

CONTACT INFORMATION	Department of Mathematics, Middle East Technical University, Ankara, Turkey E-mail: ercan@metu.edu.tr Phone: 05337498389
PERSONAL INFORMATION	• Languages: Turkish, English (UDS 90) • Date of Birth: 15/01/1960
CURRENT ACADEMIC POSITION	• 2012–present, Professor Middle East Technical University, Ankara, Turkey
PREVIOUS ACADEMIC POSITIONS	• 1993-2012, Associate Professor Middle East Technical University, Turkey • 1989-1993, Assistant Professor Middle East Technical University, Turkey • 1983-1989, Research Assistant Middle East Technical University, Turkey
EDUCATION	• 1984–1988, PhD in Mathematics Middle East Technical University, Turkey Supervisor: İsmail Ş. Güloğlu • 1982–1984, MSc in Mathematics Middle East Technical University, Turkey Supervisor: İsmail Ş. Güloğlu • 1976–1981, BSc in Mathematics Middle East Technical University, Turkey
RESEARCH INTERESTS	▪ Finite group theory ▪ Representation and Character theory of finite groups ▪ Graphs related to groups ▪ Point lattices and their applications to cryptography ▪ Skew Braces

1. *The left nilpotent residual and its supplements in finite skew braces*
Ercan Gülin; Güloğlu İsmail Ş.
Submitted
2. *Ideals and solvability in skew braces*
Damele Marco; Ercan Gülin
Submitted
3. *The Baer Transform for Skew Braces*
Ercan Gülin; Gül Şükran; Güloğlu İsmail Ş.; Kızmaz M. Yasir
4. *Sylow theory and the nilpotency class of left nilpotent skew braces*
Gülin Ercan; Şükran Gül; İsmail Ş. Güloğlu; M. Yasir Kızmaz
Submitted
5. *Fixing size and Fitting height*
Güloğlu, İsmail Ş.; Ercan Gülin
submitted
6. *Corrigendum to “Noncoprime action of a cyclic group” [J. Algebra 643 (2024) 1–10]* Ercan, Gülin; Güloğlu, İsmail Ş.
J. Algebra 678 (2025), 390–391.
7. *Some special coprime actions and their consequences*
Ercan, Gülin; Güloğlu, İsmail Ş.; Kızmaz, M. Yasir; Revin, Danila O.
J. Pure Appl. Algebra 228 (2024), no. 12, Paper No. 107764, 12 pp.
8. *Nilpotent residual of a finite group*
Rodrigues, Eliana; de Melo, Emerson; Ercan, Gülin
J. Algebra 641 (2024), 534–545.
9. *Commuting graph of a group action with few edges*
Güloğlu, İsmail Ş.; Ercan, Gülin
Comm. Algebra 51 (2023), no. 7, 2791–2810.
10. *Extensions of several coprime results to good action case*
Ercan, Gülin; Güloğlu, İsmail Ş.; Jabara, Enrico
J. Algebra Appl. 21 (2022), no. 11, Paper No. 2250222, 10 pp.
11. *Good action of a nilpotent group with regular orbits*
Ercan, Gülin; Güloğlu, İsmail Ş.
Comm. Algebra 50 (2022), no. 10, 4191–4194.
12. *A brief note on the noncoprime regular module problem*
Ercan, G.; Güloğlu, Ş.
Ukrainian Math. J. 72 (2021), no. 11, 1837–1841.
13. *Commuting graph of A-orbits*
Güloğlu, İsmail Ş.; Ercan, Gülin
J. Group Theory 24 (2021), no. 3, 573–586.

