

Ozkan Ozturk

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Education

- May 2016 **Missouri University of Science and Technology**, Rolla, MO, USA
Ph.D. in Mathematics
Advisor: Prof. Elvan Akin
- May 2016 **Missouri University of Science and Technology**, Rolla, MO, USA
Master's in Electrical Engineering
Advisor: Prof. Jagannathan Sarangapani
- May 2011 **Missouri University of Science and Technology**, Rolla, MO, USA
Master's in Applied Mathematics
Advisor: Prof. Elvan Akin
- Jun 2007 **Kafkas University**, Kars, Turkey
Bachelor's in Mathematics

Professional Experience

Giresun University, Giresun, Turkey.

Professor (May 2025 – present)

Associate Professor (Aug 2020 – May 2025)

Research Associate (Dec 2017 – Aug 2020)

Texas Tech University, Lubbock, TX, USA.

Postdoctoral Teaching Scholar(Visiting) (Jan 2021 – Jul 2023)

American University of the Middle East, Kuwait.

Assistant Professor(Faculty Study Abroad) (Sep 2018 – Nov 2020)

Missouri University of Science and Technology, Rolla, MO, USA.

Postdoctoral Scholar (Aug 2016 – May 2017)

Graduate Teaching Assistant (Aug 2012 – May 2016)

Research Interests

Classical and modern control theory with biological applications on discrete and continuous analysis including models of human heart rate, and infectious diseases such as HIV and human papillomavirus(HPV).

Classical and optimal control theory with engineering applications on discrete and continuous analysis including unmanned aerial vehicles, unmanned ground vehicles, and mobile robots.

Oscillation theory on time scale systems including Emden-Fowler equations, Higher Order systems and Volterra-Integro Equations.

Publications

Refereed Book Chapters

- [B3] **Ö. Öztürk**. Existence and Asymptotic Behaviors of Nonoscillatory Solutions of Third Order Time Scale Systems. *Advances in the Solution of Nonlinear Differential Equations*, ISBN 978-1-83968-657-3, 2021.
- [B2] **Ö. Öztürk**. Oscillation Criteria of Two-Dimensional Time-Scale Systems. *Oscillators-Recent Developments*, ISBN 978-1-78985-838-9, 2019.
- [B1] E. Akin and **Ö. Öztürk**. On Nonoscillatory Solutions of Two-Dimensional Nonlinear Dynamical Systems. *Dynamical Systems-Analytical and Computational Techniques*, ISBN 978-953-51-3015-4, 2017.

