Prof. FATMA KARAKOÇ

Personal Information

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International Researcher IDs
ScholarID: MMYA-ncAAAAJ
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Publons / Web Of Science ResearcherID: B-9038-2018
ScopusID: 24512296800
Yoksis Researcher ID: 24637

Education Information

Post Doctorate, Florida Institute of Technology, Mathematical Sciences, United States Of America 2009 - 2010
Doctorate, Ankara University, Fen Bilimleri Enstitüsü, Matematik (Dr), Turkey 2003 - 2008
Postgraduate, Ankara University, Fen Bilimleri Enstitüsü, Matematik (Yl) (Tezli), Turkey 2000 - 2003
Undergraduate, Ankara University, Fen Fakültesi, Matematik Bölümü, Turkey 1995 - 1999

Foreign Languages

English, B2 Upper Intermediate

Dissertations

Doctorate, Impulsive Delay Differential Equations, Ankara University, Fen Bilimleri Enstitüsü, Matematik (Dr), 2008
Postgraduate, Asymptotic Stability of Delay Differential Equations, Ankara University, Fen Bilimleri Enstitüsü, Matematik (Yl) (Tezli), 2003

Research Areas

Differential Equations

Academic Titles / Tasks

Professor, Ankara University, Fen Fakültesi, Matematik Bölümü, 2018 - Continues
Associate Professor, Ankara University, Fen Fakültesi, Matematik Bölümü, 2012 - 2018
Assistant Professor, Ankara University, Fen Fakültesi, Matematik Bölümü, 2010 - 2012
Research Assistant, Ankara University, Fen Fakültesi, Matematik Bölümü, 2001 - 2010

Academic and Administrative Experience

Head of Department, Ankara University, Fen Fakültesi, Matematik Bölümü, 2024 - Continues

Assistant Director of the Institute, Ankara University, Fen Bilimleri Enstitüsü, 2017 - 2019

Deputy Head of Department, Ankara University, Fen Fakültesi, Matematik Bölümü, 2015 - 2017

Erasmus Program Department Coordinator, Ankara University, Fen Fakültesi, Matematik Bölümü, 2011 - 2015

Courses

Doctorate
Functional Differential Equations, Doctorate, 2019 - 2020, 2017 - 2018, 2014 - 2015
Postgraduate
Oscillation Theory, Postgraduate, 2014 - 2015
Undergraduate
Graduation Project, Undergraduate, 2023 - 2024, 2022 - 2023
Dynamical Systems, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019
Advanced Differential Equations, Undergraduate, 2024 - 2025, 2023 - 2024, 2022 - 2023, 2021 - 2022
Systems of Differential Equations, Undergraduate, 2024 - 2025, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019
Systems of Differential Equations, Undergraduate, 2024 - 2025, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021
Dynamical Systems, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021
Differential Equations, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021
Differential Equations, Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019
Differential Equations, Undergraduate, 2019 - 2020
Differential Equations, Undergraduate, 2019 - 2020
Differential Equations, Undergraduate, 2018 - 2019, 2014 - 2015, 2011 - 2012, 2010 - 2011
Difference Equations 2, Undergraduate, 2017 - 2018, 2016 - 2017, 2015 - 2016
Difference Equations, Undergraduate, 2016 - 2017, 2015 - 2016
Differential Equations, Undergraduate, 2016 - 2017, 2015 - 2016, 2012 - 2013
Calculus 2, Undergraduate, 2013 - 2014, 2012 - 2013, 2011 - 2012, 2010 - 2011
Differential Equations 2, Undergraduate, 2013 - 2014, 2012 - 2013, 2010 - 2011
Differential Equations, Undergraduate, 2014 - 2015, 2013 - 2014, 2012 - 2013, 2011 - 2012
Partial Differential Equations, Undergraduate, 2013 - 2014, 2011 - 2012
Calculus, Undergraduate, 2013 - 2014, 2012 - 2013, 2011 - 2012, 2010 - 2011
Differential Equations, Undergraduate, 2011 - 2012
Differential Equations 1, Undergraduate, 2012 - 2013
Linear Algebra, Undergraduate, 2011 - 2012

Supervised Theses

Karakoç F., Stability analysis of Impulsive Differential Equations, Postgraduate, L.Furkan(Student), 2024

Karakoç F., Stability Analysis of Fractional Order Neural Networks, Doctorate, A.Kütahyalıoğlu(Student), 2023

