Asst. Prof. BUKET ÖZKAYA

Personal Information

Office Phone: +90 312 210 5613

Email: ozkayab@metu.edu.tr

Web: https://avesis.metu.edu.tr/ozkayab

International Researcher IDs

ScholarID: Vow8aHIAAAAJ

ORCID: 0000-0003-2658-5441

Publons / Web Of Science ResearcherID: HJA-5809-2022

ScopusID: 57190189096

Yoksis Researcher ID: 388827

Education Information

2010 - 2014	Doctorate, Sabanci University, Faculty Of Engıneerıng And Natural Scıences, Turkey
2006 - 2009	Postgraduate, Georg-August-Universitaet Göttingen, Mathematics, Germany
2001 - 2006	Undergraduate, Bogazici University, Faculty Of Arts And Scıences, Department Of Mathematıcs, Turkey

Dissertations

2014	Multidimensional Quasi-Cyclic and Convolutional Codes, Sabanci University, Doctorate
2009	Low-density-parity-check Codes, Georg-August-Universitaet Göttingen, Postgraduate

Research Areas

Error Corrector Codes, Cryptography, Field Theory and Polynomials

Academic Titles / Tasks

2023 - Continues	Assistant Professor, Middle East Technical University, Institute Of Applied Mathematics, Cryptography
2022 - 2023	Researcher, Middle East Technical University, Institute Of Applied Mathematics, Cryptography
2017 - 2021	Researcher, School of Physical and Mathematical Sciences
2016 - 2017	Researcher, Sabanci University, FENS, Mathematics
2015 - 2017	Researcher, Ecole Nationale Supérieure des Télécommunications, Télécom ParisTech
2014 - 2015	Researcher, Middle East Technical University, Institute Of Applied Mathematics, Cryptography
2014 - 2015	Lecturer, Atilim University, Mathematics

Courses

2023 - 2024, 2022 - 2023	Block Ciphers, Postgraduate
2024 - 2025, 2023 - 2024, 2022 - 2023	Applications of Finite Fields, Postgraduate
2023 - 2024	Cryptography and Coding Theory, Doctorate

2023 - 2024, 2022 - 2023	Basic Mathematics for Cryptography II, Postgraduate
2024 - 2025	Introduction to Cryptography, Postgraduate
2023 - 2024	Basic Mathematics for Cryptography I, Postgraduate
2022 - 2023	Contemporary Topics in Cryptography I , Postgraduate

Advising Theses

| 2024 | Özkaya B., Postgraduate, G.ELMAS(Student), Some constructions of mutually unbiased bases over finite fields |

Published journal articles indexed by SCI, SSCI, and AHCI

I. **On a class of permutation trinomials over finite fields**
Özkaya B., Gülmez Temür B.
TURKISH JOURNAL OF MATHEMATICS, vol.48, no.4, pp.778-792, 2024 (SCI-Expanded)

II. **On some permutation trinomials in characteristic three**
Özkaya B., Gülmez Temür B.
HACETTEPE JOURNAL OF MATHEMATICS AND STATISTICS, vol.1, pp.1, 2024 (SCI-Expanded)

III. **New distance bounds for quasi-cyclic codes**
Özkaya B., Özbudak F.
DESIGNS, CODES, AND CRYPTOGRAPHY, vol.1, pp.1, 2024 (SCI-Expanded)

IV. **Improved Spectral Bound for Quasi-Cyclic Codes**
Luo G., Ezerman M. F., Ling S., Özkaya B.
IEEE TRANSACTIONS ON INFORMATION THEORY, vol.70, no.6, pp.4002-4015, 2024 (SCI-Expanded)

V. **Complete Characterization of a Class of Permutation Trinomial in Characteristic Five**
Grassl M., Özbudak F., Özkaya B., Gülmez Temür B.
CRYPTOGRAPHY AND COMMUNICATIONS, vol.16, pp.825-841, 2024 (SCI-Expanded)

VI. **Quasi-twisted codes as contractions of quasi-cyclic codes**
Özkaya B., Özbudak F.
ADVANCES IN MATHEMATICS OF COMMUNICATIONS, vol.18, no.2, pp.394-409, 2023 (SCI-Expanded)

VII. **A Comparison of Distance Bounds for Quasi-Twisted Codes**
Ezerman M. F., Lampos J. M., Ling S., Ozkaya B., Tharnnukhroh J.
IEEE TRANSACTIONS ON INFORMATION THEORY, vol.67, no.10, pp.6476-6490, 2021 (SCI-Expanded)

VIII. **New bounds on the minimum distance of cyclic codes**
Ling S., ÖZKAYA B.
Advances in Mathematics of Communications, vol.15, no.1, pp.1-8, 2021 (SCI-Expanded)

IX. **On complementary dual multinegacirculant codes**
Alahmadi A., Guneri C., Ozkaya B., Shoaib H., Sole P.
CRYPTOGRAPHY AND COMMUNICATIONS-DISCRETE-STRUCTURES BOOLEAN FUNCTIONS AND SEQUENCES, vol.12, no.1, pp.101-113, 2020 (SCI-Expanded)

X. **Multidimensional quasi-twisted codes: equivalent characterizations and their relation to multidimensional convolutional codes**
Ling S., Ozkaya B.
DESIGNS CODES AND CRYPTOGRAPHY, vol.87, no.12, pp.2941-2965, 2019 (SCI-Expanded)

XI. **On Linear Complementary Pair of nD Cyclic Codes**
Guneri C., Ozkaya B., Sayici S.
IEEE COMMUNICATIONS LETTERS, vol.22, no.12, pp.2404-2406, 2018 (SCI-Expanded)

XII. **On Linear Complementary Pairs of Codes**
CARLET C., Guneri C., ÖZBUDAK F., Ozkaya B., SOLE P.

IEEE TRANSACTIONS ON INFORMATION THEORY, vol.64, no.10, pp.6583-6589, 2018 (SCI-Expanded)

XIII. **Structure and performance of generalized quasi-cyclic codes**

Guneri C., ÖZBUDAK F., Ozkaya B., Sacikara E., SEPASDAR Z., SOLÉ P.

