vol.3, pp.17-29, 2010 (ESCI)

### **Books & Book Chapters**

#### **I. Permütasyon ve Kombinasyon**

SARAÇ Y.

in: Matematik II, Nejmi Cengiz, Editor, Atatürk Üniversitesi Rektörlüğü, 2016

#### **II. Lineer Denklem Sistemleri**

SARAÇ Y.

in: Matematik II, Nejmi Cengiz, Editor, Atatürk Üniversitesi Rektörlüğü, 2016

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

#### **I. ON OPTIMAL CONTROL OF AN INITIAL CONDITION IN A PARABOLIC SYSTEM BY A VARIATIONAL METHOD**

AKBULUT Y.

10th INTERNATIONAL CONFERENCE ON APPLIED SCIENCES, İzmir, Turkey, 22 - 24 December 2023

#### **II. On a Necessary Condition for an Optimal Control Problem in a Parabolic System**

AKBULUT Y.

6TH INTERNATIONAL CONFERENCE ON MATHEMATICAL AND RELATED SCIENCES, Turkey, 20 - 22 November 2023

#### **III. The variational formulation of an optimal boundary control for a parabolic equation**

Engin A., AKBULUT Y.

7th International Conference on Computational Mathematics and Engineering Sciences, Elazığ, Turkey, 20 May 2023

#### **IV. Optimal control of the boundary condition in a parabolic system**

Koç T., AKBULUT Y.

7th International Conference on Computational Mathematics and Engineering Sciences, Elazığ, Turkey, 20 May 2023

#### **V. Nodal profile control for 1-d wave equation**

AKBULUT Y.

IX Partial Differential Equations, Optimal Design and Numerics, Benasque, Spain, 21 September 2022

### **Supported Projects**

AKBULUT Y., KOÇ T., Project Supported by Higher Education Institutions, BİR ISI GEÇİRGENLİK PROBLEMİNDE SOL UÇTAKİ ISI AKISININ OPTİMAL KONTROLÜ, 2023 - 2024

## **Metrics**

Publication: 42

Citation (WoS): 40

Citation (Scopus): 31

H-Index (WoS): 4

H-Index (Scopus): 3

## **Scholarships**

2219-Yurt Dışı Doktora Sonrası Araştırma Burs Programı, TÜBİTAK, 2022 - 2023

## **Non Academic Experience**

Friedrich-Alexander-University, Erlangen-Nürnberg

Friedrich-Alexander-University, Erlangen-Nürnberg