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**Name Surname:** Ümit SARP

**Date / place of birth:** 05 August 1988 / Kepsut, Balıkesir, Türkiye.

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**Foreign Language:** 82,5 (English)

Status	Program	University	Year
Bachelor's	Mathematics	Selçuk University	2007-2011
Special Student	Mathematics	Selçuk University	2011-2012
Pedagogical Formation	Educational Sciences	Afyon Kocatepe University	2011-2012
Master's	Mathematics	Balıkesir University	2012-2014
PhD	Mathematics	Balıkesir University	2014-2019
Bachelor's	Electrical and Electronics Engineering	Balıkesir University	2019-...

**Bachelor's Project:** "Translation of Linear Algebra Book into Beamer Presentations", 2011, Konya, Türkiye (Latex Beamer)

**Master's Thesis:** Solving Some Partial Differential Equations by Differential Transformation Method and Comparison with Other Methods", 2014 Balıkesir, Türkiye. (with Maple Codes)

**PhD Thesis:** "The Absolute Möbius Divisor Function and Its Properties", 2019 Balıkesir, Türkiye. (with Maple Codes)

#### A. International Book Chapters:

**A1.** Emin, A., Demir B. & Sarp, Ü. (2025). "Hexagonal Cycle Graphs: A Graph-Theoretic Realization of Hexagonal Numbers" Advances in Scientific Research. Duvar Publications ISBN: 978-625-5885-84-5.

**A2.** Emin, A., Demir B. & Sarp, Ü. (2025). "Hexagonal Cycle Graphs: A Graph-Theoretic Realization of Hexagonal Numbers" Advances in Scientific Research. Duvar Publications ISBN: 978-625-5885-84-5.

**A3.** Sarp, Ü. (2022). International Symposium on Current Developments in Fundamental and Applied Mathematics Sciences. ISBN: 978-625-7086-54-7, 113.

**A4.** Kim, D., Sarp, Ü., & İkikardes, S. (2020). Polynomials. MDPI-Multidisciplinary Digital Publishing Institute. ISBN: 978-3-03943-315-5, 49-60.

**B. Articles Published in International Refereed Journals (SCI, SCI-Expanded):**

**B1.** Kim D., Sarp Ü. and İkikardes S., “Iterating the Sum of Möbius Divisor Function and Euler Totient Function”, *Mathematics*, 7, 1083, (2019), DOI:10.3390/math7111083 (Q1).

**B2.** Kim D., Sarp Ü., and İkikardes S., “Certain combinatoric convolution sums arising from Bernoulli and Euler Polynomials”, *Miskolc Mathematical Notes*, Vol. 20 (2019), No. 1, pp. 311-33, DOI: 10.18514/MMN.2019.2470 (Q2).

**C. Articles Published in International Refereed Journals (ESCI):**

**C1.** Sarp Ü., Visualizing connections between types of polygonal number, *The Mathematical Gazette*, Vol. 107, Issue 568, 2023, pp. 56 – 64. (ESCI).

**C2.** Emin A. and Sarp Ü., Simple Continued Fractions for Centered Polygonal Numbers, *Transactions of A. Razmadze Mathematical Institute*, Vol. 176 (2022), 2, 197–205. (ESCI).

**D. Articles Published in Journals Indexed by ULAKBİM (TR Dizin):**

**D1.** Sarp Ü., Evirgen F., and İkikardes S., “Applications of differential transformation method to solve systems of ordinary and partial differential equations”, *J. BAUN Inst. Sci. Technol.*, 20(2), 135-156, (2018). DOI:10.25092/baunfbed.423145 (with Maple Codes)

**D2.** Emin A. and Sarp Ü., (2024). Groupoid and Semigroup Construction on Isosceles Triangular Numbers. *Bilecik Şeyh Edebali Üniversitesi Fen Bilimleri Dergisi*, 11(2), 325-334.

**D3.** Sarp Ü., and Emin A. “Which one to choose and why, Maple or Mathematica in 2023?”.

**E. International Editorships:**

**E1.** Sarp, Ü. (2022-). Special Issue Editor, *Contemporary Mathematics* (ESCI).

**E2.** Sarp, Ü. (2023-). Associate Editor, *Journal of Artificial Intelligence and Data Science* (JAIDA) (ASCI).

**E3.** Sarp, Ü. (2023-). Regular Reviewer: *Mathematics and Statistics* (Scopus)

**F. International Peer Reviews:**

- *Journal of Artificial Intelligence and Data Science* (ASCI)
- *Transactions of A. Razmadze Mathematical Institute* (ESCI)
- *Mathematics and Statistics* (Scopus)
- *Journal of Advances in Mathematics and Computer Science*
- *Gazi Üniversitesi Fen Bilimleri Dergisi Part C: Tasarım ve Teknoloji*
- *Qeios*
- *Asian Research Journal of Math.*

