

# Prof. MUSTAFA FAHRİ AKTAŞ

## Personal Information

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**Address:** Gazi Üniversitesi Fen Fakültesi Matematik Bölümü

## International Researcher IDs

ScholarID: e3RzEXMAAAAJ

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Publons / Web Of Science ResearcherID: I-7025-2012

ScopusID: 57110502300

Yoksis Researcher ID: 45578

## Biography

I'm a lecturer at Department of Mathematics at the University of Gazi. I have had received my undergraduate education from Ankara University between 1997 and 2001. I have had received my graduate and doctorate education from Gazi University. I completed my graduate studies in 2003 and then I completed my doctorate's in 2009. From 2002 until 2009 I worked as a research assistant. During my PhD studies, while I was studying with Professor Aydin Tiryaki, I received a grant and studied with Professor Ravi P. Agarwal at Florida Institute of Technology in the USA (Feb 2008-Sept 2008). After my graduation in 2009, I became an assistant professor. In 2020, I have started my work a professor at GU. My interest areas are oscillation theory, difference equations, and inequalities. Nowadays, I am interested in Green's function.

## Education Information

Doctorate, Gazi University, Fen Bilimleri Enstitüsü, Matematik (Dr), Turkey 2003 - 2009

Postgraduate, Gazi University, Fen Bilimleri Enstitüsü, Matematik (YI) (Tezli), Turkey 2001 - 2003

Postgraduate, Ankara University, Eğitim Bilimleri Fakültesi, Matematik Öğretmenliği Sertifikası, Turkey 2000 - 2001

Undergraduate, Ankara University, Fen Fakültesi, Matematik Bölümü, Turkey 1997 - 2001

## Dissertations

Doctorate, Üçüncü basamaktan bir fonksiyonel diferensiyel denklem sınıfının çözümlerinin davranışı üzerine, Gazi University, Fen Bilimleri Enstitüsü, Matematik (Dr), 2008

Postgraduate, İkinci basamaktan bir denklem sınıfının çözümlerinin salınımlığı üzerine, Gazi University, Fen Bilimleri Enstitüsü, Matematik (YI) (Tezli), 2003

## Research Areas

Mathematics, Differential Equations, Dynamic Systems and Ergodic Theory, Sequences, Series, Summability, Functional Equations, Fourier Analysis, General Mathematics, Integral Equations, Partial Differential Equations, Numerical Analysis,

## Academic Titles / Tasks

Professor, Gazi University, Fen Fakültesi, Matematik, 2019 - Continues  
Associate Professor, Gazi University, Fen Fakültesi, Matematik, 2015 - 2019  
Associate Professor, Florida Üniversitesi, İngilizce Dil Enstitüsü, 2016 - 2016  
Assistant Professor, Gazi University, Fen Fakültesi, Matematik, 2009 - 2014  
Research Assistant, Gazi University, Fen Fakültesi, Matematik, 2002 - 2009  
Research Assistant, Florida Institute of Technology, 2008 - 2008

## Academic and Administrative Experience

Matematik Bölümü İntibak Komisyon Üyeliği, Gazi University, Fen Fakültesi, Matematik, 2022 - Continues  
Matematik Bölümü Eğitim Komisyonu Üyeliği, Gazi University, Fen Fakültesi, Matematik, 2021 - Continues  
Bölüm Kalite Komisyonu Başkanı, Gazi University, Fen Fakültesi, Matematik, 2020 - 2020  
Gazi University, Fen Fakültesi, Matematik Bölümü, 2014 - 2015  
Bölüm Bologna Koordinatörü, Gazi University, Fen Fakültesi, Matematik, 2014 - 2015  
Mevlana Exchange Program Institutional Coordinator, Gazi University, Fen Fakültesi, Matematik Bölümü, 2013 - 2015  
Erasmus Fakülte Koordinatör Yardımcılığı, Gazi University, Fen Fakültesi, Matematik, 2012 - 2015  
AKTS Bölüm Koordinatörlüğü, Gazi University, Fen Fakültesi, Matematik, 2012 - 2015  
Erasmus Program Institutional Coordinator, Gazi University, Fen Fakültesi, Matematik Bölümü, 2012 - 2015  
AKTS Bölüm Koordinatör Yardımcılığı, Gazi University, Fen Fakültesi, Matematik, 2004 - 2012  
Erasmus Bölüm Koordinatör Yardımcılığı, Gazi University, Fen Fakültesi, Matematik, 2004 - 2012