FINITE FIELDS AND THEIR APPLICATIONS, vol.47, pp.183-202, 2017 (SCI-Expanded)

XIV. **On self-dual double negacirculant codes**

Alahmadi A., Guneri C., Ozkaya B., Shoaib H., Sole P.

DISCRETE APPLIED MATHEMATICS, vol.222, pp.205-212, 2017 (SCI-Expanded)

XV. **QUASI-CYCLIC SUBCODES OF CYCLIC CODES**

Belfiore J., Guneri C., Ozkaya B.

SIAM JOURNAL ON DISCRETE MATHEMATICS, vol.31, no.2, pp.1454-1475, 2017 (SCI-Expanded)

XVI. **Multidimensional Quasi-Cyclic and Convolutional Codes**

Guneri C., Ozkaya B.

IEEE TRANSACTIONS ON INFORMATION THEORY, vol.62, no.12, pp.6772-6785, 2016 (SCI-Expanded)

XVII. **Quasi-cyclic complementary dual codes**

Guneri C., Ozkaya B., Sole P.

FINITE FIELDS AND THEIR APPLICATIONS, vol.42, pp.67-80, 2016 (SCI-Expanded)

XVIII. **A minimum distance bound for quasi-nD-cyclic codes**

ÖZBUDAK F., Ozkaya B.

FINITE FIELDS AND THEIR APPLICATIONS, vol.41, pp.193-222, 2016 (SCI-Expanded)

Articles Published in Other Journals

I. **The combinatorics of LCD codes: linear programming bound and orthogonal matrices**

Dougherty S., Kim J., Özkaya B., Sok L., Sole P.

International Journal of Information and Coding Theory, vol.4, no.2-3, pp.116-128, 2017 (Peer-Reviewed Journal)

Books & Book Chapters

I. **Quasi-cyclic codes**

Özkaya B., Güneri C., Ling S.

in: A Concise Encyclopedia of Coding Theory, W. Cary Huffman,Jon-Lark Kim,Patrick Solé, Editor, CRC, New York , New York, pp.129-150, 2021

Refereed Congress / Symposium Publications in Proceedings

I. **Spectral Bounds for Quasi-Twisted Codes**

Ezerman M. F., Ling S., Ozkaya B., Tharnnukhroh J.

IEEE International Symposium on Information Theory (ISIT), Paris, France, 7 - 12 July 2019, pp.1922-1926

II. **Good Stabilizer Codes from Quasi-Cyclic Codes over F-4 and F-9**

Ezerman M. F., Ling S., Ozkaya B., Sole P.

IEEE International Symposium on Information Theory (ISIT), Paris, France, 7 - 12 July 2019, pp.2898-2902

Supported Projects

2024 - 2026	Orthogonal Arrays, Covering Radius, LCD Codes, Flag Codes and Related Areas, TÜBİTAK International Bilateral Joint Cooperation Program Project
2021 - 2023	Kodlama Teorisi Ve Uygulamaları Üzerine Araştırma, TÜBİTAK International Bilateral Joint Cooperation Program Project

| 2015 - 2019 | Linear Complementary Dual Codes and Cryptographic Applications, TÜBİTAK International Bilateral Joint Cooperation Program Project |
| 2015 - 2016 | LCD codes and LCP of codes, EU Supported Other Project |

Memberships / Tasks in Scientific Organizations

| 2024 - Continues | Association for Turkish Women in Maths, Member |

Scientific Refereeing

| May 2023 | Project Supported by Higher Education Institutions, BAP Research Project, Middle East Technical University, Turkey |

Scientific Consultations

| 2021 - Continues | Scientific Consultancy, KVK Online |

Tasks In Event Organizations

| 27 Ağustos 2018 | Özkaya B., CIMPA Research School and Workshop: Quasi-Cyclic and Related Algebraic Codes, Workshop Organization, Ankara, Turkey |

Metrics

Publication: 23
Citation (WoS): 216
Citation (Scopus): 214
H-Index (WoS): 6
H-Index (Scopus): 6

Congress and Symposium Activities

2024	36. National Mathematics Symposium, Attendee, Amasya, Turkey
2023	35. National Mathematics Symposium, Attendee, Edirne, Turkey
2019	IEEE International Symposium on Information Theory, Attendee, Paris, France
2019	NCRA Conference 2019 "Non-Commutative rings and their Applications, VI", Attendee, Lille, France
2017	Fq13 "13th International Conference on Finite Fields and Applications", Attendee, Rome, Italy
2016	"Combinatorics 2016", Attendee, Rome, Italy
2014	"Workshop on Polynomials over Finite Fields: Functional and Algebraic Properties", Attendee, Barcelona, Spain
2014	Antalya Algebra Days XVI, Attendee, Antalya, Turkey
2013	Fq11 "11th International Conference on Finite Fields and Applications", Attendee, Magdeburg, Germany