

MAY 2022

Associate Professor

Department of Mathematics, Mersin University, Mersin, TURKEY

faycacetinkaya@mersin.edu.tr

<https://www.fatmaayca.com/>

### 1. Long—term Academic Positions

2016— Mersin University, Department of Mathematics, Assistant Professor.

2009—2016 Mersin University, Department of Mathematics, Research Assistant.

### 2. Visiting Positions

1. Visiting Scholar at [Missouri University of Science and Technology, Department of Mathematics and Statistics](#), July 2021-July 2022, Funded by The Scientific and Technological Research Council of Turkey (TÜBİTAK) (*Host Professor: [Dr. Martin Bohner](#)*)

### 3. Conferences and Seminars Organized

1. [Seminars on Inverse Problems Theory and Applications](#): Online seminar series co-organized with V. Vladicic (University of East Sarajevo) and B. Vojvodic (University of Banja Luka)

### 4. Educational Background

2020— [The Presidency of the Interuniversity Council](#), Associate Professorship2012—2016 [Mersin University](#), Ph.D. (*Advisor: Dr. Kh. R. Mamedov*)2009—2012 [Mersin University](#), MSc. (*Advisor: Dr. Kh. R. Mamedov*)2002—2008 [Ankara University](#), BSc.

### 5. Fellowships

1. 2219 International Postdoctoral Research Fellowship Programme, The Scientific and Technological Research Council of Turkey (TÜBİTAK), Support Period: 12 Months

2. Young Researcher at Regional Mathematics Center of Southern Federal University [Research in Pairs](#) Program (*Supervisor: [Dr. Vladislav Kravchenko](#)*) (December 2021—)

### 6. Research Interests

General areas of research are ordinary differential equations and their applications. Special interests include spectral theory, boundary value problems, inverse problems.

## 7. Papers

### 7.1. Published (in reverse order)

16. “[General Characteristics of a Fractal Sturm—Liouville Problem](#)”, Turkish Journal of Mathematics, Turk. J. Math., 45 (4), 1835—1846, 2021. (with GOLMANKHANEH A. K.) (*SCI-Expanded*)
15. “ [\$\mathcal{J}\$ -Jackson Türevi ve Özdeğere Bağlı Sınır Koşulları ile Oluşturulan Bir Sınır Değer Probleminin Spektral Özellikleri](#)”, Osmaniye Korkut Ata Üniversitesi Fen Bilimleri Enstitüsü Dergisi, 3 (2), 117--125, 2020. (*Google Scholar*) (*Türkçe*)
14. “[Sturm—Liouville and Riccati Conformable Dynamic Equations](#)”, Advances in Dynamical Systems and Applications, 15 (1), 1--13, 2020. (with CUCHTA T.) (*Zentralblatt Math, American Math Reviews*)
13. “[Inverse Problems for Differential Operators with Two Delays Larger Than Half of the Length of the Interval and Dirichlet Conditions](#)”, Turk. J. Math., 44, 900--905, 2020. (with VOJVODIC V., PIKULA M., VLADICIC V.) (*SCI-Expanded*)
12. “[A Discontinuous  \$\mathcal{J}\$ -Fractional Boundary Value Problem with Eigenparameter Dependent Boundary Conditions](#)”, Miskolc Mathematical Notes, 20 (2), 795--806, 2019. (*SCI-Expanded*)
11. “[Spectral Properties of a  \$\mathcal{J}\$ -Boundary Value Problem with Piecewise-Continuous Coefficient](#)”, Palestine Journal of Mathematics, 8 (1), 407--413, 2019. (with AYDIN I.) (*Zentralblatt Math, American Math Reviews*)
10. “[Basic Properties of an Eigenparameter-Dependent  \$\mathcal{J}\$ -Boundary Value Problem](#)”, Kragujevac Journal of Mathematics, 43 (4), 503--512, 2019. (*Emerging Sources Citation Index*)
9. “[Uyumlu Kesirli bir Dalga Denklemi Üzerine](#)”, Süleyman Demirel University Journal of Natural and Applied Sciences, 22 (3), 1110--1113, 2018. (*Ulakbim*) (*Türkçe*)
8. “[On Eigenvalues of a Boundary Value Problem with a Retarded Argument](#)”, Journal of Inequalities and Special Functions, 8(4), 21--30, 2017. (with MAMEDOV Kh. R.) (*Emerging Sources Citation Index*)
7. “[A Boundary Value Problem with Retarded Argument and Discontinuous Coefficient in the Differential Equation](#)”, Azerbaijan Journal of Mathematics, 7(1), 130--140, 2017. (with MAMEDOV Kh. R.) (*Emerging Sources Citation Index*)
6. “[Boundary Value Problem for a Sturm—Liouville Operator With Piecewise Continuous Coefficient](#)”, Hacettepe Journal of Mathematics, 44(4), 867--874, 2015. (with MAMEDOV Kh. R.) (*SCI-Expanded*)

