

Samet Sarioğlu

CONTACT INFORMATION

Başkent University Department of AI Engineering
Bağlica Campus Etimesgut Ankara

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🌐: <https://ssario.github.io>

EDUCATION

- Smith College Department of Mathematical Sciences (Northampton, MA, USA)
Post-Doc; Oct. 2022 – June 2023
Host: Prof. Julianna Tymoczko
- Hacettepe University Department of Mathematics
Ph. D.; GPA: 3.93
Advisor: Prof. Dr. Selma Altınok
Thesis: Algebraic Structure of Generalized Splines
Ankara, Turkey
Sep. 2014 – Sep. 2019
- Hacettepe University Department of Mathematics
Master of Science; GPA: 3.75
Advisor: Prof. Dr. Sinem Onaran
Thesis: Invariants of Legendrian Knots
Ankara, Turkey
Feb. 2013 – Sep. 2014
- Hacettepe University Department of Mathematics and Science Education
Bachelor of Education; GPA: 3.02
Ankara, Turkey
Sep. 2006 – June 2012

RESEARCH AREAS

Algebraic geometry, commutative algebra, algebraic graph theory, spline theory.

LANGUAGES

- English (fluent)
- German (intermediate)
- Turkish (native)

GRANTS

- The Scientific and Technological Research Council of Turkey (TÜBİTAK),
2219-International Postdoctoral Research Fellowship Program for Turkish Citizens
2022 – 2023
- The Scientific and Technological Research Council of Turkey (TÜBİTAK),
2211-PhD Scholarship Programs
2014 – 2018

PUBLICATIONS & PREPRINTS

1. S. Altınok, K. Anders, D. Arreola, L. Asencio, C. Ireland, S. Sarioğlu, L. Smith.
Generalized graph splines and the Universal Difference Property,
Discrete Mathematics, 347(6), (2024). doi: [10.1016/j.disc.2024.113949](https://doi.org/10.1016/j.disc.2024.113949)
2. S. Fişekci, S. Sarioğlu. *Basis condition for generalized spline modules*,
Journal of Algebraic Combinatorics, 59(2) 359–369, (2024). doi: [10.1007/s10801-023-01290-y](https://doi.org/10.1007/s10801-023-01290-y)

3. S. Sariođlan, S. Altınok. *Multivariate generalized splines and syzygies on graphs*, Journal of Algebra and its Applications, 23(2), (2024). doi: [10.1142/S0219498824500397](https://doi.org/10.1142/S0219498824500397)
4. S. Altınok, S. Sariođlan. *Basis criteria for generalized spline modules via determinant*, Discrete Mathematics, 344(2), (2021). doi: [10.1016/j.disc.2020.112223](https://doi.org/10.1016/j.disc.2020.112223)
5. S. Altınok, S. Sariođlan. *Flow-up bases for generalized spline modules on arbitrary graphs*, Journal of Algebra and its Applications, 20(10), (2021). doi: [10.1142/S0219498821501802](https://doi.org/10.1142/S0219498821501802)

PROJECTS

1. *The universal difference property on generalized splines* 2022 - 2023
Hacettepe University Scientific Research Projects, FHD-2022-19802

WORK EXPERIENCE

- Bařkent University, Ankara Turkey Oct. 2025 - present
Assistant Professor
- Bařkent University, Ankara Turkey Jan. 2025 - Oct. 2025
Lecturer (Part Time)
- THK University, Ankara Turkey Jan. 2025 - June 2025
Lecturer (Part Time)
- TED University, Ankara Turkey Sep. 2024 - Jan. 2025
Lecturer (Part Time)
- Hacettepe University, Ankara Turkey Jan. 2020 - Aug. 2024
Lecturer
- TED University, Ankara Turkey June 2019 - Jan. 2020
Lecturer (Part Time)

TEACHING EXPERIENCE

- MAT 209: Maths for Mechanical Engineers 2024–2025 Summer
Bařkent University, Ankara, Turkey
Course Language: English
- MATH 152: Calculus II 2024–2025 Summer
Bařkent University, Ankara, Turkey
Course Language: English
- MAT 124: Engineering Mathematics II 2024–2025 Spring
THK University, Ankara, Turkey
Course Language: English
- MAT 224: Differential Equations 2024–2025 Spring
THK University, Ankara, Turkey
Course Language: English
- MATH 210: Linear Algebra 2024–2025 Spring
Bařkent University, Ankara, Turkey
Course Language: English

- MATH 120: Linear Algebra 2024–2025 Fall
TED University, Ankara, Turkey
Course Language: English
- MATH 109: Basic Calculus 2024–2025 Fall
TED University, Ankara, Turkey
Course Language: English
- MATH 101: Calculus of One Variable 2024–2025 Fall
TED University, Ankara, Turkey
Course Language: English
- MATH 203: Linear Algebra and Differential Equations 2023–2024 Spring
TED University, Ankara, Turkey
Course Language: English
- SNF101: İlkokulda Temel Matematik (Basic Mathematics in Elementary Education) 2021–2022 Fall
Hacettepe University, Ankara, Turkey
Course Language: Turkish
- MKÖ370: Sayılar Teorisine Giriş (Introduction to Number Theory) 2020–2021 Spring
Hacettepe University, Ankara, Turkey
Course Language: Turkish
- MATH 101: Calculus of One Variable 2019–2020 Fall
TED University, Ankara, Turkey
Course Language: English
- MATH 111: Introduction to Calculus of One Variable 2019–2020 Fall
TED University, Ankara, Turkey
Course Language: English
- MATH 109: Basic Calculus 2018–2019 Summer
TED University, Ankara, Turkey
Course Language: English
- MATH 111: Introduction to Calculus of One Variable 2018–2019 Summer
TED University, Ankara, Turkey
Course Language: English