Karakoç F., A Fractional Order Differential Equation Model For Financial Markets And Numerical Simulations, Postgraduate, M.ALİ(Student), 2022

KARAKOÇ F., Asymptotic behaviour of solutions of impulsive neutral differential equations, Postgraduate, B.NAZ(Student), 2021

KARAKOÇ F., Stability analysis of fractional differential equations, Postgraduate, A.BESTE(Student), 2018

Karakoç F., Laplace and Mellin Transform Method for Solving Fractional Differential Equations , Postgraduate, C.KÖMEKÇİ(Student), 2015

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Mittag-Leffler stability of neural networks with Caputo-Hadamard fractional derivative**
DEMİRCİ E., KARAKOÇ F., Kutahyalioglu A.
MATHEMATICAL METHODS IN THE APPLIED SCIENCES, vol.47, no.12, pp.10091-10100, 2024 (SCI-Expanded)

II. **Exponential stability of Hopfield neural networks with conformable fractional derivative**
Kutahyalioglu A., Karakoç F.
NEUROCOMPUTING, vol.456, pp.263-267, 2021 (SCI-Expanded)

III. **Asymptotic Behavior of a Lasota-Wazewska Model Under Impulse Effect**
Karakoç F.
DYNAMIC SYSTEMS AND APPLICATIONS, vol.29, no.12, pp.3381-3394, 2020 (SCI-Expanded)

IV. **Oscillation of first-order differential equations with several non-monotone retarded arguments**
BEREKETOĞLU H., KARAKOÇ F., SEYHAN ÖZTEPE G., Stavroulakis I. P.
GEORGIAN MATHEMATICAL JOURNAL, vol.27, no.3, pp.341-350, 2020 (SCI-Expanded)

V. **Oscillation of a nonlinear impulsive differential equation system with piecewise constant argument**
KARAKOÇ F., ÜNAL A., BEREKETOĞLU H.
ADVANCES IN DIFFERENCE EQUATIONS, vol.2018, 2018 (SCI-Expanded)

VI. **Oscillation of a first order linear impulsive delay differential equation with continuous and piecewise constant arguments**
KARAKOÇ F.
HACETTEPE JOURNAL OF MATHEMATICS AND STATISTICS, vol.47, no.3, pp.601-613, 2018 (SCI-Expanded)

VII. **Asymptotic behaviour of a population model with piecewise constant argument**
KARAKOÇ F.
APPLIED MATHEMATICS LETTERS, vol.70, pp.7-13, 2017 (SCI-Expanded)

VIII. **Asymptotic constancy for a system of impulsive pantograph equations**
Bereketoglu H., KARAKOÇ F.
ACTA MATHEMATICA HUNGARICA, vol.145, no.1, pp.68-79, 2015 (SCI-Expanded)

IX. **Oscillation of nonlinear impulsive differential equations with piecewise constant arguments**
KARAKOÇ F., Unal A., BEREKETOĞLU H.
ELECTRONIC JOURNAL OF QUALITATIVE THEORY OF DIFFERENTIAL EQUATIONS, no.49, pp.1-12, 2013 (SCI-Expanded)

X. **Oscillation of nonlinear impulsive partial difference equations with continuous variables**
Agarwal R. P., KARAKOÇ F., Zafer A.
JOURNAL OF DIFFERENCE EQUATIONS AND APPLICATIONS, vol.18, no.6, pp.1101-1114, 2012 (SCI-Expanded)

XI. **Convergence of solutions of a linear impulsive differential equations system with many delays**
Gyori I., KARAKOÇ F., Bereketoğlu H.
Dynamics of Continuous, Discrete and Impulsive Systems Series A: Mathematical Analysis, vol.18, no.2, pp.191-202, 2011 (SCI-Expanded)

XII. **On a second order differential equation with piecewise constant mixed arguments**
Bereketoglu H., Seyhan G., KARAKOÇ F.
CARPATHIAN JOURNAL OF MATHEMATICS, vol.27, no.1, pp.1-12, 2011 (SCI-Expanded)

XIII. **A survey on oscillation of impulsive delay differential equations**
Agarwal R. P., KARAKOÇ F.
COMPUTERS & MATHEMATICS WITH APPLICATIONS, vol.60, no.6, pp.1648-1685, 2010 (SCI-Expanded)

XIV. **A Survey on Oscillation of Impulsive Ordinary Differential Equations**
Agarwal R. P., KARAKOÇ F., Zafer A.
ADVANCES IN DIFFERENCE EQUATIONS, vol.2010, 2010 (SCI-Expanded)