5. “[Inverse Scattering Problem for a Piecewise Continuous Sturm—Liouville Equation with Eigenparameter Dependence in the Boundary Condition](#)”, Proceedings of the Institute of Mathematics and Mechanics, 41 (1), 16--24, 2015. (with MAMEDOV Kh. R. and KOSAR P. N.) (*Emerging Sources Citation Index, Zentralblatt Math, American Math Reviews*)
4. “[A Uniqueness Theorem for a Sturm—Liouville Equation with Spectral Parameter in Boundary Conditions](#)”, Applied Mathematics and Information Sciences, 9(2), 981--988, 2015. (with MAMEDOV Kh. R.) (*American Math Reviews*)
3. “[On a Spectral Expansion Formula for a Class of Second Order Differential Equation with Discontinuous Coefficient](#)”, Advanced Studies in Contemporary Mathematics, 24(4), 451--457, 2014. (with MAMEDOV Kh. R.) (*Zentralblatt Math*)
2. “[Eigenparameter Dependent Inverse Boundary Value Problem for a Class of Sturm—Liouville Operator](#)”, Boundary Value Problems 2014, 2014:194, doi:10.1186/s13661-014-0194-3. ( with MAMEDOV Kh. R.) (*SCI-Expanded*)
1. “[Inverse Problem for a Class of Sturm—Liouville Operator with Spectral Parameter in Boundary Condition](#)”, Boundary Value Problems 2013, 2013:183, doi:10.1186/1687-2770-2013-183. ( with MAMEDOV Kh. R.) (*SCI-Expanded*)

## 7.2 Accepted Papers (in reverse order)

1. “A Review on the Evolution of the Conformable Derivative”, Review paper, Functional Differential Equations, submitted on November 24th, 2021, accepted on January 5th, 2022. (*SCOPUS*)

## 7.3. Recently Submitted Papers (in reverse order)

2. “A  $\$q\$$ -Dirac boundary value problem with eigenparameter-dependent boundary conditions”, Applicable Analysis and Discrete Mathematics, submitted on March 23rd, 2022. (with BOHNER M.) (*SCI-Expanded*)
1. “Recovering Differential Operators with Two Retarded Arguments”, Boletín de la Sociedad Matemática Mexicana, submitted on April 28th, 2022. (with VOJVODIC B., KOMAZEC PAVLOVIC N.) (*Emerging Sources Citation Index*)

## 8. Conference and Seminar Talks Attended (in reverse order)

26. “On two types of inverse Sturm—Liouville problems”, Geometry & Analysis Seminar, 9 March 2022, UC Santa Cruz Department of Mathematics, Santa Cruz, CA, USA. (Invited Speaker, Virtual Attendance)
25. “Inverse problems for Sturm—Liouville operators”, Drakhlin's Seminar on Functional Differential Equations, 2 March 2022, Ariel University Department of Mathematics, Ariel, ISRAEL. (Invited Speaker, Virtual Attendance)