**G. International Conferences; Full and Abstract Text Papers and Presentations:**

**G1.** Sarp, Ü., Demir B. & Emin A. (22-23 May 2025). On the Second Zagreb Index of Triangular Cycle Graphs. 9th International Students Science Congress, Manisa, Türkiye. (full text)

**G2.** Susamcıoğlu, L., Alaybeyoğlu, A., & Sarp, Ü. (24-25 April 2025). Geometric Pattern Based Interpretable Link Prediction in Social Networks: GNN Application on Facebook Dataset. 5th International Artificial Intelligence and Data Science Congress (ICADA 2025), Zonguldak, Türkiye. (full text)

**G3.** Sarp, Ü., Demir B. & Emin A. (24-25 April 2025). Visualization and Edge Intersection Analysis of Polygonal Cycle Graphs. 5th International Artificial Intelligence and Data Science Congress (ICADA 2025), Zonguldak, Türkiye. (full text)

**G4.** Demir B., Sarp, Ü. & Emin A. (19-22 March 2025). On the First Zagreb Index of Triangular Cycle Graphs, 5th International Symposium of Scientific Research and Innovative Studies (ISSRIS'25), Balıkesir, Türkiye (full text)

**G5.** Emin A., Sarp, Ü. & Demir B. (19-22 March 2025). Solving a Diophantine Equation Involving Pell and Mersenne Numbers, 5th International Symposium of Scientific Research and Innovative Studies (ISSRIS'25), Balıkesir, Türkiye (full text)

**G6.** Gebeş, E., Emin, A., & Sarp, Ü. (2024). On Triangular Pentagonal Numbers. 8th International Students Science Congress (ISSC 2024), İzmir, Türkiye. (full text)

**G7.** Sarp, Ü. (2023, May 12-13). New Polygonal Numbers Identity by using Animation Proof Technique. 7th International Students Science Congress, İzmir, Türkiye. (E-ISBN: 978-605-72469-7-4) (full text)

**G8.** Sarp, Ü. (2022, May 23-25). Centered Polygonal Numbers and Polygonal Numbers. International Symposium on Current Developments in Fundamental and Applied Mathematics Sciences (ISCDFAMS), Erzurum, Türkiye. (abstract)

**G9.** Sarp, Ü., Kim, D., & İkikardes, S. (2018, September 11-13). Some Application About Möbius Function. International Conference on Pure And Applied Mathematics (ICPAM 2018), Van, Türkiye. (abstract)

**G10.** Sarp, Ü., Kim, D., & İkikardes, S. (2017, May 11-15). The Absolute Möbius Divisor Function and Euler phi-function. 4th International Conference on Recent Advances in Pure and Applied, Istanbul Commerce University, Kuşadası, Aydın, Türkiye. (abstract)

**G11.** Sarp, Ü., Kim, D., & İkikardes, S. (2017, April 27-29). A Study of Properties of the Absolute Möbius Divisor Function and Their for Leaf Veins. International Workshop on Mathematical Methods in Engineering, Çankaya University, Ankara, Türkiye. (abstract)

**G12.** Sarp, Ü., & İkikardes, S. (2014, June 23-26). On Solving Some Partial Differential Equations. International Congress in Honour of Professor Ravi P. Agarwal, Uludağ University, Bursa, Türkiye. (abstract)

**G13.** Sarp, Ü., & Kurtuldu, Y. (2011, July 20-23). Using of GAP (Groups, Algorithms and Programming) in some semigroups. The 24th International Conference of Jangeon Mathematical Society, Konya, Türkiye. (abstract)

#### **H. National Scientific Meetings; Full and Abstract Text Papers and Presentations:**

**H1.** Susamcıoğlu, L., Alaybeyoğlu, A., & Sarp, Ü. (2024, September 12). A Study on Combinatorial Numbers, Graph Structures, and Machine Learning: Focusing on Triangular and Square Numbers. 6th İzmir Mathematics Days 2024 (p. 25). (abstract).

**H2.** Gebeş, E., Emin, A., & Sarp, Ü. (2023, November). On Polygonal Numbers. 4th National Educational Transformation Forum (UEDFOR 4), Antalya, Türkiye. (p. 47). (abstract).

**H3.** Sarp, Ü. (2023, September 4-8). Polygonal numbers and visual proofs. 35th National Mathematics Symposium, Trakya University, Edirne, Türkiye. (p. 113). (abstract).

#### **I. National Peer Reviews:**

- *Eskişehir Technical University Journal of Science and Technology A - Applied Sciences and Engineering*

#### **İ. International Conferences; Participations:**

**İ1.** Sarp Ü., Recent Trends in Nonlinear Partial Differential Equations and Applications, May 28-30 2014 Trieste, İTALYA.