XV. **Oscillatory and Periodic Solutions of Impulsive Differential Equations with Piecewise Constant Argument**
KARAKOÇ F., BEREKETOĞLU H., SEYHAN ÖZTEPE G.
ACTA APPLICANDAE MATHEMATICAE, vol.110, no.1, pp.499-510, 2010 (SCI-Expanded)

XVI. **Oscillation of impulsive partial difference equations with continuous variables**
Agarwal R. P., KARAKOÇ F.
MATHEMATICAL AND COMPUTER MODELLING, vol.50, no.9-10, pp.1262-1278, 2009 (SCI-Expanded)

XVII. **Some results for linear impulsive DELAY differential equations**
Karakoç F., Bereketoğlu H.
Dynamics of Continuous, Discrete and Impulsive Systems Series A: Mathematical Analysis, vol.16, no.3, pp.313-326, 2009 (SCI-Expanded)

XVIII. **Solutions of delay differential equations by using differential transform method**
Karakoç F., Bereketoglu H.
INTERNATIONAL JOURNAL OF COMPUTER MATHEMATICS, vol.86, no.5, pp.914-923, 2009 (SCI-Expanded)

XIX. **Asymptotic constancy for impulsive delay differential equations**
Bereketoğlu H., Karakoç F.
DYNAMIC SYSTEMS AND APPLICATIONS, vol.17, no.1, pp.71-83, 2008 (SCI-Expanded)

Articles Published in Other Journals

I. **EXPONENTIAL STABILITY OF BAM-TYPE NEURAL NETWORKS WITH CONFORMABLE DERIVATIVE**
Kutahyalioglu A., Karakoç F.
PROCEEDINGS OF THE INSTITUTE OF MATHEMATICS AND MECHANICS, vol.49, no.1, pp.78-94, 2023 (ESCI)

II. **Impulse Effect on the Food-Limited Population Model with Piecewise Constant Argument**
KARAKOÇ F.
APPLICATIONS AND APPLIED MATHEMATICS-AN INTERNATIONAL JOURNAL, vol.15, no.2, pp.957-969, 2020 (ESCI)

III. **EXISTENCE AND UNIQUENESS FOR FRACTIONAL ORDER FUNCTIONAL DIFFERENTIAL EQUATIONS WITH HILFER DERIVATIVE**
KARAKOÇ F.
DIFFERENTIAL EQUATIONS & APPLICATIONS, vol.12, no.4, pp.323-336, 2020 (ESCI)

IV. **Global attractivity for nonlinear differential equations with Hadamard fractional derivative**
Karakoç F., Özaydın A. B.
Journal of Fractional Calculus and Applications, vol.10, no.1, pp.46-54, 2019 (Peer-Reviewed Journal)

V. **CONVERGENCE OF SOLUTIONS OF NONAUTONOMOUS NICHOLSON'S BLOWFLIES MODEL WITH IMPULSES**
DEMİRCİ E., KARAKOÇ F.
COMMUNICATIONS FACULTY OF SCIENCES UNIVERSITY OF ANKARA-SERIES A1 MATHEMATICS AND STATISTICS, vol.68, no.2, pp.1922-1929, 2019 (ESCI)

VI. **Oscillation and Periodicity of a Second Order Impulsive Delay Differential Equation with a Piecewise Constant Argument**
S. Oztepe G., Karakoç F., Bereketoğlu H.
Communications in Mathematics, vol.25, no.2, pp.89-98, 2017 (Scopus)

VII. **Oscillation of Second-Order Nonlinear Impulsive Difference Equations with Continuous Variables**
KARAKOÇ F.
Journal of Mathematical Sciences (United States), vol.198, no.3, pp.296-302, 2014 (Scopus)

VIII. **Oscillation theory for impulsive partial difference equations**
Agarwal R. P., KARAKOÇ F.
Communications in Applied Analysis, vol.14, no.1, pp.59-72, 2010 (Scopus)

IX. **Bir impulsive gecikmeli diferensiyel denklem sisteminin çözümünün asimptotik sabitliği**
Karakoç F.
Celal Bayar Üniversitesi Fen Bilimleri Dergisi, vol.5, no.1, pp.5-10, 2009 (Peer-Reviewed Journal)

X. **Some results on boundedness and stability of a third order differential equation with delay**
Karakoç F., Bereketoğlu H.

