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Education Information

Doctorate, Yıldız Technical University, Graduate School of Natural and Applied Sciences, Matematik, Turkey 2012 - 2017

Postgraduate, Yıldız Technical University, Graduate School of Natural and Applied Sciences, Matematik, Turkey 2010 - 2012

Postgraduate, Karadeniz Technical University, Yabancı Diller Yüksekokulu, Turkey 2009 - 2010

Undergraduate, Ataturk University, Turkey 2006 - 2009

Biography

I received my B.Sc. degree in Mathematics in 2009 from Ataturk University, M.Sc. and Ph.D. degree in Mathematics in 2012 and 2017 from Yıldız Technical University, respectively. My researches are focused on algebraic coding theory, cellular automata, and group rings.

Certificates, Courses and Trainings

Vocational Training, Scuola Matematica Interuniversitaria (SMI), Università Degli Studi di Perugia, 2013

Vocational Training, Pedagojik Formasyon (Öğretmenlik Sertifikası), Yıldız Teknik Üniversitesi, 2010

Dissertations

Doctorate, Bazı Grup Halkalarında Kodların Yapısı, Yıldız Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Matematik, 2017

Postgraduate, Hücresel Dönüşümlerle Hata Düzeltken Kodlar, Yıldız Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Matematik, 2012

Research Areas

Mathematics, Associative Rings and Algebras, Field Theory and Polynomials, Natural Sciences

Academic Titles / Tasks

Assistant Professor, Yildiz Technical University, Faculty Of Arts & Science, Department Of Mathemeatics, 2020 - Continues
Research Assistant PhD, Yildiz Technical University, Faculty Of Arts & Science, Department Of Mathemeatics, 2017 - 2020
Research Assistant, Yildiz Technical University, Faculty Of Arts & Science, Department Of Mathemeatics, 2012 - 2017

Academic and Administrative Experience

Araştırma Görevlisi Fakülte Temsilcisi, Yildiz Technical University, Faculty Of Arts & Science, Department Of Mathemeatics, 2019 - 2020

Fakülte Kurulu Üyesi, Yildiz Technical University, Faculty Of Arts & Science, Department Of Mathemeatics, 2019 - 2020

Fakülte Yönetim Kurulu Üyesi, Yildiz Technical University, Faculty Of Arts & Science, Department Of Mathemeatics, 2019 - 2020

Bölüm Stratejik Plan Komisyonu Üyesi, Yildiz Technical University, Faculty of Arts & Science, Department of Mathemeatics, 2018 - 2019

Bölüm Tanıtım ve Mezunlarla İlişkiler Komisyonu Üyesi, Yildiz Technical University, Faculty of Arts & Science, Department of Mathemeatics, 2018 - 2019