## Courses

Zaman Skalası II, Undergraduate, 2022 - 2023  
Diferensiyel Denklemler II, Undergraduate, 2021 - 2022  
Fark Denklemlerine Giriş II, Undergraduate, 2021 - 2022  
Zaman Skalası I, Undergraduate, 2022 - 2023  
Bilimsel Araştırma Yöntemleri ve Etik, Doctorate, 2022 - 2023  
Diferential Equations I, Undergraduate, 2021 - 2022  
İntegral Denklemleri, Undergraduate, 2020 - 2021  
Kompleks Analiz II, Undergraduate, 2017 - 2018  
Diferansiyel Denklemlerin Kararlılığı, Doctorate, 2017 - 2018  
Başlangıç ve Sınır Değer Problemleri, Doctorate, 2017 - 2018  
Kısmi Türevli Diferensiyel Denklemler II, Undergraduate, 2017 - 2018  
Özel Fonksiyonlar, Undergraduate, 2017 - 2018  
Analiz II, Undergraduate, 2017 - 2018  
Fark Denklemlerine Giriş I, Undergraduate, 2017 - 2018  
Uygulamalı Matematik II, Undergraduate, 2016 - 2017  
Diferansiyel Denklemlerin Nümerik Çözümleri, Undergraduate, 2016 - 2017  
Green Fonksiyonları, Doctorate, 2016 - 2017  
Fourier Analiz, Undergraduate, 2017 - 2018  
Fonksiyonel Analiz I, Undergraduate, 2017 - 2018  
Adi Diferansiyel Denklemlerin Nümerik Çözümleri, Undergraduate, 2016 - 2017  
Analiz I, Undergraduate, 2017 - 2018

Kompleks Analiz I, Undergraduate, 2017 - 2018  
Uygulamalı Matematik I, Undergraduate, 2017 - 2018  
Kısmi Türevli Diferensiyel Denklemler I, Undergraduate, 2017 - 2018  
Bilişim Teknolojileri Temelleri, Undergraduate, 2016 - 2017  
Temel Matematik, Undergraduate, 2016 - 2017

## Advising Theses

Aktaş M. F., Yüksek basamaktan sınır değer problemleri için Lyapunov tipi eşitsizlikler, Doctorate, A.AHMETOĞLU(Student), 2024  
Aktaş M. F., Belirli operatörleri içeren lineer olmayan bir sistem için Lyapunov tipi eşitsizlikler, Postgraduate, B.BİNGÜL(Student), 2024  
Aktaş M. F., LYAPUNOV-TYPE INEQUALITIES FOR HIGH ORDER FRACTIONAL BOUNDARY VALUE PROBLEMS, Postgraduate, D.YILDIZ(Student), 2022  
AKTAŞ M. F., The Behaviors Of The Principal And Nonprincipal Solutions, Postgraduate, A.QAROOT(Student), 2015  
Aktaş M. F., Lyapunov type inequalities for systems, Postgraduate, M.ARITÜRK(Student), 2015  
AKTAŞ M. F., Oscillation Of Third Order Differential Equations, Postgraduate, A.AHMETOĞLU(Student), 2015  
AKTAŞ M. F., Lyapunov type inequalities, Postgraduate, Ö.ÖZTÜRK(Student), 2012