TALKS

- Yozgat Bozok University Math Department Seminars, Yozgat Bozok University, İzmir, Turkey.
November 20, 2024 (online)
- İzmir Institute of Technology Math Department Seminars, İzmir Institute of Technology, İzmir, Turkey.
October 2, 2024
- 15th Ankara Mathematics Days, Ankara Hacı Bayram Veli University, Ankara, Turkey.
May 24, 2024
- 14th Spring Math Meeting, Çankaya University, Ankara, Turkey.
April 21, 2024

- SIAM Conference on Applied Algebraic Geometry (AG23), Eindhoven University of Technology, the Netherlands.
July 13, 2023
- Discrete Math Workshop, Smith College, USA.
May 6, 2023
- Math Lunch Talk Series, Smith College, USA.
February 9, 2023
- Texas Number Theory and Combinatorics Seminar, The University of Texas at Tyler, USA.
October 25, 2022 (online)
- Hacettepe University Department of Mathematics General Seminars, Hacettepe University, Ankara, Turkey.
March 16, 2022 (online)
- Turkish Journal of Mathematics - Studies on Scientific Developments in Geometry, Algebra, and Applied Mathematics.
February 3, 2022 (online)
- Texas Number Theory and Combinatorics Seminar, The University of Texas at Tyler, USA.
October 21, 2021 (online)
- ICMME 2021, Gazi University, Ankara, Turkey.
September 17, 2021 (online)
- ICPAM Van 2020, Van Yüzüncü Yıl University, Van, Turkey.
September 3–5, 2020 (online)
- 32. National Mathematics Symposium, Ondokuz Mayıs University, Samsun, Turkey.
August 31–September 3, 2019
- Workshop on Commutative Algebra and Combinatorics II, Hacettepe University, Ankara, Turkey.
June 17–18, 2019
- WGT Workshop on Graph Theory and its Applications VIII, Boğaziçi University IMBM, Istanbul, Turkey.
November 10, 2018
- 6th LMS Meeting on Applied Algebra and Geometry, Swansea University, Swansea, UK.
September 10, 2018
- Workshop on Commutative Algebra and Combinatorics, Hacettepe University, Ankara, Turkey.
May 5, 2018
- 13th Ankara Mathematics Days, TOBB University, Ankara, Turkey.
April 27, 2018

CONFERENCES & SEMINARS ATTENDED

- Joint Mathematics Meeting 2023, Boston, USA 4–7 January 2023
- Discrete Math Workshop, Smith College, USA 19 November 2022
- Applied and Computational Geometry Workshop, Loughborough University, UK 12–14 September 2018
- İzmir Mathematics Days, Yaşar University, İzmir, Turkey 26–27 June 2018
- Higher Homotopy Groups (Turgut Önder), Çakıllı Matematik Köyü, Eskişehir, Turkey 17–21 July 2017
- TWIM Graduate Summer School II, METU, Ankara, Turkey 13–22 June 2017
- 12th Ankara Mathematics Days, Hacettepe University, Ankara, Turkey 25–26 May 2017
- Topology-Geometry Workshop, Hacettepe University, Ankara, Turkey 10 February 2017
- 10th Ankara Mathematics Days, METU, Ankara, Turkey 11–12 June 2015
- 22nd Gökova Geometry Topology Conference, Gökova, Turkey 25–30 May 2015
- Atılım Geometry Topology Workshop, Atılım University, Ankara, Turkey 15–16 May 2015
- Workshop on Algebraic and Geometric Topology, METU, Ankara, Turkey 9–10 January 2015
- Workshop on Contact Topology, Hacettepe University, Ankara, Turkey 25 October 2014
- 9th Ankara Mathematics Days, Atılım University, Ankara, Turkey 12–13 June 2014
- 21st Gökova Geometry Topology Conference, Gökova, Turkey 26–31 May 2014
- 13th Mathematics Symposium, Karabük University, Turkey 15–17 May 2014
- I. TWIM Workshop, Gebze Technical University, Turkey 2–4 May 2014
- II. TWIM Geometry Topology Summer School, Boğaziçi University, Istanbul, Turkey 26–30 August 2013
- 8th Ankara Mathematics Days, Çankaya University, Ankara, Turkey 13–14 June 2013
- 12th Mathematics Symposium, Hacettepe University, Ankara, Turkey 23–25 May 2013

ADMINISTRATIVE DUTIES

- Member of organization committee, Workshop on Commutative Algebra and Combinatorics II, Hacettepe University, Ankara, Turkey. 17–18 June 2019
- Member of organization committee, Workshop on Commutative Algebra and Combinatorics, Hacettepe University, Ankara, Turkey. 5 May 2018

COMPUTER SKILLS

Microsoft Office Word/Excel/Powerpoint, HTML, Adobe Illustrator/Photoshop, LaTeX, Maple, Macaulay2, Computations in Commutative Algebra (CoCoA), MATLAB, WeBWorK, Gradescope

REFERENCES

- Prof. Dr. Selma Altınok
Hacettepe University Department of Mathematics
✉: sbhupal@hacettepe.edu.tr
- Prof. Dr. Julinna Tymoczko
Smith College Department of Mathematical Sciences
✉: jtymoczko@smith.edu
- Prof. Dr. Sinem Onaran
Hacettepe University Department of Mathematics
✉: sonaran@hacettepe.edu.tr
- Prof. Dr. Şenol Dost
Hacettepe University Department of Mathematics and Science Education
✉: dost@hacettepe.edu.tr