Courses

Bitirme Tezi, Undergraduate, 2021 - 2022

Matematik 2 (Gr-9), Undergraduate, 2021 - 2022

Lineer Cebir (Gr-16), Undergraduate, 2021 - 2022

Lineer Cebir (Gr-15), Undergraduate, 2021 - 2022

LINEAR ALGEBRA, Undergraduate, 2020 - 2021

MATEMATİK 2, Undergraduate, 2020 - 2021

LİNEER CEBİR (GR 7), Undergraduate, 2020 - 2021

Kodlama Teorisi, Undergraduate, 2020 - 2021

MATEMATİK 2 (Gr 24), Undergraduate, 2019 - 2020

MATEMATİK 2 (Gr 9), Undergraduate, 2019 - 2020

Sonlu Cisimler, Doctorate, 2020 - 2021

Lineer Cebir (Gr 32), Undergraduate, 2020 - 2021

Bitirme Tezi, Undergraduate, 2020 - 2021

Lineer Cebir (Gr 11), Undergraduate, 2020 - 2021

LİNEER CEBİR (Gr 7), Undergraduate, 2019 - 2020

Lineer Cebir (Gr 11), Undergraduate, 2019 - 2020

Lineer Cebir (Gr 6), Undergraduate, 2019 - 2020

Matematik 2 (Gr 19), Undergraduate, 2019 - 2020

MATEMATİK 2, Undergraduate, 2018 - 2019

Lineer Cebir ve Kontrol Mühendisliği Uygulamaları , Undergraduate, 2019 - 2020

MATEMATİK 1, Undergraduate, 2018 - 2019

Lineer Cebir (Uygulama), Undergraduate, 2017 - 2018

Cebir II (Uygulama), Undergraduate, 2017 - 2018

Jury Memberships

Doctorate, Doctorate, Sakarya Üniversitesi, June, 2021

Post Graduate, Post Graduate, Yıldız Teknik Üniversitesi, July, 2020

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **New Entanglement-Assisted Quantum MDS Codes with Maximal Entanglement**
SARI M., KÖROĞLU M. E.
INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, vol.60, no.1, pp.243-253, 2021 (Journal Indexed in SCI)
- II. **New entanglement-assisted MDS quantum codes from constacyclic codes**
Köroğlu M. E.
QUANTUM INFORMATION PROCESSING, vol.18, 2019 (Journal Indexed in SCI)
- III. **On MDS Negacyclic LCD Codes**
Köroğlu M. E. , Sarı M.
FILOMAT, vol.33, pp.1-12, 2019 (Journal Indexed in SCI)
- IV. **A Class of Constacyclic Codes from Group Algebras**
Köroğlu M. E. , Siap I.
FILOMAT, vol.31, pp.2917-2923, 2017 (Journal Indexed in SCI)
- V. **The reversibility problem for a family of two-dimensional cellular automata**
Köroğlu M. E. , Siap I., Akin H.
TURKISH JOURNAL OF MATHEMATICS, vol.40, pp.665-678, 2016 (Journal Indexed in SCI)
- VI. **Error Correcting Codes via Reversible Cellular Automata Over Finite Fields**
Köroğlu M. E. , Siap I., Akin H.
ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.39, pp.1881-1887, 2014 (Journal Indexed in SCI)
- VII. **REVERSIBLE CELLULAR AUTOMATA WITH PENTA-CYCLIC RULE AND ECCs**
Siap I., Akin H., Köroğlu M. E.
INTERNATIONAL JOURNAL OF MODERN PHYSICS C, vol.23, 2012 (Journal Indexed in SCI)

Articles Published in Other Journals

- I. **ON CYCLIC CODES AND CYCLIC LCD CODES FROM THE FAMILY OF GROUP RINGS $Z(4)C(n)$**
Köroğlu M. E. , Ersoy B. A.
SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI, vol.37, pp.541-549, 2019 (Journal Indexed in ESCI)
- II. **LCD codes and LCP of codes from units of group rings**
Köroğlu M. E.
Sakarya University Journal of Science, vol.23, no.3, pp.486-492, 2019 (International Refereed University Journal)
- III. **Optimal codes from Fibonacci polynomials and secret sharing schemes**
Köroğlu M. E. , Ozbek I., Siap I.
ARABIAN JOURNAL OF MATHEMATICS, vol.6, pp.297-308, 2017 (Journal Indexed in ESCI)
- IV. **Quantum Codes from a Class of Constacyclic Codes over Group Algebras**
Köroğlu M. E. , Siap I.
MALAYSIAN JOURNAL OF MATHEMATICAL SCIENCES, vol.11, pp.289-301, 2017 (Journal Indexed in ESCI)
- V. **Quantum codes from negacyclic codes over group ring $(Fq + vFq)G$**
Köroğlu M. E. , Siap İ.
Journal of Physics:Conference Series , vol.766, no.1, pp.1-6, 2016 (Journal Indexed in ESCI)
- VI. **The reversibility of $(2r + 1)$ -cyclic rule cellular automata**
Şiap İ., Akin H., Köroğlu M. E.
TWMS J. App. & Eng. Math, vol.4, no.2, pp.215-225, 2013 (Journal Indexed in ESCI)

Refereed Congress / Symposium Publications in Proceedings

- I. **Skew constacyclic codes over a nonchain ring**

Köroğlu M. E. , Sarı M.