## Jury Memberships

Appointment to Academic Staff - Associate Professorship, Appointment to Academic Staff - Associate Professorship, Samsun Üniversitesi, January, 2024  
Post Graduate, Post Graduate, Ankara Üniversitesi, September, 2023  
Doctorate, Doctorate, Gazi Üniversitesi, February, 2023  
Appointment to Academic Staff-Assistant Professorship, Appointment to Academic Staff-Assistant Professorship, Ankara Hacı Bayram Veli Üniversitesi, May, 2022  
Appointment to Academic Staff - Associate Professorship, Appointment to Academic Staff - Associate Professorship, Nevşehir Hacı Bektaş Veli Üniversitesi, February, 2022  
Post Graduate, Post Graduate, Gazi Üniversitesi, July, 2021  
Appointment to Academic Staff - Associate Professorship, Appointment to Academic Staff - Associate Professorship, Ankara Hacı Bayram Veli Üniversitesi, January, 2021  
Appointment to Academic Staff - Associate Professorship, Appointment to Academic Staff - Associate Professorship, Gazi Üniversitesi, November, 2020  
Appointment to Academic Staff-Professorship, Appointment to Academic Staff-Professorship, Fırat Üniversitesi, February, 2020  
PhD Thesis Monitoring Committee Member, PhD Thesis Monitoring Committee Member, Gazi Üniversitesi, December, 2019  
Post Graduate, Post Graduate, Ankara Üniversitesi, June, 2015

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

- I. **Lyapunov-Type Inequalities for a Nonlinear System Including Operators**  
AKTAŞ M. F., Bingül B. E.  
Ukrainian Mathematical Journal, vol.76, no.4, pp.529-541, 2024 (SCI-Expanded)
- II. **Lyapunov-type inequalities for a certain nonlinear system including operators**  
Aktaş M. F., Bingül B. E.  
UKRAINIAN MATHEMATICAL JOURNAL, vol.1, no.1, pp.1-12, 2024 (SCI-Expanded)

- III. **Oscillation criteria of Kamenev-type for non-linear partial differential equations**  
 Aktaş M. F., Demir E. E.  
 COMPLEX VARIABLES AND ELLIPTIC EQUATIONS, vol.1, no.1, pp.1-15, 2024 (SCI-Expanded)
- IV. **On Lyapunov-type inequalities for five different types of higher order boundary value problems**  
 AKTAŞ M. F., Erçikti B. B.  
 Turkish Journal of Mathematics, vol.48, no.1, pp.90-105, 2024 (SCI-Expanded)
- V. **On Lyapunov-Type Inequalities for Nonlinear Hamiltonian-Type Problems**  
 AKTAŞ M. F.  
 Filomat, vol.36, no.10, pp.3423-3432, 2022 (SCI-Expanded)
- VI. **On Lyapunov-type inequalities for ( $n+1$ )st order nonlinear differential equations with the antiperiodic boundary conditions**  
 AKTAŞ M. F.  
 TURKISH JOURNAL OF MATHEMATICS, vol.45, no.6, pp.2614-2622, 2021 (SCI-Expanded)
- VII. **Periodic solutions of relativistic Lienard-type equations**  
 Aktas M. F.  
 ELECTRONIC JOURNAL OF QUALITATIVE THEORY OF DIFFERENTIAL EQUATIONS, vol.2020, pp.1-12, 2020 (SCI-Expanded)
- VIII. **On Lyapunov-type inequalities for odd order boundary value problems**  
 AKTAŞ M. F., ÇAKMAK D., AHMETOĞLU A.  
 JOURNAL OF INEQUALITIES AND APPLICATIONS, 2019 (SCI-Expanded)
- IX. **Lyapunov-type inequalities for fourth-order boundary value problems**  
 AKTAŞ M. F., ÇAKMAK D., AHMETOĞLU A.  
 REVISTA DE LA REAL ACADEMIA DE CIENCIAS EXACTAS FISICAS Y NATURALES SERIE A-MATEMATICAS, vol.113, no.2, pp.615-625, 2019 (SCI-Expanded)
- X. **Lyapunov-type inequalities for third order linear differential equations with two points boundary conditions**  
 AKTAŞ M. F., ÇAKMAK D.  
 HACETTEPE JOURNAL OF MATHEMATICS AND STATISTICS, vol.48, no.1, pp.59-66, 2019 (SCI-Expanded)
- XI. **Lyapunov-Type Inequalities for Two Classes of Nonlinear Systems with Homogeneous Dirichlet Boundary Conditions**  
 AKTAŞ M. F.  
 UKRAINIAN MATHEMATICAL JOURNAL, vol.70, no.6, pp.837-850, 2018 (SCI-Expanded)
- XII. **LYAPUNOV-TYPE INEQUALITIES FOR THIRD-ORDER LINEAR DIFFERENTIAL EQUATIONS**  
 AKTAŞ M. F., ÇAKMAK D.  
 ELECTRONIC JOURNAL OF DIFFERENTIAL EQUATIONS, 2017 (SCI-Expanded)
- XIII. **On the Lyapunov-type inequalities of a three-point boundary value problem for third order linear differential equations**  
 AKTAŞ M. F., ÇAKMAK D., Tiryaki A.  
 APPLIED MATHEMATICS LETTERS, vol.45, pp.1-6, 2015 (SCI-Expanded)
- XIV. **LYAPUNOV-TYPE INEQUALITIES FOR TWO CLASSES OF DIRICHLET QUASILINEAR SYSTEMS**  
 Tiryaki A., ÇAKMAK D., AKTAŞ M. F.  
 MATHEMATICAL INEQUALITIES & APPLICATIONS, vol.17, no.3, pp.843-863, 2014 (SCI-Expanded)
- XV. **LYAPUNOV-TYPE INEQUALITY FOR QUASILINEAR SYSTEMS WITH ANTI-PERIODIC BOUNDARY CONDITIONS**  
 AKTAŞ M. F., ÇAKMAK D., Tiryaki A.  
 JOURNAL OF MATHEMATICAL INEQUALITIES, vol.8, no.2, pp.313-320, 2014 (SCI-Expanded)
- XVI. **On the multivariate Lyapunov inequalities**  
 AKTAŞ M. F.  
 APPLIED MATHEMATICS AND COMPUTATION, vol.232, pp.784-786, 2014 (SCI-Expanded)
- XVII. **LYAPUNOV-TYPE INEQUALITIES FOR NONLINEAR SYSTEMS INVOLVING THE  $(p(1), p(2), \dots, p(n))$ -LAPLACIAN**