- 24.** “On a Conformable Dynamic Operator of Second Order” 7th International Intuitionistic Fuzzy Sets and Contemporary Mathematics, 25-29 May 2021, Mersin, TURKEY. (Virtual Attendance) (with CEYLAN Z.)
- 23.** “An Inverse Problem for a Differential Equation with Delays”, International Scientific Conference “Science and Reality”, 22 May 2021, Pale, BOSNIA and HERZEGOVINA. (Virtual Attendance) (with VOJVODIC V., PIKULA M., VLADICIC V.)
- 22.** “A Uniqueness Theorem for the Solution of a Conformable Inverse Problem”, BYMAT 2020, Bringing Young Mathematicians Together, Online Conference, 1-3 December 2020. (Virtual Attendance)
- 21.** “Some Results on a Second Order Conformable Dynamic Operator on Time Scales”, 3rd International Conference on Pure and Applied Mathematics (ICPAM-VAN 2020), 3-5 September 2020, Van, TURKEY (Virtual Attendance).
- 20.** “A Boundary Value Problem with  $q$ -Jackson Derivative and Eigenvalue Dependent Boundary Conditions”, International Conference on Differential & Difference Equations and Applications, 1-5 July 2019, Lisbon, PORTUGAL.
- 19.** “On a Conformable Fractional Wave Equation”, International Conference on Applied Analysis and Mathematical Modeling, 10-13 March 2019, Istanbul, TURKEY. (with ERBEY N.)
- 18.** “An Inverse Problem for a Class of Sturm—Liouville Operator with Spectral Parameter in Boundary Conditions”, Contemporary Mathematical Problems Conference Dedicated to Professor Milenko Pikula, 12-13 October 2018, Trebinje, BOSNIA-HERZEGOVINA.
- 17.** “Spectral Properties of a  $q$ -Fractional Boundary Value Problem”, International Conference on Pure and Applied Mathematics (ICPAM-VAN 2018), 11-13 September 2018, Van, TURKEY.
- 16.** “Basic Properties of an Eigenparameter-Dependent  $q$ -Boundary Value Problem”, 14th Serbian Mathematical Congress (14th SMAK), 16-19 May 2018, Kragujevac, SERBIA.
- 15.** “Computing Asymptotic Formulas for Eigenvalues and Eigenfunctions of a Boundary Value Problem with Retarded Argument”, 14th Serbian Mathematical Congress (14th SMAK), 16-19 May 2018, Kragujevac, SERBIA. (with AYDIN I. and ERBEY N.)
- 14.** “Expansion Formula for a Boundary Value Problem with Discontinuous Coefficient”, International Mathematical Conference on Function Theory dedicated to the centenary of Aleksei Fedorovich Leont’ev, 24-27 May 2017, Ufa, RUSSIA. (with MAMEDOV Kh. R.)
- 13.** “On a Discontinuous Boundary Value Problem for a Sturm—Liouville Operator with Retarded Argument”, Modern Mathematics and Its Applications, 18-20 May 2017, Sterlitamak, RUSSIA. (with MAMEDOV Kh. R. and CERCI G.)