Refereed Journal Publications

- [J22] E. Akin, **Ö. Öztürk** and N. Pelen. Mathematical and Numerical Analysis of HIV-1 Dynamics, ready to submit.
- [J21] **Ö. Öztürk** and A. Akgül. Control of Unmanned Ground Vehicles with Fractional Derivative, *Journal of Vibration Testing and System Dynamics*, accepted.
- [J20] **Ö. Öztürk**, T. Cuchta, and N. Wintz. Conformable Control of Human Heart Rate on Treadmill, in review.
- [J19] **Ö. Öztürk**, E. Akin, **Ö. Öztürk** and N. Pelen. Nonoscillatory Solutions of Third-Order Nonlinear Dynamic Equations: Existence and Nonexistence, accepted, *Turkish Journal of Mathematics*, 2025.
- [J18] **Ö. Öztürk** and R. Higgins. Almost Oscillation of a Third-Order Emden-Fowler Equation on Time Scales, *Differ. Equ. Dyn. Syst.*, Volume 32, 979–999, 2022.
- [J17] **Ö. Öztürk**, R. Higgins and G. Kittou. Oscillation of Three Dimensional Time Scale Systems with Fixed Point Theorems, *Filomat*, 36:5, 2021.
- [J16] **Ö. Öztürk** and H. M. Güzey. Saturation Control of PVTOL Aircraft on Time Scales, *Journal of Mathematics and Computer Science*, 21:3, 2020.
- [J15] E. Akin, H. M. Güzey and **Ö. Öztürk**. Control of Wheeled Mobile Robots on Time Scales, *Differ. Equ. Dyn. Syst.*, 31, 199–208, 2019.
- [J14] E. Akin, T. Hassan, **Ö. Öztürk** and I.U. Tiriyaki. On nonoscillatory solutions of three dimensional time-scale systems, *Turk J. Math.*, 43: 2246 – 2261, 2019.
- [J13] E. Akin and **Ö. Öztürk**. On Volterra-Integro Dynamical Systems on Time Scales, *Communications in Applied Analysis*, Volume 23, No. 1, 21-30, 2019.
- [J12] **Ö. Öztürk** and H. M. Guzey. Optimal Control of Quadrotor Unmanned Aerial Vehicles on Time Scales, *Int. J. Difference Equ.*, 1:13, 2018.
- [J11] **Ö. Öztürk** and R. Higgins. Limit behaviors of Nonoscillatory Solutions of Three-Dimensional Time Scale Systems, *Turk J. Math.*, 42, 2576-2587, 2018.
- [J10] **Ö. Öztürk**. On Oscillatory Behavior of Two-Dimensional Time-Scale System, *Advances in Difference Equations*, 2018:18, 2018.
- [J9] **Ö. Öztürk**. On Oscillation of Two-Dimensional Time Scale Systems with a Forcing Term, *Turk J. Math.*, 42: 312-319, 2018.
- [J8] E. Akin, **Ö. Öztürk**, I. U. Tiriyaki, and G. Yeni. A Note on Nonoscillatory Solutions for Higher Dimensional Time Scale Systems, *Int. J. Appl. Exp. Math.*, 3: 126, 2018.
- [J7] **Ö. Öztürk**. On the Existence of Nonoscillatory Solutions of Three-Dimensional Time Scale Systems, *J. Fixed Point Theory Appl.* 19 2617-2628, 2017.
- [J6] **Ö. Öztürk**. Classification Schemes of Nonoscillatory Solutions for Two-Dimensional Time Scale Systems, *Math. Inequal. Appl.*, Volume 20, Number 2, 377-387, 2017.

- [J5] E. Akin and **Ö. Öztürk**. Limiting Behaviors of Nonoscillatory Solutions for Two-Dimensional Nonlinear Time Scale Systems, *Mediterr. J. Math.*, 14:34, 2017.
- [J4] **Ö. Öztürk**, E. Akin, and I. U. Tiryaki. On Nonoscillatory Solutions of Emden-Fowler Dynamic Systems on Time Scales, *Filomat* 31:6, 1529-1541, 2017.
- [J3] **Ö. Öztürk** and E. Akin. On Nonoscillatory Solutions of Two-Dimensional Nonlinear Delay Dynamical Systems, *Opuscula Mathematica*, vol. 36, no. 5, 2016.
- [J2] **Ö. Öztürk** and E. Akin. Nonoscillation Criteria for Two-Dimensional Time-Scale Systems, *Nonauton. Dyn. Syst.* 3:1-13, 2016.
- [J1] **Ö. Öztürk** and E. Akin. Classification of Nonoscillatory Solutions of Emden-Fowler Dynamic Equations on Time Scales, *Dynamic Systems and Applications*, 25, 219-236, 2016.

Projects, Grants and Scholarships

- 2025 - now COST Action CA24140 One Health Zoonotic Hepatitis Network (ONWARD) – Working Group Member 1- 4, European Cooperation in Science and Technology (COST), EU-funded research network: €500,000
- Jun 2024 Travel Grant by TUBITAK: \$1,500
- 2018 – 2021 Project by ERA-Net(European Union) and TUBITAK, Collaborative strategies of heterogeneous robot activity at solving agriculture missions controlled via intuitive human-robot interfaces, Co-PI, Project No 217E138: \$69,904 ≈ ₺367,000
- July 2018 Travel Grant by TUBITAK: \$2,000
- Nov 2016 Travel Grant by SEARCDE: \$1,000
- Oct 2015 Travel Grant by SEARCDE: \$1,000
- Oct 2014 Travel Grant by SEARCDE: \$1,000
- Nov 2007 Scholarship for Master & Ph.D by Ministry of National Education of Turkey: \$250,000