- ÇAKMAK D., AKTAŞ M. F., Tiryaki A.  
ELECTRONIC JOURNAL OF DIFFERENTIAL EQUATIONS, 2013 (SCI-Expanded)
- XVIII. **LYAPUNOV-TYPE INEQUALITIES FOR n-DIMENSIONAL QUASILINEAR SYSTEMS**  
AKTAŞ M. F.  
ELECTRONIC JOURNAL OF DIFFERENTIAL EQUATIONS, 2013 (SCI-Expanded)
- XIX. **Lyapunov-type inequalities for a certain class of nonlinear systems**  
Tiryaki A., ÇAKMAK D., AKTAŞ M. F.  
COMPUTERS & MATHEMATICS WITH APPLICATIONS, vol.64, no.6, pp.1804-1811, 2012 (SCI-Expanded)
- XX. **Oscillation of third-order nonlinear delay difference equations**  
AKTAŞ M. F., Tiryaki A., Zafer A.  
TURKISH JOURNAL OF MATHEMATICS, vol.36, no.3, pp.422-436, 2012 (SCI-Expanded)
- XXI. **A note on Tang and He's paper**  
AKTAŞ M. F., ÇAKMAK D., Tiryaki A.  
APPLIED MATHEMATICS AND COMPUTATION, vol.218, no.9, pp.4867-4871, 2012 (SCI-Expanded)
- XXII. **On the qualitative behaviors of solutions of third-order nonlinear functional differential equations**  
AKTAŞ M. F., ÇAKMAK D., Tiryaki A.  
APPLIED MATHEMATICS LETTERS, vol.24, no.11, pp.1849-1855, 2011 (SCI-Expanded)
- XXIII. **On the qualitative behaviors of solutions of third order nonlinear differential equations**  
AKTAŞ M. F., ÇAKMAK D., Tiryaki A.  
COMPUTERS & MATHEMATICS WITH APPLICATIONS, vol.62, no.4, pp.2029-2036, 2011 (SCI-Expanded)
- XXIV. **Oscillation criteria for third-order nonlinear functional differential equations**  
AKTAŞ M. F., Tiryaki A., Zafer A.  
APPLIED MATHEMATICS LETTERS, vol.23, no.7, pp.756-762, 2010 (SCI-Expanded)
- XXV. **Integral criteria for oscillation of third order nonlinear differential equations**  
AKTAŞ M. F., Tiryaki A., Zafer A.  
NONLINEAR ANALYSIS-THEORY METHODS & APPLICATIONS, vol.71, no.12, 2009 (SCI-Expanded)
- XXVI. **ON THE OSCILLATION OF THIRD ORDER FUNCTIONAL DIFFERENTIAL EQUATIONS**  
Grace S. R., Agarwal R. P., AKTAŞ M. F.  
INDIAN JOURNAL OF PURE & APPLIED MATHEMATICS, vol.39, no.6, pp.491-507, 2008 (SCI-Expanded)
- XXVII. **Oscillation criteria of a certain class of third order nonlinear delay differential equations with damping**  
Tiryaki A., AKTAŞ M. F.  
JOURNAL OF MATHEMATICAL ANALYSIS AND APPLICATIONS, vol.325, no.1, pp.54-68, 2007 (SCI-Expanded)