Papers Published in Refereed Scientific Meetings

I. **Impulse Effect on a Population Model with Piecewise Constant Argument**
Karakoç F.
25th International Conference on Difference Equations and Applications, ICDEA 2019, London, United Kingdom, 24 - 28 June 2019, vol.341, pp.269-278

II. **Impulse Effect in a Food Limited Population Model**
Karakoç F.
International Congress of Mathematicians 2018 (ICM 2018), Rio De Janeiro, Brazil, 1 - 09 August 2018, pp.33

III. **Asymptotic Behaviour of the Population Models with Piecewise Constant Argument**
Karakoç F.
The 12th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Taipei, Taiwan, 5 - 09 July 2018, pp.223

IV. **Asymptotic behaviour of a nonlinear differential equation with piecewise constant argument**
Karakoç F.
Caucasian Mathematics Conference II, Van, Turkey, 22 - 24 August 2017, pp.85

V. **Oscillation of a population model with impulse**
Karakoç F.
Recent Trends in Pure and Applied Mathematics (TREPAM 2017), Alba, Romania, 31 July - 04 August 2017, pp.25

VI. **Oscillation of a population model with piecewise constant argument**
Karakoç F.
International Conference on Differential and Difference Equations & Applications 2017, Amadora, Portugal, 5 - 09 June 2017, pp.126

VII. **Oscillation of a class of delay differential equations with impulses**
Karakoç F.
The 11th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Florida, United States Of America, 1 - 05 July 2016, pp.395

VIII. **Oscillation of impulsive differential equations with continuous and piecewise continuous arguments**
Karakoç F.
11th Ankara Matematik Günleri Sempozyumu, Ankara, Turkey, 26 - 27 May 2016, pp.30

IX. **Asymptotic Constancy for Pantograph Equations with Impulses**
Karakoç F., Bereketoğlu H.
AMS-MAA 2015 Joint Mathematics Meeting, Texas, United States Of America, 10 - 13 January 2015, pp.159

X. **Asymptotic Constancy for a System of Impulsive Delay Differential Equations**
Karakoç F., Bereketoğlu H.
International Congress in Honour of Professor Ravi P. Agarwal, Bursa, Turkey, 23 - 26 June 2014, pp.126

XI. **Impulsive Differential Equations with Piecewise Continuous Arguments**
Karakoç F., Ünal A., Bereketoğlu H.
8. Ankara Mathematics Days, Ankara, Turkey, 13 - 14 June 2013, pp.52

XII. **Oscillation of Difference Equations with Impulses**
KARAKOÇ F.
International Conference on Differential and Difference Equations and Applications, Ponta-Delgada, Portugal, 4 - 08 July 2011, vol.47, pp.449-455

XIII. **Oscillatory and Periodic Solutions of Impulsive Differential Equations with Piecewise Constant Argument**
Karakoç F., Bereketoğlu H., Seyhan Öztepe G.
The 11th International Workshop on Dynamical Systems and Applications, Ankara, Turkey, 26 - 28 June 2012,

pp.16

XIV. **Oscillation of Impulsive Differential Equations with Piecewise Constant Argument**
Karakoç F., Bereketoğlu H., Seyhan Öztepe G.
AMS-MAA 2011 Joint Mathematics Meeting, Louisiana, United States Of America, 6 - 09 January 2011, pp.167

XV. **Bir impulsive diferensiyel denklem hakkında bazı sonuçlar**
Karakoç F.
XX. Ulusal Matematik Sempozyumu, Erzurum, Turkey, 3 - 06 September 2007, pp.317-326

Supported Projects

Karakoç F., TUBITAK Project, Exponential Stability of a BAM Neural Network with Conformable Derivative, 2022 - 2023
Karakoç F., Project Supported by Higher Education Institutions, A Fractional Order Differential Equation Model for Financial Markets and Stability Analysis, 2020 - 2022

Activities in Scientific Journals

Communications Faculty of Sciences University of Ankara Series C-Biology, First Editor, 2021 - 2025
COMMUNICATIONS FACULTY OF SCIENCES UNIVERSITY OF ANKARA-SERIES A1 MATHEMATICS AND STATISTICS, First Editor, 2021 - 2025
Communications Faculty of Sciences University of Ankara Series A2-A3: Physical Sciences and Engineering, First Editor, 2021 - 2025
Communications Series:B Chemistry and Chemical Engineering, First Editor, 2021 - 2025

