

Leyla Işık, Ph.D.

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Date of birth: 14.02.1985
Date of place: İzmir
Marital status: Married

Education

- 2011 – 2015 **Ph.D. Mathematics**, Sabancı University, İstanbul.
Thesis title: *On Complete Mapping and Value Sets of Polynomials over Finite Fields.*
- 2008 – 2011 **M.Sc. Mathematics**, Sabancı University, İstanbul.
Thesis title: *On the Minimum Distance of Cyclic Codes.*
- 2003 – 2008 **B.Sc. Mathematics**, Dokuz Eylül University, İzmir.

Work Experiences

- 2019 - today **Asst. Prof. in Istinye University**, Department founding chair. Head of the Mathematics department between 2019 July-2021 January.
- 2018-2019, Summer **Sabancı University**, Instructor
- 2018-2019, Spring **Bilgi University**, Instructor
- 2018-2019, Fall **Piri Reis University**, Instructor
- 2017-2018, Summer **Şehir University**, Instructor
- 2017-2018, Spring **Piri Reis University**, Instructor
- 2017-2018, Fall **Okan University**, Instructor
- 2016 – 2017 **Postdoctoral researcher in Mathematics department**, Salzburg University, Salzburg, Austria. Financed by Austrian FWF project with the title "Arithmetic Primitives for Uniform Distribution Modulo 1". Project leader : Prof. Dr. Peter Hellekalek.
- 2015 – 2016 **Postdoctoral researcher in Mathematics department**, Sabancı University, İstanbul, Turkey. Financed by Tübitak project with the title "Sonlu cisimler üzerinde tanımlı Polinomlar, Teori ve Uygulamalar II". Project leader : Prof. Dr. Henning Stichtenoth.

Research Interests

Finite Fields, Coding Theory, Cryptography, Combinatorics.

Research Publications

- Additive Index of the Diffie-Hellman Mapping, in preparation (with A. Winterhof).
- On the Index of the Diffie-Hellman Mapping, "Applicable Algebra in Engineering Communication and Computing", 2020 (with A. Winterhof)
<https://link.springer.com/article/10.1007/s00200-020-00475-3>

- Maximum-order Complexity and Correlation Measures, published in "Cryptography", 2017 (with A. Winterhof) <http://www.mdpi.com/2410-387X/1/1/7>
- Index and Carlitz rank of Permutation Polynomials, published in "Finite Fields and Their Applications", 2017 (with A. Winterhof) <https://www.sciencedirect.com/science/article/pii/S1071579717301065>
- Complete Mappings and Carlitz Rank, published in "Design Codes and Cryptography", 2016 (with A. Topuzoğlu, A. Winterhof) <http://link.springer.com/article/10.1007/s10623-016-0293-5>
- A Note on Value Sets of Polynomials over Finite Fields (with A. Topuzoğlu) <https://arxiv.org/pdf/1701.06158.pdf>.

Referee for :

- Advances in Maths & Communications
- Applicable Algebra in Engineering, Communication and Computing
- Finite Fields and Their Applications
- IEEE Transactions on Information Theory

Research Visits

- UAEU, Al Ain, Abu Dhabi, December 2021.
- RICAM Institute, Austria, January 2020.
- Canterbury University, New Zealand, September 2019.
- RICAM Institute, Austria, January 2019.
- VUB, Brussels, Belgium, January 2017.
- RICAM Institute, Austria, January 2017.
- University of Salzburg, Austria, April 2016.
- The University of Naples Federico II, Italy, March 2016.
- University of Zurich, Switzerland, December 2015.

Invited Talks

Canterbury University, New Zealand	Maximum Order Complexity and Correlation Measures, September 30, 2019.
VUB, Brussels, Belgium	On the Index of Permutation Polynomials, January 17, 2017.
Mimar Sinan Fine Arts University, Turkey	Index and Carlitz rank of Permutation Polynomials, December 1, 2016.
Gebze Technical University, Turkey	Index and Carlitz rank of Permutation Polynomials, November 4, 2016.
University of Salzburg, Austria	A note on Value Sets of Polynomials over Finite Fields, April 26, 2016.
The University of Naples Federico II, Italy	On Complete Maps and Value Sets of Polynomials over Finite Fields, March 18, 2016.
University of Zurich, Switzerland	On Complete Maps and Value Sets of Polynomials over Finite Fields, December 16, 2015.

International Conference Talks

Cryptography and Coding Theory, First Annual Conference, Italy	■ On the index of Diffie Helmann Mapping, September 21- 22, 2021.
Workshop on Polyns and Curves over \mathbb{F}_q ICMS & Sabanci University, Istanbul, Turkey	■ Maximum Order Complexity and Correlation Measures, 20 - 22 May 2019.
12^{th} \mathbb{F}_q Conference, New York, USA	■ On Complete Mappings of Finite Fields, July 13-17, 2015.
4^{th} Irsee Conference, Germany	■ On Complete Mappings of Finite Fields, September 14-20, 2014.
XVI. Antalya Algebra Days, Antalya, Turkey	■ On the Minimum Distance of Cyclic Codes, 09-13 May, 2014.

Teaching Experience

2021-2022, Spring	■ İstinye University , Linear Algebra with Applications, Instructor.
2021-2022, Fall	■ İstinye University , Differential Equations, Abstract Algebra 1, Pharmacy Math, Instructor.
2020-2021, Summer	■ Sabancı University , Linear Algebra, Instructor.
2020-2021, Spring	■ İstinye University , Linear Algebra with Applications, Maths for Social Sciences, Instructor.
2020-2021, Fall	■ İstinye University , Differential Equations, Instructor.
2019-2020, Spring	■ İstinye University , Linear Algebra with Applications, Computer Algebra Programming with Sage, Instructor.
2019-2020, Fall	■ İstinye University , Differential and Integral Calculus, Instructor.
2018-2019, Summer	■ Sabancı University , Linear Algebra, Instructor.
2018-2019, Spring	■ Bilgi University , Introduction to Probability, Instructor.
2018-2019, Fall	■ Piri Reis University , Linear Algebra, Instructor.
2017-2018, Summer	■ Şehir University , Calculus 1, Instructor.
	■ Sabancı University , Linear Algebra, Instructor.
2017-2018, Spring	■ Piri Reis University , Basic Mathematics II, Probability and Statistics, Instructor.
2017-2018, Fall	■ Okan University , Applied Mathematics, Calculus, Instructor.
2008-2015	■ Sabancı University , Calculus I-II, Linear Algebra, Discrete Mathematics, Instructor. Differential Equations, Number Theory, Introduction to Algebra, Teaching Assistant.

Skills

Coding	■ Python, Sage, Magma, Matlab, Mathematica, \LaTeX , Word, Excel ...
Languages	■ English - advanced, Italian - intermediate, German - intermediate.

Scholarships

2006-2007	■ Ahmet Pırstina Scholarship.
2008-2011	■ Sabancı University, M.Sc in Mathematics, full scholarship.
2011-2015	■ Sabancı University, PhD in Mathematics, full scholarship.

Part-Time Work Experiences

2004 – 2005, Summer	■ Manager , Lost Children Center, İZFAŞ, İzmir,
2005, August	■ Interpreter , Universiade, Izmir.
2008 – 2015	■ Teaching Assistant , Sabancı University, İstanbul.