## Articles Published in Other Journals

- I. **LYAPUNOV-TYPE INEQUALITIES FOR THIRD-ORDER LINEAR DIFFERENTIAL EQUATIONS UNDER THE NON-CONJUGATE BOUNDARY CONDITIONS**  
AKTAŞ M. F., ÇAKMAK D.  
DIFFERENTIAL EQUATIONS & APPLICATIONS, vol.10, no.2, pp.219-226, 2018 (ESCI)
- II. **Lyapunov-Type Inequalities for Two Classes of Difference Systems with Dirichlet Boundary Conditions**  
AKTAŞ M. F., ÇAKMAK D., Ariturk M.  
GAZI UNIVERSITY JOURNAL OF SCIENCE, vol.28, no.3, pp.473-482, 2015 (ESCI)
- III. **A Note on Multivariate Lyapunov-Type Inequality**  
AKTAŞ M. F., ÇAKMAK D.  
GAZI UNIVERSITY JOURNAL OF SCIENCE, vol.28, no.2, pp.265-267, 2015 (ESCI)
- IV. **Oscillation criteria for a class of third-order nonlinear delay differential equations**  
AKTAŞ M. F.  
Further Progress in Analysis (Tam Metin Bildiri), pp.507-514, 2009 (Peer-Reviewed Journal)

**V. On oscillation criteria for third order nonlinear delay differential equations**

RAVI P A., AKTAŞ M. F., TİRYAKİ A.

Archivum Mathematicum (Brno), vol.45, pp.1-18, 2009 (Scopus)

**VI. Oscillation criteria for third order nonlinear difference equations**

GRACE S. R., RAVI P A., AKTAŞ M. F.

Fasciculi Mathematici, vol.42, pp.39-51, 2009 (Peer-Reviewed Journal)

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

**I. On Lyapunov-Type inequalities for various types of boundary value problems**

AKTAŞ M. F.

IECMSA 2019, 27 - 30 August 2019

**II. Oscillation criteria for a class of third order nonlinear delay differential equations**

AKTAŞ M. F., TİRYAKİ A., TİRYAKİ A.

ISAAC 2007, Ankara, Turkey, 13 - 18 August 2007, pp.507-514

**III. Oscillation criteria of a certain class of third order nonlinear delay differential equations**

AKTAŞ M. F., TİRYAKİ A., ZAFER A.

WCNA 2008, 2 - 09 July 2008, vol.71, pp.1496-1502

## **Memberships / Tasks in Scientific Organizations**

Türk Matematik Derneği, Member, 2009 - Continues, Turkey

## **Scientific Refereeing**

ABSTRACT AND APPLIED ANALYSIS, SCI Journal, October 2023

TUBITAK Project, 2204-A High School Students Research Projects Competition , Gazi University, Turkey, March 2023

TUBITAK Project, 2209-A - Üniversite Öğrencileri Araştırma Projeleri Destekleme Programı, Gazi University, Turkey, January 2023

TUBITAK Project, 2204-B Middleschool Students Research Projects Competition , Gazi University, Turkey, February 2022

TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Gazi University, Turkey, June 2021

MATHEMATICA SLOVACA, SCI Journal, March 2021

ADVANCES IN DIFFERENCE EQUATIONS, SCI Journal, February 2021

MEDITERRANEAN JOURNAL OF MATHEMATICS, SCI Journal, October 2020

ADVANCES IN DIFFERENCE EQUATIONS, SCI Journal, October 2020

MEDITERRANEAN JOURNAL OF MATHEMATICS, SCI Journal, September 2020

TUBITAK Project, 2204-B Middleschool Students Research Projects Competition , Gazi University, Turkey, March 2020