26th International Conference on Applications on Computer Algebra (ACA-2021), Valladolid, Spain, 23 - 27 July 2021, pp.140-142

II. **m-adic residue codes over $F_q[v]/(v^s - v)$ and their applications to quantum codes**

Kürüz F, Sarı M., Köroğlu M. E.

7th International Congress on Fundamental and Applied Sciences 2020 (ICFAS2020), Priştine, Kosovo, 6 - 08 October 2020, pp.1

III. **New entanglement-assisted quantum mds codes with maximal entanglement**

Köroğlu M. E. , Sarı M.

7th International Congress on Fundamental and Applied Sciences 2020 (ICFAS2020), Priştine, Kosovo, 6 - 08 October 2020, pp.1

IV. **Two new classes of EAQMDS codes from constacyclic codes**

Köroğlu M. E.

International Conference on Mathematics and Mathematics Education (ICMME 2018), Ordu, Turkey, 27 - 29 June 2018, pp.128-129

V. **On LCD codes from group rings**

Köroğlu M. E. , Ersoy B. A.

International Congress on Fundamental and Applied Sciences 2017 (ICFAS2017), Sarajevo, Bosnia And Herzegovina, 21 - 25 August 2017, pp.90

VI. **A class of LCD codes from group rings**

Köroğlu M. E. , Ersoy B. A.

13th International Conference on Algebraic Hyperstructures and its Applications (AHA2017), İstanbul, Turkey, 24 - 27 July 2017, pp.1

VII. **Negacyclic Hermitian LCD codes**

Köroğlu M. E. , Sarı M.

International Conference on Mathematics and Engineering, İstanbul, Turkey, 10 - 12 May 2017, pp.362

VIII. **On MDS negacyclic LCD codes**

Sarı M., Köroğlu M. E.

International Conference on Mathematics and Engineering, İstanbul, Turkey, 10 - 12 May 2017, pp.218

IX. **On quantum codes via constacyclic codes from group algebras**

Köroğlu M. E. , Şiap I.

International Congress on Fundamental and Applied Sciences, İstanbul, Turkey, 22 - 26 August 2016, pp.62

X. **Constacyclic codes over group rings**

Köroğlu M. E. , Şiap I.

Analysis, Topology and Algebra: The Theory and Applications (ATA2016), Cacak-Sırbistan, Chachak, Serbia And Montenegro, 6 - 09 July 2016, pp.32

XI. **Quantum codes from a class of constacyclic codes over group algebras**

Köroğlu M. E. , Şiap İ.

International Conference on Quantum Science and Applications (ICQSA-2016), Eskişehir, Turkey, 25 - 27 May 2016, pp.116

XII. **Zero divisor codes from group rings**

Köroğlu M. E. , Şiap I.

Mathematics Days in Tirana, Tirane, Albania, 11 - 12 December 2015, pp.22-26

XIII. **Secret sharing schemes obtained from some special codes**

Özbek I., Köroğlu M. E. , Şiap I.

Noncommutative rings and their applications, IV, Arras, France, 8 - 11 June 2015, pp.30

XIV. **The reversibility problem for a special family of 2D cellular automata**

Köroğlu M. E. , Şiap I., Akın H.