14. *Frobenius action on Carter subgroups*
Ercan, Gülin; Güloğlu, İsmail Ş.
Internat. J. Algebra Comput. 30 (2020), no. 5, 1073–1080.
15. *Good action on a finite group*
Ercan, Gülin; Güloğlu, İsmail Ş.; Jabara, Enrico
J. Algebra 560 (2020), 486–501.
16. *On abelian group actions with TNI-centralizers*
Ercan, Gülin; Güloğlu, İsmail Ş.
Comm. Algebra 47 (2019), no. 7, 3003–3006.
17. *Frobenius groups of automorphisms with almost fixed point free kernel*
Ercan, Gülin; Güloğlu, İsmail Ş.
J. Algebra 521 (2019), 384–389.
18. *Groups of automorphisms with TNI-centralizers*
Ercan, Gülin; Güloğlu, İsmail Ş.
J. Algebra 498 (2018), 38–46.
19. *On the influence of fixed point free nilpotent automorphism groups*
Ercan, Gülin; Güloğlu, İsmail Ş.
Monatsh. Math. 184 (2017), no. 4, 531–538.
20. *Finite groups admitting a dihedral group of automorphisms*
Ercan, Gülin; Güloğlu, İsmail Ş.
Algebra Discrete Math. 23 (2017), no. 2, 223–229.
21. *Action of a Frobenius-like group with kernel having central derived subgroup*
Ercan, Gülin; Güloğlu, İsmail Ş.
Internat. J. Algebra Comput. 26 (2016), no. 6, 1257–1265.
22. *Finite groups having centralizer commutator product property*
Ercan, Gülin
Rend. Circ. Mat. Palermo (2) 64 (2015), no. 3, 341–346.
23. *The influence of Hughes type action*
Ercan, Gülin; Güloğlu, İsmail Ş.
Comm. Algebra 43 (2015), no. 5, 1898–1902.
24. *The rank and order of a finite group that admits a Frobenius-like group of automorphisms*
Érzhan, G.; Gyul'oglu, I.; Khukhro, E. I.
Algebra Logika 53 (2014), no. 3, 401–412, 420, 422–423; translation in Algebra Logic 53 (2014), no. 3, 258–265
25. *Frobenius-like groups as groups of automorphisms*
Ercan, Gülin; Güloğlu, İsmail Şuayip; Khukhro, Evgeny
Turkish J. Math. 38 (2014), no. 6, 965–976.
26. *Erratum to Action of a Frobenius-like group with fixed-point free kernel [J. Group Theory 17 (2014), 863–873] [MR3259098]*
Ercan, Gülin; Güloğlu, İsmail Ş.
J. Group Theory 17 (2014), no. 5, 874.

27. *Action of a Frobenius-like group with fixed-point free kernel*
Ercan, Gülin; Güloğlu, İsmail Ş.
J. Group Theory 17 (2014), no. 5, 863–873.
28. *Derived length of a Frobenius-like kernel*
Ercan, Gülin; Güloğlu, İsmail Ş.; Khukhro, Evgeny
J. Algebra 412 (2014), 179–188.
29. *Nilpotent length of a finite solvable group with a Frobenius group of automorphisms*
Ercan, Gülin; Güloğlu, İsmail Ş.; Ögüt, Elif
Comm. Algebra 42 (2014), no. 11, 4751–4756.
30. *Action of a Frobenius-like group*
Güloğlu, İsmail Ş.; Ercan, Gülin
J. Algebra 402 (2014), 533–543.
31. *A generalized fixed-point-free action*
Güloğlu, İsmail Ş.; Ercan, Gülin
J. Algebra Appl. 12 (2013), no. 3, 1250172, 4 pp.
32. *On a Fitting length conjecture without the coprimeness condition*
Ercan, Gülin
Monatsh. Math. 167 (2012), no. 2, 175–187.
33. *A generalized fixed point free automorphism of prime power order*
Ercan, Gülin; Güloğlu, İsmail Ş.
Internat. J. Algebra Comput. 22 (2012), no. 4, 1250029, 5 pp.
34. *Fixed-point free action of an abelian group of odd non-squarefree exponent*
Ercan, Gülin; Güloğlu, İsmail Ş.; Sağdıçoğlu, Öznur Mut
Proc. Edinb. Math. Soc. (2) 54 (2011), no. 1, 77–89.
35. *Fixed point free action on groups of odd order*
Ercan, Gülin; Güloğlu, İsmail Ş.
J. Algebra 320 (2008), no. 1, 426–436.
36. *On finite groups admitting a special noncoprime action*
Ercan, Gülin
Proc. Amer. Math. Soc. 133 (2005), no. 9, 2543–2547.
37. *Finite groups admitting fixed-point free automorphisms of order pqr*
Ercan, Gülin; Güloğlu, İsmail Ş.
J. Group Theory 7 (2004), no. 4, 437–446.
38. *On the Fitting length of $Hn(G)$*
Ercan, Gülin; Güloğlu, İsmail Ş.
Rend. Sem. Mat. Univ. Padova 89 (1993), 171–175.
39. *On the Fitting length of $Hpq(G)$*
Ercan, Gülin; Güloğlu, İsmail Ş.
Arch. Math. (Basel) 56 (1991), no. 3, 214–217.
40. *On the Fitting length of generalized Hughes subgroup*
Ercan, G.; Güloğlu, İ. Ş.
Arch. Math. (Basel) 55 (1990), no. 1, 5–9.