12. “Basis Properties of Eigenfunctions of a Discontinuous Sturm-Liouville Problem”, 4th International Intuitionistic Fuzzy Sets and Contemporary Mathematics, 03-07 May 2017, Mersin, TURKEY. (with MAMEDOV Kh. R.)
11. “On Eigenvalues and Eigenfunctions of a Boundary Value Problem with Retarded Argument”, ICAA2016, 12-15 July 2016, Kırşehir, TURKEY. (with MAMEDOV Kh. R.)
10. “A Boundary Value Problem with Retarded Argument and Spectral Parameter in One Boundary Condition”, 2nd International Conference on Pure & Applied Sciences, 01-05 June 2016, Istanbul, TURKEY. (with MAMEDOV Kh. R.)
9. “The Levinson Formula of a Boundary Value Problem”, 2nd International Conference on Pure & Applied Sciences, 01-05 June 2016, Istanbul, TURKEY. (with MAMEDOV Kh. R.)
8. “The Main Equation for a Sturm—Liouville Operator with a Piecewise Continuous Coefficient”, 15th Panhellenic Conference on Mathematical Analysis, 27-29 May 2016, Crete, GREECE. (with MAMEDOV Kh. R.)
7. “Uniqueness Theorems for the Solution of the Inverse Problem for a Sturm—Liouville Operator”, International Conference on Advancement in Mathematical Sciences, 05-07 November 2015, Antalya, TURKEY. (with MAMEDOV Kh. R. and AKÇAY Ö.)
6. “Boundary Value Problem for a Sturm—Liouville Operator With Piecewise Continuous Coefficient”, International Conference on Pure and Applied Mathematics (ICPAM 2015), 25-28 August 2015, Van, TURKEY. (with MAMEDOV Kh. R. and AKÇAY Ö.)
5. “Asymptotic Behaviour of Eigenvalues and Eigenfunctions of a Boundary Value Problem with Retarded Argument”, The International Conference 'Mathematical and Computational Modeling in Science and Technology'(ICMCMST'2015), 02-07 July 2015, İzmir, TURKEY. (with MAMEDOV Kh. R.)
4. “Inverse Scattering Problem for a Piecewise Continuous Sturm—Liouville Equation with Eigenparameter Dependence in the Boundary Condition”, 19th International Conference Mathematical Modelling and Analysis 2014, 26-29 May 2014, Druskininkai, LITHUANIA. (with MAMEDOV Kh. R.)
3. “Inverse Problem for a Class of Sturm—Liouville Operators with Spectral Parameter in Boundary Condition”, International Conference on Applied Analysis and Mathematical Modeling, 2-5 June 2013, Istanbul, TURKEY. (with MAMEDOV Kh. R. and AKÇAY Ö.)
2. “Expansion Formula for a Class of Sturm—Liouville Operators with Piecewise Continuous Coefficient and Spectral Parameter in Boundary Condition”, Mathematical Analysis, Differential Equations and Their Applications, 4–9 September 2012, Mersin, TURKEY. (with MAMEDOV Kh. R.)
1. “On a Spectral Expansion Formula for a Class of Second Order Differential Equation with Discontinuous Coefficient”, International Conference on Applied Analysis and Algebra, 29 June-2 July 2011, Istanbul, TURKEY. ( with MAMEDOV Kh. R.)

## **9. Supervised Thesis (in reverse order)**

### *Master Thesis*

4. “Second Order Differential Equations Using a Conformable Derivative”, Dilan ELBADİ, May 2021.
3. “Spectral Properties of a Second Order Conformable Dynamic Operator on Time Scales”, Zeki CEYLAN, June 2020.
2. “On a Conformable Wave Equation”, Nurcan ERBEY, November 2019.
1. “Spectral Properties of a  $q$ - Fractional Boundary Value Problem”, İlknur AYDIN, April 2019.

## **10. Invited / Supported Research Visits**

1. 2017, July 17-22 (5 Days) Paderborn University, Germany (Funded by Erasmus+ )

## **11. Scientific/Academic Honors (in reverse order)**

8. 2021 Scientific Publication Encouragement Prize / The Scientific and Technological Research Council of Turkey (TÜBİTAK)
7. 2020 Scientific Publication Encouragement Prize / Mersin University
6. 2020 Scientific Publication Encouragement Prize / The Scientific and Technological Research Council of Turkey (TÜBİTAK)
5. 2016 Scientific Publication Encouragement Prize / The Scientific and Technological Research Council of Turkey (TÜBİTAK)
4. 2014 Scientific Publication Encouragement Prize / The Scientific and Technological Research Council of Turkey (TÜBİTAK)
3. 2014 Scientific Publication Encouragement Prize / Mersin University
2. 2013 Scientific Publication Encouragement Prize / The Scientific and Technological Research Council of Turkey (TÜBİTAK)
1. 2013 Scientific Publication Encouragement Prize / Mersin University

## **12. Academical Memberships (in reverse order)**

1. [Turkish Mathematical Society](#) 2019—
2. [Association for Women in Mathematics](#) 2019—
3. [Association for Turkish Women in Maths](#) 2019—
4. [International Society of Difference Equations](#) 2017—

5. [American Mathematical Society 2017](#)—

**13. MathSciNet Reviews (20 Reviews Since 2016)**

<https://mathscinet.ams.org/mathscinet/search/author.html?mrauthid=1036635>

**14. Professional Service as a Referee**

[Journal of Inequalities and Applications](#), 2019: 3, 2021;1, 2022: 1

[Results in Applied Mathematics](#), 2019: 1

[Turkish Journal of Mathematics](#), 2019: 1, 2020: 3, 2021: 4

[International Journal of Dynamical Systems and Differential Equations](#), 2020: 1