3rd International Eurasian Conference on Mathematical Sciences and Applications, Vienna, Austria, 25 - 28 August 2014, pp.59

XV. **Structure of codes in the group rings Z_4C_n**

- Köroğlu M. E. , Siap I.
Karatekin Mathematics Days 2014, Çankırı, Turkey, 11 - 13 June 2014, pp.32
- XVI. **Optimal code families from Fibonacci polynomials**
Köroğlu M. E. , Siap I.
Karatekin Mathematics Days, Çankırı, Turkey, 11 - 13 June 2014, pp.30
- XVII. **On one dimensional $(2r+1)$ -cyclic rule cellular automata**
Köroğlu M. E. , Siap I., Akn H.
First International Eurasian Conference on Mathematical Sciences and Applications (IECMSA-2012), Priştine, Kosova, 3 - 07 September 2012, pp.150-151
- XVIII. **Cellular automata based byte error correcting codes over ternary fields**
Köroğlu M. E. , Siap İ., Akn H.
International Conference on Applied Analysis and Algebra (ICAAA), İstanbul, Turkey, 20 - 24 June 2012, pp.167-168
- XIX. **Transient and Cycle Structure of Elementary Rule 150 with Reflective Boundary**
Akn H., Siap I., Köroğlu M. E.
1st International Conference on Analysis and Applied Mathematics (ICAAM), Gümüşhane, Turkey, 18 - 21 October 2012, vol.1470, pp.156-158
- XX. **Cellular Automata Based Byte Error Correcting Codes over Finite Fields**
Köroğlu M. E. , Siap I., Akn H.
1st International Conference on Analysis and Applied Mathematics (ICAAM), Gümüşhane, Turkey, 18 - 21 October 2012, vol.1470, pp.183-186
- XXI. **A family of two dimensional hybrid cellular automata and its applications to pseudo random number generators**
Temiz F., Siap İ., Akn H., Köroğlu M. E.
WCIT'2011, Antalya, Turkey, 23 - 27 November 2011, pp.1649-1655
- XXII. **Hybrid quadratic cellular automata and its applications to pseudo random number generators**
Köroğlu M. E. , Siap İ., Akn H., Temiz F.
Second World Conference on Information Technology (WCIT'2011), Antalya, Turkey, 23 - 27 November 2011, pp.1166-1171

Other Publications

- I. **Bazı Grup Halkalarında Kodların Yapısı**
KÖROĞLU M. E.
Other, pp.68, 2017
- II. **Hücrel Dönüşümlerle Hata Düzeltken Kodlar**
KÖROĞLU M. E.
Other, pp.107, 2012

Supported Projects

- Köroğlu M. E. , Ersoy B. A. , Project Supported by Higher Education Institutions, Structure of Codes over Group Rings, 2016 - 2017
- Şiap İ., TUBITAK Project, Cisim ve Halkalar Üzerinde Tanımlı 2-Boyutlu Hücrel Dönüşümlerin Cebirsel Yapıları ve Davranışları, 2011 - 2013
- Şiap İ., TUBITAK Project, Cayley Ağacı Üzerindeki Örgü Modellerin Dinamik Sistemlerinin Limit Davranışları ve Faz Diyagramları, 2010 - 2012

Memberships / Tasks in Scientific Organizations

American Mathematical Society, Member, 2018 - Continues

Scientific Refereeing

DISCRETE MATHEMATICS, SCI Journal, May 2021

DISCRETE MATHEMATICS, SCI Journal, February 2021

JOURNAL OF APPLIED MATHEMATICS AND COMPUTING, Journal Indexed in SCI-E, January 2021

DISCRETE MATHEMATICS, SCI Journal, January 2021

DESIGNS CODES AND CRYPTOGRAPHY, SCI Journal, January 2021

JOURNAL OF APPLIED MATHEMATICS AND COMPUTING, Journal Indexed in SCI-E, September 2020

DESIGNS CODES AND CRYPTOGRAPHY, SCI Journal, July 2020

DESIGNS CODES AND CRYPTOGRAPHY, SCI Journal, June 2020

Journal of Algebra Combinatorics Discrete Structures and Applications, Other Indexed Journal, January 2020