41. *On a generalization of -Hughes problem*
Ercan, Gülin; Güloğlu, İsmail Ş.
Doğa Mat. 13 (1989), no. 3, 107–109.
42. *A note on a paper of Jui Chi Chang: “A note on the fixed point subgroup”*
[Chinese J. Math. 11 (1983), no. 20, 121–127; MR0701130]
Ercan, Gülin; Güloğlu, İsmail Ş.
Doğa Mat. 10 (1986), no. 3, 326.

PAPERS IN PREPARATION

- *Finite bi-Frobenius skew braces*
- *Left and right nilpotency of skew braces*
- *Fitting series of finite solvable skew braces*
- *Path components of real roots of a nilpotent matrix (joint work with Semra Öztürk)*
- *Coprime action on linear codes*

PROJECTS

- *Frobenius-like Groups as Groups of Automorphisms,*
Oct 1, 2014 - Oct 1, 2017; (TÜBİTAK 1001)
- *On the Structure and the Action of Frobenius-like Groups,*
April 1, 2014 - Dec 31, 2015 (BAP)
- *Operator Groups and Fixed Point Subgroups,*
May 1, 2010 - May 1, 2012; (TÜBİTAK 1001)

PLANNED BAP PROJECT Special coprime actions in finite skew braces
(joint with Marco Damele and Efe Gürel)

INTERNATIONAL CONFERENCES ORGANIZED

- *Finite groups and their automorphisms*
2017, Abant İzzet Baysal University, Bolu
- *Finite Groups and Their Automorphisms,*
August 7-12, 2015, Doğuş University, Istanbul
- *Cahit Arf lectures,*
Metu 2012
- *Cahit Arf lectures,*
Metu 2011
- *Workshop on finite groups and their automorphisms,*
2011, Boğaziçi university, Istanbul

1. *Sonlu gruplar teorisinde uzunluk problemleri*(invited),
34. Ulusal Matematik Sempozyumu, 2022.
2. *Good action*(invited),
Yeditepe University, 2021
3. *Group actions with TNI-centralizers*,
Groups St Andrews 2017 in Birmingham, 5-13 August 2017, Birmingham, UK.
4. *Influence of the fixed point subgroup in group actions*,
3-6 May 2017, Finite groups and their automorphisms 2017, Abant İzzet Baysal University, Bolu.
5. *Group actions with TNI-centralizers*(invited),
Cemal Koç 5th Algebra Days, 29 April 2017, İstanbul Kültür University, İstanbul.
6. *Frobenius-like groups as groups of automorphisms* (invited),
31 August-2 September 2016, Groups,Rings and their Automorphisms, University of Lincoln, UK.
7. *Frobenius-like groups as groups of automorphisms*,
7-12 August 2015, Finite groups and their automorphisms, Doğuş University, İstanbul.
8. *Action of a Frobenius-like group*,
22-24 May 2015, Zassenhaus Group Theory Conference, Binghamton University, New York.
9. *Fixed Point Free Action*(invited),
1-3 May 2015, II. Kadın Matematikçiler Derneği Çalıştayı, Cumhuriyet Üniversitesi, Sivas.
10. *Invariants of a finite group acted on by a Frobenius-like group* (invited),
12-13 March 2014, 6th Group Theory Conference of Iran, Goldestan University, Gorgan, Iran.
11. *Action of a Frobenius-like group*,
16-20 July 2013, The International Conference on Group Theory in Honor of the 70th Birthday of Professor Victor D. Mazurov, Novosibirsk, Russia.
12. *Coprime action of a Frobenius group and a generalization*,
10-16 June 2013, ISGA, Third International Conference on Groups, Algebras and Related Topics, Beijing, China.
13. *Nilpotent Length of a Finite Solvable Group with Frobenius Group of Automorphisms* (invited),
4-8 February 2013, 2BIG, 2nd Biennial Group Theory Conference, İstanbul.
14. *A potpourri on generalized fixed point free actions*(invited),
March 2012, International Group Theory and Lie Theory Conference, Allahabad, India
15. *A Fitting Length Conjecture without the Coprimeness Condition*,
June 2011, Finite Groups and Their Automorphisms, İstanbul