Memberships / Tasks in Scientific Organizations

International Society of Difference Equations, Member, 2014 - Continues, United States Of America
American Mathematical Society, Member, 2014 - Continues, United States Of America
Association for Turkish Women in Maths, Member, 2012 - Continues, Turkey

Tasks In Event Organizations

Karakoç F., 14. Ankara Matematik Günleri Sempozyumu, Scientific Congress, Turkey, Haziran 2019
Karakoç F., The 4th International Conference on Complex Dynamical Systems in Life Sciences: Modeling and Analysis, Scientific Congress, Morocco, Ekim 2016
Karakoç F., 11. Ankara Matematik Günleri Sempozyumu, Scientific Congress, Ankara, Turkey, Mayıs 2016
Karakoç F., The 3rd International Conference on Complex Dynamical Systems and Their Applications: New Mathematical Concepts and Applications in Life Sciences, Scientific Congress, Turkey, Kasım 2014
Bereketoğlu H., Karakoç F., International Conference on Nonlinear Differential and Difference Equations: Recent Developments and Applications, Scientific Congress, Antalya, Turkey, Mayıs 2014
Karakoç F., Lise Öğretmenleri -Fizik, Kimya, Biyoloji, Matematik- Proje Danışmanlığı Eğitimi Çalıştayı, Workshop Organization, Turkey, Şubat 2014
Karakoç F., The 11th International Workshop on Dynamical Systems and Applications, Workshop Organization, Turkey, Haziran 2012
Karakoç F., III. Ankara Matematik Günleri Sempozyumu, Scientific Congress, Ankara, Turkey, Mayıs 2008

Metrics

Publication: 46
Citation (WoS): 265
Citation (Scopus): 303
H-Index (WoS): 11
H-Index (Scopus): 10

Congress and Symposium Activities

Sosyal Bilimlerde Toplumsal Cinsiyet Tartışmaları Sempozyumu III, Invited Speaker, Düzce, Turkey, 2025

2024 Joint Mathematics Meeting, Attendee, California, United States Of America, 2024

25th International Conference on Difference Equations and Applications (ICDEA 2019), Attendee, London, England, 2019

International Congress of Mathematicians 2018 (ICM 2018), Attendee, Rio De Janeiro, Brazil, 2018

The 12th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Attendee, Taipei, Taiwan, 2018

Caucasian Mathematics Conference II, Attendee, Van, Turkey, 2017

Recent Trends in Pure and Applied Mathematics, Attendee, Alba, Romania, 2017

International Conference on Differential and Difference Equations & Applications 2017, Attendee, Amadora, Portugal, 2017

The 11th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Attendee, Florida, United States Of America, 2016

11. Ankara Mathematics Days, Attendee, Ankara, Turkey, 2016

10. Ankara Matematik Günleri, Audience, Ankara, Turkey, 2015

AMS-MAA 2015 Joint Mathematics Meeting, Attendee, Texas, United States Of America, 2015

International Congress in Honour of Professor Ravi P. Agarwal, Attendee, Bursa, Turkey, 2014

9. Ankara Mathematics Days, Audience, Ankara, Turkey, 2014

12th International Workshop on Dynamical Systems and Applications, Audience, Ankara, Turkey, 2013

8. Ankara Mathematics Days, Attendee, Ankara, Turkey, 2013

The International Conference on the Theory, Methods and Applications of Nonlinear Equations, Attendee, Texas, United States Of America, 2012

1. Ulusal Karmaşık Dinamik Sistemler ve Uygulamaları Çalıştayı, Audience, Ankara, Turkey, 2012

The 11th International Workshop on Dynamical Systems and Applications, Attendee, Ankara, Turkey, 2012

International Conference on Differential & Difference Equations and Applications, Attendee, Ponta-Delgada, Portugal, 2011

AMS-MAA 2011 Joint Mathematics Meeting, Attendee, Louisiana, United States Of America, 2011

2010-Dynamical Systems and Applications, Attendee, Antalya, Turkey, 2010

AMS-MAA 2010 Joint Mathematics Meeting, Attendee, California, United States Of America, 2010

3. Ankara Mathematics Days, Attendee, Ankara, Turkey, 2008

2. Ankara Mathematics Days, Attendee, Ankara, Turkey, 2007

Scholarships

2219-International Postdoctoral Research Fellowship Program, TUBITAK, 2009 - 2010

Awards

Karakoç F., Encouragement Award in the Field of Science, Ankara Üniversitesi, September 2014

Karakoç F., PhD Thesis Award, Ankara Üniversitesi, January 2008