#### **J. National Conferences; Participations:**

**J1.** Sarp Ü., 3rd National Konya Ereğli Kemal Akman Vocational School Paper Days, April 2011, Konya, TÜRKİYE.

#### **K. Committee Roles in International Organizations:**

**K1.** 9th International Students Science Congress (2025, May 22-23). Manisa, Türkiye. (Scientific Committee, Session Chair).

**K2.** 5th International Artificial Intelligence and Data Science Congress (2025, April 24-25). ZBEÜ- İKÇÜ, Zonguldak, Türkiye. (Organizing Committee, Scientific Committee).

**K3.** 8th International Students Science Congress (2024, May 23-24). İKÇÜ, İzmir, Türkiye. (Organizing Committee, Scientific Committee + Session Chair).

**K4.** 4th International Artificial Intelligence and Data Science Congress (2024, March 14-15). İKÇÜ, İzmir, Türkiye. (Organizing Committee).

**K5.** 7th International Students Science Congress (2023, May 12-13). İKÇÜ, İzmir, Türkiye. (Organizing Committee).

**K6.** 3rd International Artificial Intelligence and Data Science Congress (2023, July 28). İKÇÜ, İzmir, Türkiye. (Organizing Committee, Scientific Committee).

**K7.** Friendly Workshop on Diophantine Equations and Related problems (FWDERP-2019) (2019, July 6-8). Uludağ University, Bursa, Türkiye. (Organizing Committee).

**K8.** 2nd International Conference on Algebra in Honour of Leonid Bokut and Surender K. Jain (2016, August 26-29). Balıkesir University, Balıkesir, Türkiye. (Organizing Committee).

**K9.** Introductory Workshop on Modular Methods in Diophantine Equations (2014, September 8-11). Bilecik, Türkiye. (Organizing Committee).

**K10.** International Congress in Honour of Professor Ravi P. Agarwal (2014, June 23-26). Uludağ University, Bursa, Türkiye. (Organizing Committee).

**K11.** International Conference on Algebra in Honour of Patrick Smith and John Clark's 70th Birthdays (2013, August 12-15). Balıkesir University, Balıkesir, Türkiye. (Organizing Committee).

**K12.** International Congress in Honour of Professor Hari M. Srivastava (2012, August 23-26). Uludağ University, Bursa, Türkiye. (Organizing Committee).

#### **L. Other Roles in International Organizations:**

**L1.** Sarp Ü., The 24th International Conference of Jangjeon Mathematical Society, July 20-23 2011, Konya, TÜRKİYE. (Website and Printed Visuals Manager).

**L2.** Sarp Ü., International Autumn School on Computational Number Theory, October 30 2017 - November 03 2017, Izmir Institute of Technology, İzmir, TÜRKİYE (Poster Design).

**L3.** Sarp Ü., International Workshop on Elliptic Curves, Modular Forms and Langlands Functoriality, May 10-11, 2018, Bilecik, TÜRKİYE (Poster Design).

**L4.** Sarp Ü., Summer School, Explicit & Computational Approaches to Galois Representations, July 3-7 2018, Uni. of Luxembourg, LUXEMBOURG (Poster Design).

#### **M. National Organization Roles:**

**M1.** Sarp Ü., Balıkesir Metropolitan Municipality and Karesi District Municipality, "Matematik Cepte; Mobile Device Application", 2015 Balıkesir, TÜRKİYE.

#### **N. Projects:**

**N1.** Sarp Ü., Instructor, Computer Science Olympiads Training Balıkesir TÜBİTAK 2237-A Scientific Training Event October 30-November 04, 2024, Balıkesir - TÜRKİYE.

**N2.** Sarp Ü., (İkikardes S.) Supported by Balıkesir University Projects Unit (BAP), Project Number 2014/155, "Solving Some Partial Differential Equations by Differential Transformation Method and Comparison with Other Methods", Balıkesir - TÜRKİYE.

**N3.** Sarp Ü., (Ikikardes S.) Supported by Balıkesir University Projects Unit (BAP), Project Number 2017/20, “The Relationship between the Sum of Möbius Function and Polygonal Numbers”, Balıkesir - TÜRKİYE.