16. *On Noncoprime Fixed Point Free Action*,
July 2010, Groups and Their Actions, Bedlewo, Poland
17. *A Fitting Length Conjecture without the Coprimeness Condition*,
August 2010, GAC 2010, Allahabad, India
18. *On a conjecture of Thompson*,
2009, Groups St Andrews in Bath.
19. *Dade's argument on a conjecture of Thompson revisited*,
(poster presentation)2009, Valencia, Spain.
20. *On fixed point free action*,
2007, Antalya Algebra Days.
21. *On finite groups admitting a fixed point free automorphism of order pqr* ,
2003, Antalya Algebra Days.

ACADEMIC AND
ADMINISTRATIVE
EXPERIENCE

1. Member Hiring and Recruiting Committee at Mathematics, METU (2021-2025)
2. Member of Graduate Committee, METU (?-?)
3. Algebra section editor in Hacettepe J. Mathematics, (2012-2020?)
4. Referee for
 - Journal of Algebra
 - Journal of Group Theory
 - Communications in Algebra
 - Bulletin of London Mathematical Society
 - Turkish Journal of Mathematics

THESIS
SUPERVISION

1. Öznur Mut Sağdıçoğlu, *Finite groups admitting a fixed point free abelian operator group whose order is a product of three primes*,
Ph.D. Thesis, METU 2009
2. Erkan Murat Türkan, *On the index of fixed point subgroup*,
Ph.D. Thesis, METU 2011
3. Elif Ögüt, *On the nilpotent length of a finite group with a Frobenius group of automorphisms*,
Ph.D. Thesis, METU 2013 (coadvisor: İsmail Ş. Güloğlu)
4. Şükran Gül, *Beauville Structures in p -Groups*,
Ph.D Thesis, METU 2016
(This Ph.D work was essentially completed under the supervision of Gustavo Adolfo Fernandez-Alcober in the University of Basque Country.)
5. Fuat Erdem, *On the generating graphs of the symmetric and alternating groups*,
Ph.D. Thesis, METU 2018.
(This Ph.D. work was essentially completed under the supervision of Attila Maroti in Alfred Renyi institute.)

6. Muhammet Yasir Kızmaz, *The influence of some embedding properties of subgroups on the structure of a finite group*,
Ph.D Thesis, METU 2018
7. Muhammed İ. Ulvi, *Prime graphs of solvable groups*
M.Sc. Thesis, METU 2020
8. Arsen Berk Tekdaş, *Characterizations and constructions in graph connectivity*
M.Sc. Thesis, METU 2025
9. Tunahan Yılmaz, *A New Strongly Resistant p -Group Family*
Ongoing PhD work (Coadvisor: M. Yasir Kızmaz)
10. Muhammed Aydoğdu, *ZJ Type Theorems for Strongly Closed Subgroups for $p=2$*
Ongoing PhD work (Coadvisor: M. Yasir Kızmaz)

TEACHING

Middle East Technical University, Turkey

GRADUATE COURSES DESIGNED

- Advanced linear algebra (Math 708)
- Classical groups
- Simple groups of Lie Type
- Algebraic graph theory (Math 772)
- Groups and graphs (Math 773)
- Point lattices and their applications (to cryptography) (Math 783)

GRADUATE COURSES TAUGHT

- Finite group theory (Math 511)
- Representation theory of finite groups I , II (Math 513-514)
- Advanced linear algebra (Math 708)
- Topics in finite groups
- Classical groups
- Simple groups of Lie Type
- Algebraic graph theory (Math 772)
- Groups and graphs (Math 773)
- Finite fields and their applications (to coding theory and cryptography) (Math 521)
- Point lattices and their applications (to cryptography) (Math 783)

UNDERGRADUATE COURSES TAUGHT

- Fundamentals of Mathematics (Math 111)
- Basic algebraic structures (Math 116)
- Introduction to Number Theory (Math 123)
- Calculus I, II
- Discrete Mathematics (Math 112)
- Introduction to Analytic Geometry and Linear Algebra (Math 124)
- Abstract Algebra (Math 367)
- Linear Algebra I,II (Math 261-262)
- Elementary number theory I,II (Math 365-366)
- Field extensions and Galois theory (Math 368)
- Group theory (Math 463)

- Introduction to representation theory (Math 464)
- Introduction to cryptography