ADVANCES IN DIFFERENCE EQUATIONS, SCI Journal, October 2019

ADVANCES IN DIFFERENCE EQUATIONS, SCI Journal, September 2019

MEDITERRANEAN JOURNAL OF MATHEMATICS, SCI Journal, June 2019

ADVANCES IN DIFFERENCE EQUATIONS, SCI Journal, February 2019

ADVANCES IN DIFFERENCE EQUATIONS, SCI Journal, December 2018

MEDITERRANEAN JOURNAL OF MATHEMATICS, SCI Journal, November 2018

ADVANCES IN DIFFERENCE EQUATIONS, SCI Journal, November 2018

ADVANCES IN DIFFERENCE EQUATIONS, SCI Journal, October 2018

TUBITAK Project, 2219 - Yurt Dışı Doktora Sonrası Araştırma Burs Programı, Gazi University, Turkey, June 2018

ADVANCES IN DIFFERENCE EQUATIONS, SCI Journal, May 2018

ADVANCES IN DIFFERENCE EQUATIONS, SCI Journal, March 2018  
ADVANCES IN DIFFERENCE EQUATIONS, SCI Journal, February 2018  
ADVANCES IN DIFFERENCE EQUATIONS, SCI Journal, November 2017  
ADVANCES IN DIFFERENCE EQUATIONS, SCI Journal, October 2017  
ADVANCES IN DIFFERENCE EQUATIONS, SCI Journal, October 2017  
ADVANCES IN DIFFERENCE EQUATIONS, SCI Journal, September 2017  
FILOMAT, SCI Journal, September 2017  
DIFFERENTIAL EQUATIONS & APPLICATIONS, SCI Journal, January 2017  
ADVANCES IN DIFFERENCE EQUATIONS, SCI Journal, November 2016  
MEDITERRANEAN JOURNAL OF MATHEMATICS, SCI Journal, September 2016  
HACETTEPE JOURNAL OF MATHEMATICS AND STATISTICS, SCI Journal, May 2016  
DYNAMIC SYSTEMS AND APPLICATIONS, SCI Journal, May 2016  
ADVANCES IN DIFFERENCE EQUATIONS, SCI Journal, September 2015  
ADVANCES IN DIFFERENCE EQUATIONS, SCI Journal, November 2013  
ADVANCES IN DIFFERENCE EQUATIONS, SCI Journal, June 2013  
ADVANCES IN DIFFERENCE EQUATIONS, SCI Journal, January 2012  
ADVANCES IN DIFFERENCE EQUATIONS, SCI Journal, July 2011  
DIFFERENTIAL EQUATIONS & APPLICATIONS, Journal Indexed in ESCI, April 2011  
KRAGUJEVAC JOURNAL OF MATHEMATICS, Journal Indexed in ESCI, July 2010

## Scientific Consultations

Doktora Tezi Değerlendirme Komitesi Üyeliği-NUST-School of Natural Sciences (SNS)-Pakistan, Other, Gazi University, Fen Fakültesi, Matematik, Turkey, 2021 - 2021

## Tasks In Event Organizations

Aktaş M. F., Mısır A., International Workshop on Dynamical Systems and Applications: In Memory of Prof. Dr. Aydın Tiryaki (IWDSA 2019), Workshop Organization, Ankara, Turkey, Mayıs 2019  
Aktaş M. F., The 14th International Workshop on Dynamical Systems and Applications (IWDSA 2015), Workshop Organization, Ankara, Turkey, Haziran 2015  
Aktaş M. F., The 12th International Workshop on Dynamical Systems and Applications (IWDSA 2013), Workshop Organization, Ankara, Turkey, Ağustos 2013  
Aktaş M. F., The 11th International Workshop on Dynamical Systems and Applications (IWDSA 2012), Workshop Organization, Ankara, Turkey, Haziran 2012

## Metrics

Publication: 45  
Citation (WoS): 249  
Citation (Scopus): 296  
H-Index (WoS): 9  
H-Index (Scopus): 10

## Non Academic Experience

Florida Universitesi  
Florida Teknoloji Enstitüsü