



ŞÜKRAN GÜL ERDEM

June 2024

CONTACT INFORMATION

Department of Mathematics,
TED University, Ankara, Turkey
E-mail: sukran.gul@tedu.edu.tr

PERSONAL INFORMATION

- Languages: Turkish, English (fluent), Spanish (elementary)

CURRENT ACADEMIC POSITION

- September 2023–current, Associate Professor
TED University, Ankara, Turkey

PREVIOUS ACADEMIC POSITIONS

- March 2020–August 2023, Assistant Professor
TED University, Ankara, Turkey
- September 2019–February 2020, Part-time instructor
TED University, Ankara, Turkey
- Feb. 2017–August 2019, Postdoctoral Fellow
University of the Basque Country, Spain
- Sept. 2012–Feb. 2017, Teaching Assistant
Middle East Technical University, Turkey

EDUCATION

- 2012–2016, **PhD in Mathematics**
Middle East Technical University, Turkey
Supervisors: Gülin Ercan and Gustavo A. Fernández-Alcober
- 2009–2013, **Minor in Computer Engineering**
Middle East Technical University, Turkey
- 2007–2012, **BS in Mathematics**
Middle East Technical University, Turkey

RESEARCH INTERESTS

Group theory: finite p -groups and nilpotent groups, pro- p groups and profinite groups, Beauville groups, groups acting on rooted trees.

PUBLICATIONS & PREPRINTS

PUBLICATIONS

1. *Beauville p -groups of wild type and groups of maximal class*
G. A. Fernández-Alcober, N. Gavioli, Ş. Gül and C. M. Scoppola
Monatsh. Math.
<https://doi.org/10.1007/s00605-024-01982-y>
2. *Beauville structures for quotients of generalised GGS-groups*
E. Di Domenico, Ş. Gül and A. Thillaisundaram

to appear *Adv. Group Theory Appl.* **18** (2024), doi:10.32037/agta-2024-001, arXiv:2301.02920 [math.GR].

3. *Ramification Structures for Quotients of Multi-EGS Groups*
E. Di Domenico, Ş. Gül and A. Thillaisundaram
Int. J. Group Theory **12**(4) (2023), 237–252
4. *Purely (non-)strongly real Beauville p -groups*
Ş. Gül
Arch. Math. **115** (2020), 1–11
5. *Grigorchuk-Gupta-Sidki groups as a source for Beauville surfaces*
Ş. Gül and J. Uria-Albizuri
Groups Geom. Dyn. **14**(2) (2020), 689–704
6. *On the asymptotic behaviour of the number of Beauville and non-Beauville p -groups*
G. A. Fernández-Alcober, Ş. Gül and M. Vannacci
Proc. London Math. Soc. **120**(2) (2020), 220–241
7. *On ramification structures for finite nilpotent groups*
Ş. Gül
Hacet. J. Math. Stat. **48**(6) (2019), 1642–1652
8. *An infinite family of strongly real Beauville p -groups*
Ş. Gül
Monatsh. Math. **185** (2018), 663–675
9. *Metabelian thin Beauville p -groups*
N. Gavioli and Ş. Gül
J. Group Theory **21** (2018), 351–363
10. *Beauville structures in finite p -groups*
G. A. Fernández-Alcober and Ş. Gül
J. Algebra **474** (2017), 1–23
11. *Beauville structures in p -central quotients*
Ş. Gül
J. Group Theory **20** (2017), 257–267

PREPRINTS

1. *On non-abelian strongly real Beauville p -groups*
Ş. Gül
submitted, available at arXiv:1607.08907 [math.GR]

ONGOING WORK

1. The Congruence Quotients of Branch Path Groups (in preparation)
G. A. Fernández-Alcober, Ş. Gül and A. Thillaisundaram
2. Normal Actions
Ş. Gül and M. Y. Kızmaz

FELLOWSHIPS
&
SCHOLARSHIPS

1. Feb. 2018–August 2019, Postdoctoral Fellowship of the University of the Basque Country.
2. June 2017–Dec. 2017, Postdoctoral Fellowship of the project “Groups, Topology and Applications”.
3. Feb. 2015–Aug. 2015, 2214/A-International Research Fellowship for Doctorate Students
TUBITAK (the Scientific and Technological Research Council of Turkey)
4. Sept. 2012–Dec. 2016, 2211-Domestic Doctorate Fellowship
TUBITAK (the Scientific and Technological Research Council of Turkey)
5. 2009–2012, Scholarship for Undergraduate Students
Istanbul Middle East Technical University Alumni Association

AWARDS

1. 2018, PhD Best Thesis Award
Middle East Technical University, Turkey
2. 2018, Accreditation “Profesor Ayudante Doctor” by Spanish Government.
3. 2014, Graduate Courses Performance Award
Middle East Technical University, Turkey

TALKS
&
SEMINARS

TALKS

1. International Conference on Mathematics, “An Istanbul meeting for world mathematicians”, Istanbul, Turkey, July 2023,
Ramification structures for quotients of multi-EGS groups.
2. Groups and Topological Groups, Milano, Italy, July 2019,
On purely (non-) strongly real Beauville p -groups.
3. XII Encuentro de Teoría de Grupos, Zaragoza, Spain, June 2018,
On asymptotics of Beauville p -groups.
4. Trees, dynamics and locally compact groups, Düsseldorf, Germany, June 2018,
Grigorchuk-Gupta-Sidki-groups as a source for Beauville surfaces.
5. Groups and Topological Groups, Vienna, Austria, December 2017,
On ramification structures for finite nilpotent groups.
6. IV Congreso de Jóvenes Investigadores de la Real Sociedad Matemática Española, Valencia, Spain, September 2017,
Strongly real Beauville p -groups.
7. yGAGTA: Young Geometric and Asymptotic Group Theory with Applications, Bilbao, Spain, June 2017,
Beauville p -groups.
8. Groups and Topological Groups, Trento, Italy, June 2017,
Thin Beauville p -groups and Beauville surfaces.