Teaching Experience

- 2023 – now **As an Instructor of Record at Giresun University**
 - Nonlinear Differential Equations-II(Graduate Course): Fall 2025, Spring 2025
 - Nonlinear Differential Equations-I(Graduate Course): Fall 2025, Spring 2025, Fall 2024
 - Selected Topics on Differential Equations-II(Graduate Course): Spring 2025, Fall 2024
 - Differential Equations II: Spring 2025
 - Differential Equations I: Fall 2024
 - Ordinary Differential Equations for Computer Engineers: Fall 2024
 - Advanced Partial Differential Equations-I(Graduate Course): Fall 2024
 - Complex Analysis: Spring 2024
 - Selected Topics on Differential Equations-I(Graduate Course): Fall 2023
 - Partial Differential Equations-I: Fall 2023
 - Ordinary Differential Equations for Electrical and Electronics Engineers: Fall 2024, Fall 2023
- 2021 – 2023 **As an Instructor of Record at Texas Tech University**
 - Calculus III with Applications: Summer 2023, Spring 2023 and Fall 2022
 - Higher Mathematics for Engineers and Scientist I: Summer 2022
 - Calculus II with Applications: Summer 2022, Spring 2022 and Fall 2021
 - Linear Algebra: Summer 2021
- 2018 – 2020 **As an Instructor of Record at American University of the Middle East**

Calculus and Analytic Geometry III: Fall 2020
Ordinary and Partial Differential Equations: Summer 2020, Spring 2020, Fall 2019 & 2018
Linear Algebra: Fall 2019
Ordinary Differential Equations: Spring 2019
Calculus and Analytic Geometry II: Spring 2019
Calculus and Analytic Geometry I: Fall 2018

2016 – 2017 **As a Lead Lecturer at Missouri University of Science and Technology**

Calculus for Engineers I: Spring 2017 & Fall 2016
College Algebra: Fall 2016

2012 – 2016 **As a Graduate Teaching Assistant at Missouri University of Science and Technology**

Elementary Differential Equations: Spring 2016, Fall & Spring 2015, Fall & Spring 2014, Fall 2013
Trigonometry: Summer 2015 and Summer 2014
Calculus for Engineers II: Spring 2013 and Fall 2012

Honors and Awards

Research Awards

Apr 2021 Distinguished Academic Achievement, Texas Tech University, USA
Jun 2018 Faculty Excellence Award in Research, Giresun University, Turkey
Jun 2016 Nomination for 2016 CGS/ProQuest Distinguished Dissertation, Missouri S&T, USA

Teaching Awards

May 2017 11th Annual Freshman Engineering Program We Love Your Class Award, Missouri S&T, USA
Sep 2014 Most Honorable Mention Award, Department of Mathematics & Statistics, Missouri S&T, USA
Dec 2013 Teaching Excellence Award, Department of Mathematics & Statistics, Missouri S&T, USA

Other Awards

Jan 2015 Honor List for Fall 2014 by Student Life, Missouri S&T, USA
Oct 2013 Best Officer of Turkish Student Association, Missouri S&T, USA

Graduate Committees

Master Thesis Advisor

Current Abdulkadir Yilmaz
Thesis: Mathematical Modelling and Stability Analysis of Monkeypox Virus
Current Yekbun Akman
Thesis: Conformable Fractional Control of Unmanned Ground Vehicle

Master Committee Member

Jun 2025 Ilayda Altinok
Thesis: Biocontrol of Brown Marmorated Stink Bugs Using Samurai Waps: Investigating the Impact of This Biocontrol on Hazelnut Production in Turkey

Professional Services and Affiliations

Academic Services

Reviewer Mathematical Reviews/MathSciNet
Reviewer Journal of Mathematical Biology
Reviewer Communications Faculty of Sciences University of Ankara Series A1 Mathematics and Statistics

Reviewer Journal of Inequalities and Special Functions
Reviewer Journal of Inequalities and Applications
Reviewer Journal of Applied Mathematics and Computing
Reviewer Mathematics and Statistics, Horizon Publications