#### **O. Thesis Supervision:**

**O1.** Master's thesis: Esra Gebeş (2024) “On Multiple Polygonal Numbers” Karabük University (Co-supervisor).

#### **Ö. Teaching & Positions:**

- (2024-2025 Fall) Mathematics 1. Forest Industry Eng. (OEM106)
- (2024-2025 Fall) Mathematics 1. Forestry Eng. (ORM106)
- (2023-2024 Spring) Mathematics 2. Forest Industry Eng. (OEM106)
- (2023-2024 Spring) Mathematics 2. Forestry Eng. (ORM106)
- (2023-2024 Fall) Calculus 1. Mechanical Eng. (MAT101)
- (2023-2024 Fall) Geostatistics. Geography Dept. (COG302)
- (2022-2023 Fall) Geostatistics. Geography Dept. (COG302)
- (2022-2023 Spring) Basic Statistics for Geography. Geography Dept. (COG110)
- (2021-2022 Spring) Basic Statistics for Geography. Geography Dept. (COG110)
- (2020-2021 Spring) Basic Statistics for Geography. Geography Dept. (COG110)

#### **P. Certificates:**

**P1.** Google Young Agencies Academy, “Training Seminar”, 26 March 2011 Konya, TÜRKİYE.

**P2.** Serper Computer Course-Balıkesir, “Web Design (Dreamweaver, Photoshop, CorelDraw, Fireworks)”, 02 March 2013 Balıkesir, TÜRKİYE.

**P3.** Serper Computer Course-Balıkesir, “Delphi Program”, 29 April 2013 Balıkesir, TÜRKİYE.

**P4.** Serper Computer Course-Balıkesir, “Visual C# 2010 Program”, 06 August 2013 Balıkesir, TÜRKİYE.

**P5.** Serper Computer Course-Balıkesir, “MS SQL SERVER”, 10 September 2013 Balıkesir, TÜRKİYE.

**P6.** Serper Computer Course-Balıkesir, “.NET”, 10 September 2013 Balıkesir, TÜRKİYE.

**P7.** Serper Computer Course-Balıkesir, “Computer Programming (MEB approved)”, 07 October 2013 Balıkesir, TÜRKİYE.

**P8.** Sakarya University Continuing Education Center, “Job and Career Counseling Professional Competence Certificate”, 07 January 2014 Sakarya, TÜRKİYE.

**P9.** UniCertificate (Universal Certificate), “SolidWorks”, 04 February 2014 TÜRKİYE.

**P10.** Sakarya University Continuing Education Center, “IT Support Staff Professional Competence Certificate”, 10 September 2014 Sakarya, TÜRKİYE.

**P11.** Balıkesir Metropolitan Municipality and Karesi District Municipality, Certificate of Appreciation for Support of the "Matematik Cepte" Mobile Application, 22 October 2016 Balıkesir, TÜRKİYE.

**P12.** Serper Computer Course-Balıkesir, Mikro Trade and Accounting Applications Standard Training Certificate, 2013 Balıkesir, TÜRKİYE.

**P13.** İzmir Kâtip Çelebi University, Tübitak Project Training, 2022, İzmir, TÜRKİYE.

**P14.** Turkish Standards Institution, TS EN ISO 9001:2015 Quality Management System Basic Training Participation Certificate, 2023, İzmir, TÜRKİYE.

**P15.** Turkish Standards Institution, TS EN ISO 9001:2015 Quality Management System Internal Auditor Training Participation Certificate, 2023, İzmir, TÜRKİYE.

#### **R. Positions Held:**

**R1.** Social Security Inspector, SGK, 2016-2020,

**R2.** Quality Commission Member

**R3.** Strategic Planning Team Member

**R4.** Continuing Education Center Deputy Director

**R5.** Artificial Intelligence Journal Associate Editor

**R6.** Artificial Intelligence Center Commission Member

#### **Programlar:**

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|-----------------------------------|------------------------------------------|
| • <b>Office;</b> Good             | • <b>Adobe Dreamweaver;</b> Good         |
| • <b>Maple;</b> Good              | • <b>Adobe Photoshop;</b> Good           |
| • <b>Latex;</b> Good              | • <b>CorelDraw;</b> Intermediate         |
| • <b>Matematica;</b> Intermediate | • <b>Adobe Illustrator;</b> Intermediate |
| • <b>Matlab;</b> Intermediate     | • <b>Delphi;</b> Intermediate            |
| • <b>Gap;</b> Intermediate        | • <b>Php;</b> Intermediate               |
| • <b>Geogebra;</b> Good           | • <b>Ms Sql Server;</b> Intermediate     |
| • <b>Visual C# 2010;</b> Good     | • <b>.Net;</b> Intermediate              |
| • <b>Python;</b> Good             | • <b>SPSS;</b> Intermediate              |

#### **Research Areas:**

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|---------------------------|----------------------------|
| • Data Science            | • Algebra                  |
| • Artificial Intelligence | • Optimization             |
| • Graph Theory            | • Algebraic Number Theory  |
| • Algorithms              | • Arithmetic Functions     |
| • Number Theory           | • Combinatorics            |
| • Polygonal Numbers       | • Distance Education       |
| • Modeling and Simulation | • Engineering, Applied and |
| • Cryptology              | Computational Mathematics  |
| • Numerical Methods       |                            |