9. XI Encuentro de Teoría de Grupos, Barcelona, Spain, September 2016,
Beauville structures in finite p -groups.
10. Groups and Their Actions, Bedlewo, Poland, June 2015,
New results on Beauville p -groups.
11. First Joint International Meeting RSME-SCM-SEMA-SIMAI-UM, Bilbao, Spain,
July 2014,
Beauville structures in powerful p -groups and regular p -groups.

SEMINARS

1. MSGÜ Mathematics General Seminar, Turkey, June, 2022,
Beauville p -groups.
2. METU Graduate Student Seminar, Turkey, April 2021,
On purely (non-) strongly real Beauville p -groups.
3. University of the Basque Country, Bilbao, Spain, June 2017,
Cayley digraphs of prime-power orders are hamiltonian.
4. University of the Basque Country, Bilbao, Spain, October 2015,
Thin groups of prime-power order and thin Lie algebras.

POSTER PRESENTATIONS

1. Group Theory in Ankara, Turkey, 2019,
On the number of Beauville and non-Beauville p -groups.
2. II Joint Meeting Spain-Brazil in Mathematics, Cádiz, Spain, 2018,
On the number of Beauville and non-Beauville p -groups.
3. Ischia Group Theory, Naples, Italy, March 2018,
Grigorchuk-Gupta-Sidki-groups as a source for Beauville surfaces.
4. 4th Cemal Koç Algebra Days, Ankara, Turkey, April 2016,
Beauville structures in finite p -groups.
5. Ischia Group Theory, Naples, Italy, March 2016,
Beauville structures in p -central quotients.

RESEARCHER IN PROJECTS

1. *Groups, Topology and Applications*, IT974-16.
PI: Ilya Kazachkov. Funding entity: Basque Government.
Duration: 01.01.2016–31.12.2021 (Total amount: 370.486 €)
2. *Grupos y Geometría*, MTM2017-86802-P.
PI: G. A. Fernández Alcober, J. González Sánchez. Funding entity: Spanish
Ministry of Science, Innovation and Universities.
Duration: 01.01.2018–30.09.2021 (Total amount: 46.706 €)
3. *Red Española de Teoría de Grupos*, MTM2017-90720-REDT.
PI: G. A. Fernández Alcober, Funding entity: Spanish Ministry of Science,
Innovation and Universities.
Duration: 01.07.2018–30.06.2020 (Total amount: 7000 €)

4. *Red Española de Teoría de Grupos*, MTM2015-71830-REDT.
PI: José Burillo. Funding entity: Spanish Ministry of Economy and Competitiveness.
Duration: 01.01.2016–31.12.2017 (Total amount: 20.000 €)
5. *Grupos, Representaciones y Geometría*, MTM2014-53810-C2-2-P.
PI: G. A. Fernández Alcober, J. González Sánchez. Funding entity: Spanish Ministry of Economy and Competitiveness.
Duration: 01.01.2015–31.12.2018 (Total amount: 42.350 €)
6. *Grupos, Representaciones y Combinatoria Algebraica (GRECA)*, IT753-13.
PI: G. A. Fernández Alcober. Funding entity: Basque Government.
Duration: 23.01.2015–31.12.2015 (Total amount: 49.000 €)

ACADEMIC AND
ADMINISTRATIVE
EXPERIENCE

1. Member of TEDU without Barriers Committee
2. Coordinator of Double Major and Minor Programs in Mathematics at TEDU
3. Member of Organizing Committee
 - GTA Gran Bilbao
University of the Basque Country, Bilbao, Spain, Feb. 28-Mar. 1, 2019
 - Geometric and asymptotic group theory with applications (GAGTA)
University of the Basque Country, Bilbao, Spain, July 3-7, 2017
4. Referee for
 - Journal of Group Theory
 - Hacettepe Journal of Mathematics and Statistics
 - Turkish Journal of Mathematics

UNDERGRADUATE
THESIS
CO-SUPERVISION

1. Iñaki Carranza, *Hyperbolic groups*, University of the Basque Country
2. Leire Etxebarria Ikazuriagagoitia, *Group theory and cryptography*, University of the Basque Country

TEACHING
EXPERIENCE

TED University, Turkey

Instructor

- Math 101: Calculus of One Variable Fall 2020, Fall 2021
- Math 102: Multivariable Calculus Spr. 2020
- Math 103: Mathematics for Education Majors Fall 2019, Spr. 2020, Spr. 2021
- Math 105: Fundamentals of Mathematics Fall 2020, Fall 2021, Fall 2023
- Math 108: Discrete Mathematics Spr. 2021, Spr. 2022
- Math 109: Basic Calculus Fall 2019
- Math 202: Linear Algebra Spr. 2022
- Math 221: Linear Algebra I Spr. 2022, Fall 2023
- Math 222: Linear Algebra II Spr. 2021
- Math 402: Number Theory Fall 2023

University of the Basque Country, Spain

Co-instructor

- Algebraic Equations
- Branch Groups (PhD course)

Spr. 2019, Spr. 2018
Spr. 2018