Other Services and Affiliations

2016 – 2017 Advisor of the Turkish Student Association, Missouri University of Science and Technology, USA
2014 – 2015 President of the Turkish Student Association, Missouri University of Science and Technology, USA
2012 – 2014 Vice-president of the Turkish Student Association, Missouri University of Science and Technology, USA

Conferences and Presented Talks

Jun 2024 **The 29th International Conference on Difference Equations and Applications**, Paris, France
Special Session on Recent Advances on Time Scales and Its Relation to Difference Equations
Talk Title: Classification of Nonoscillatory Solutions of a Third Order Nonlinear Dynamic Equation

Apr 2022 **Joint Mathematics Meetings**, Seattle, WA, USA
Special Session Organizer on Analysis of and Recent Advances in Difference, Differential and Dynamic Equations with Applications

Jul 2018 **The 12th AIMS Conference on Dynamical Systems, Differential Equations and Applications**, National Taiwan University, Taipei City, Taiwan
Invited Speaker for Special Session on Advances in Qualitative Theory of Differential, Difference and Dynamic Equations
Talk Title: Recent Advances on Nonoscillatory Solution of Two-Dimensional Time Scale Systems
Speaker for Contributed Session on Control and Optimization
Talk Title: Control of Mobile Robots on Time Scales

Jun 2018 **ECCO 2018**, University of Fribourg, Fribourg, Switzerland
Talk Title: Optimal Control of Unmanned Aerial Vehicles on Time Scale Theory

Nov 2017 **Costas 2017**, Samsun, Turkey
Talk Title: Control of Unmanned Ground Vehicles on Time Scales

Jan 2017 **Joint Mathematics Meetings**, Atlanta, GA, USA
Talk Title: Optimal Control of Unmanned Aerial Vehicles

Nov 2016 **The 36th SEARCDE**, Fort Myers, FL, USA
Talk Title: Classification Schemes for Nonoscillatory Solutions of Nonlinear Dynamical Systems on Time Scales

Aug 2016 **MAA Math Fest**, Columbus, OH, USA
Talk Title: On Nonoscillatory Solutions of Two Dimensional Nonlinear Delay Dynamical Systems

Oct 2015 **Fall Southeastern Sectional Meeting**, - University of Memphis, Memphis, TN, USA
Talk Title: Classification of Nonoscillatory Solutions of Dynamical Systems on Time Scales

Oct 2015 **The 35th SEARCDE**, Greensboro, NC, USA
Talk Title: On Nonoscillatory Solutions of Systems of First Order Dynamic Equations on Time Scales

May 2015 **The 7th International Conference on Dynamic Systems and Applications and 5th International Conference on Neural, Parallel, and Scientific Computations**, Atlanta, GA, USA
Talk Title: On Nonoscillatory Solutions of Emden Fowler Dynamic Systems on Time Scales

- Apr 2015 **The 1st Meeting of SIAM Central States Section**, Missouri S&T, Rolla, MO, USA
Talk Title: On Nonoscillatory Solutions of Emden Fowler Dynamic Systems on Time Scales
- Mar 2015 **MAA Missouri Section Spring Meeting**, Rolla, MO, USA
Talk Title: Classification of Nonoscillatory Solutions of Emden-Fowler Dynamic Equations on Time Scales
- Oct 2014 **The 34th SEARCDE**, University of Memphis, Memphis, TN, USA
Talk Title: Asymptotic Properties of Solutions of Emden- Fowler Dynamic Equations
- Apr 2014 **AMS 1100 Sectional Meeting**, Texas Tech University, Lubbock, TX, USA
Invited Speaker for Special Session on Analysis and Applications of Dynamic Equations on Time Scales
Talk Title: Asymptotic Behavior of Emden- Fowler Dynamic Equations on Time Scales

Computer Skills & Certificates

C++, \LaTeX

- May 2019 MATLAB Certificate by Vanderbilt University, USA
- Mar 2018 Control of Nonlinear Spacecraft Attitude Motion Certificate by University of Colorado, USA
- Sep 2016 Control of Mobile Robots Certificate by Georgia Institute of Technology, USA
- May 2009 Intensive English Language Program Certificate of Completion by Saint Joseph University, USA

Languages

- Native Turkish
- Advanced English
- Beginner German and French