Control And Cybernetics, Journal Indexed in SCI-E, December 2019

Adiyaman Üniversitesi Fen Bilimleri Dergisi, National Scientific Refreed Journal, November 2019

Discrete Mathematics, SCI Journal, November 2019

Discrete Mathematics, SCI Journal, May 2019

International Journal of Engineering Technologies, Other Indexed Journal, May 2019

JOURNAL OF APPLIED MATHEMATICS AND COMPUTING, Journal Indexed in SCI-E, April 2019

Filomat, SCI Journal, April 2019

COMPUTATIONAL & APPLIED MATHEMATICS, SCI Journal, April 2019

JOURNAL OF APPLIED MATHEMATICS AND COMPUTING, Journal Indexed in SCI-E, February 2019

Physics Letters A, SCI Journal, January 2018

Journal of Algebra and Related Topics, Other Indexed Journal, January 2018

International Journal of Textile Science and Engineering, Other Indexed Journal, January 2018

IEEE Transactions On Very Large Scale Integration Vlsi Systems, Journal Indexed in SCI-E, December 2017

Turkish Journal Of Electrical Engineering And Computer Sciences, SCI Journal, August 2017

JOURNAL OF APPLIED MATHEMATICS AND COMPUTING, Journal Indexed in SCI-E, March 2017

Mathematics in Computer Science, Journal Indexed in ESCI, February 2017

Turkish Journal Of Mathematics, SCI Journal, December 2016

International Conference of Numerical Analysis and Applied Mathematics 2016, Conference Paper (Full Text), July 2016

IEEE Transactions On Very Large Scale Integration Vlsi Systems, Journal Indexed in SCI-E, January 2016

Tasks In Event Organizations

Köroğlu M. E. , 13th Algebraic Hyperstructures and its Applications Conference, Scientific Congress, İstanbul, Turkey, Temmuz 2017

Köroğlu M. E. , Aydoğdu İ., Kriptoloji ve Cebirsel Kodlama Çalıştayı, Scientific Congress, İstanbul, Turkey, Eylül 2015

Aydın Akgün F., Köroğlu M. E. , AYDOĞDU İ., International Conference on Applied Analysis and Algebra, Scientific Congress, İstanbul, Turkey, Temmuz 2011

Edit Congress and Symposium Activities

26th International Conference on Applications on Computer Algebra (ACA-2021), Invited Speaker, Valladolid, Spain, 2021

International Conference on Mathematics and Mathematics Education (ICMME 2018), Attendee, Ordu, Turkey, 2018

International Congress on Fundamental and Applied Sciences 2017 (ICFAS2017), Attendee, Sarajevo, Bosnia And Herzegovina, 2017
13th Algebraic Hyperstructures and its Applications (AHA2017), Attendee, İstanbul, Turkey, 2017
International Conference on Mathematics and Engineering, Attendee, İstanbul, Turkey, 2017
International Congress on Fundamental and Applied Sciences, Attendee, İstanbul, Turkey, 2016
Analysis, Topology and Algebra: The Theory and Applications, Attendee, Chachak, Serbia And Montenegro, 2016
International Conference on Quantum Science and Applications, Attendee, Eskişehir, Turkey, 2016
Mathematics Days in Tirana, Attendee, Tiranë, Albania, 2015
3rd International Eurasian Conference on Mathematical Sciences and Applications, Attendee, Wien, Austria, 2014
Karatekin Mathematics Days, Attendee, Çankırı, Turkey, 2014
First International Conference on Analysis and Applied Mathematics, Attendee, Gümüşhane, Turkey, 2012
International Conference on Applied Analysis and Algebra, Attendee, İstanbul, Turkey, 2012
2nd World Conference on Information Technology, Attendee, Antalya, Turkey, 2011

Citations

Total Citations (WOS):60

h-index (WOS):4

Scholarships

2211 Yurt İçi Doktora Bursu, TUBITAK, 2012 - 2017

SMI Summer School, University, 2013 - 2013