[Involve](#), 2020: 1

[Mathematica Morevica](#), 2020: 1

[European Journal of Pure and Applied Mathematics](#) 2020:2, 2021:1

[Open Physics](#) 2020: 1, 2021: 1

[Hacettepe Journal of Mathematics and Statistics](#) 2021: 1

[Palestine Journal of Mathematics](#) 2021:1

[Mathematical Biosciences and Engineering](#) 2021:1

[Qualitative Theory of Dynamical Systems](#) 2021:1

## 15. Teaching Activities

2020—2021 Spring (Online)	Linear Algebra, Numerical Methods in Engineering, Calculus ( <i>Associate Professor of Mathematics</i> )
2020—2021 Fall (Online)	Calculus, Ordinary Differential Equations, Probability and Statistics ( <i>Assistant Professor of Mathematics</i> )
2019—2020 Spring (Online)	Linear Algebra, Numerical Methods in Engineering, Selective Topics in Differential Equations ( <i>Assistant Professor of Mathematics</i> )
2019—2020 Fall	Calculus, Ordinary Differential Equations, Selective Topics in Differential Equations, ( <i>Assistant Professor of Mathematics</i> )
2018—2019 Spring	Calculus, Linear Algebra, Numerical Methods in Engineering, Selective Topics in Differential Equations ( <i>Assistant Professor of Mathematics</i> )
2018—2019 Fall	Calculus, Ordinary Differential Equations, Selective Topics in Differential Equations ( <i>Assistant Professor of Mathematics</i> )
2017—2018 Spring	Calculus, Linear Algebra, Numerical Methods in Engineering ( <i>Assistant Professor of Mathematics</i> )
2017—2018 Fall	Calculus, Ordinary Differential Equations ( <i>Assistant Professor of Mathematics</i> )
2016—2017 Spring	Calculus, Linear Algebra ( <i>Assistant Professor of Mathematics</i> )
2016—2017 Fall	Calculus, Ordinary Differential Equations ( <i>Assistant Professor of Mathematics</i> )
2015—2016 Spring	Partial Differential Equations ( <i>Teaching Assistant</i> )
2015—2016 Fall	Partial Differential Equations ( <i>Teaching Assistant</i> )
2014—2015 Spring	Linear Algebra, Partial Differential Equations ( <i>Teaching Assistant</i> )
2014—2015 Fall	Linear Algebra, Partial Differential Equations ( <i>Teaching Assistant</i> )
2013—2014 Spring	Linear Algebra, Partial Differential Equations ( <i>Teaching Assistant</i> )



2013—2014 Fall	Linear Algebra, Partial Differential Equations ( <i>Teaching Assistant</i> )
2012—2013 Spring	Partial Differential Equations, Differential Geometry ( <i>Teaching Assistant</i> )
2012—2013 Fall	Partial Differential Equations ( <i>Teaching Assistant</i> )
2011—2012 Spring	Ordinary Differential Equations, Differential Geometry ( <i>Teaching Assistant</i> )
2011—2012 Fall	Ordinary Differential Equations ( <i>Teaching Assistant</i> )
2010—2011 Spring	Partial Differential Equations ( <i>Teaching Assistant</i> )
2010—2011 Fall	Ordinary Differential Equations, Calculus ( <i>Teaching Assistant</i> )
2009—2010 Spring	Partial Differential Equations ( <i>Teaching Assistant</i> )

## 16. Languages

*Turkish (Native)*

*English (Fluent)* IELTS July 2020 7/9, YDS 2019 87.5/100, YÖKDİL 2017 85/100, [Cambly Certificate of Accomplishment](#)

*Greek (Beginner)* 1453 days of streak on Duolingo Greek as of April 30, 2022

## 17. Other

Volunteer English to Turkish Translator at [www.matematiksel.org](http://www.matematiksel.org) since September, 2018: <https://www.matematiksel.org/author/fatma-ayca-cetinkaya/>

My contribution to Her Maths Story on November 24th, 2021: <https://hermathsstory.eu/fatma-ayca-cetinkaya/>