

CURRICULUM VITAE

László Ferenc Szabó

SPECIALIZATION

Discrete and Computational Geometry, Discrete Mathematics, Algorithms.

PRESENT POSITION

Associate Professor and Chair,
Department of Algorithms and Their Applications,
Faculty of Informatics,
Eötvös Loránd University.

MAILING AND OFFICE ADDRESS:

Eötvös Loránd University,
Faculty of Informatics,
Department of Algorithms and Their Applications,
1117 Budapest, Pázmány Péter sétány 1/C, Hungary.
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PERSONAL DATA

Date of Birth: December 24, 1966.
Nationality: Hungarian.
Languages: Hungarian (native), English (fluent).

ACADEMIC DEGREES

2016. Habilitation,
Eötvös Loránd University, Budapest, Hungary.
Subject: Mathematics and Computer Science.
1996. Candidatus Scientiarum (Ph.D.),
Hungarian Academy of Sciences, Budapest, Hungary.
Subject: Mathematics.
1991. Diploma in Mathematics and Computer Science (M.Sc.),
Eötvös Loránd University, Budapest, Hungary.

UNIVERSITY EDUCATION

01.09.1991. – 30.04.1995. Ph.D. Student,
Hungarian Academy of Sciences.
Subject: Mathematics (Geometry).
Adviser: Prof. Dr. Károly Bezdek.
01.09.1986. – 30.06.1991. M.Sc. Student,
Eötvös Loránd University, Budapest, Hungary.
Subjects: Mathematics, Computer Science.

AWARDS

1998. Eötvös Fellowship of Ministry of Education, Hungary.
1997. Eötvös Fellowship of Ministry of Education, Hungary.
1996. Institute Award of Computer and Automation Research Institute of Hungarian Academy of Sciences
1996. Junior Scientists' Award of Hungarian Academy of Sciences
1991. Outstanding Student Award, Eötvös Loránd University.
1991. First Prize and Special Prize of János Bolyai Mathematical Society in National Mathematics Competition OTDK XX, Pécs, Hungary.
1989. Third Prize in National Mathematics Competition OTDK XIX, Debrecen, Hungary.

ACADEMIC POSITIONS

- 01.01.2021. – Chair.
Eötvös Loránd University, Faculty of Informatics, Department of Algorithms and Their Applications.
01.09.2016. – Associate Professor.
Eötvös Loránd University, Faculty of Informatics, Department of Algorithms and Their Applications.
15.07.2008. – 15.07.2015. Deputy Director of the Institute of Informatics and Economics. University of West-Hungary, Simonyi Károly Faculty.
01.09.2002. – 30.08.2016. Associate Professor.
University of West-Hungary, Simonyi Károly Faculty, Institute of Informatics and Economics.
01.03.1996. – 31.12.2006. Senior Research Fellow.
Computer and Automation Research Institute, Hungarian Academy of Sciences.
01.05.1995. – 29.02.1996. Research Fellow.
Computer and Automation Research Institute, Hungarian Academy of Sciences.

VISITING POSITIONS

- 22.04.2024. – 27.04.2024. Visiting Professor (ERASMUS+).
Technische Universität Graz, Graz, Austria.
24.09.2023. – 30.09.2023. Visiting Professor (ERASMUS+).
University of Paris-Est Créteil, Paris, France.
14.05.2023. – 20.05.2023. Visiting Professor (ERASMUS+).
University of Coimbra, Coimbra, Portugal.
03.07.2022. – 09.07.2022. Visiting Professor (ERASMUS+).
University of Potsdam, Potsdam, Germany.
20.10.2019. – 26.10.2019. Visiting Professor (ERASMUS+).
University of Minho, Braga, Portugal.
29.09.2019. – 05.10.2019. Visiting Professor (CEEPUS).
University of Rijeka, Rijeka, Croatia.
26.05.2019. – 01.06.2019. Visiting Professor (CEEPUS).
University of Maribor, Maribor, Slovenia.

14.04.2019. – 20.04.2019. Visiting Professor (CEEPUS).
 Technical University, Cluj Napoca, Romania.

24.03.2019. – 30.03.2019. Visiting Professor (ERASMUS+).
 Università degli Studi di Verona, Verona, Italy.

02.12.2018. – 08.12.2018. Visiting Professor (ERASMUS+).
 Università degli Studi di Palermo, Palermo, Italy.

17.03.2018. – 24.03.2018. Visiting Professor (CEEPUS).
 Babes-Bolyai University, Cluj Napoca, Romania.

01.10.2017. – 07.10.2017. Visiting Professor (ERASMUS+).
 Technical University of Brno, Brno, Czech Republic.

19.03.2017. – 25.03.2017. Visiting Professor (CEEPUS).
 Johannes Kepler Universit Linz, Austria.

01.05.1998. – 31.07.1998. Visiting Professor (Eötvös Fellow).
 Technical University of Braunschweig, Braunschweig, Germany,

01.07.1997. – 30.09.1997. Visiting Professor (Eötvös Fellow).
 Technical University of Braunschweig, Braunschweig, Germany,

15.01.1994 – 30.06.1994. Visiting Ph.D. Student (TEMPUS).
 Queen Mary and Westfield College, University of London, London, England.

01.10.1991 – 30.06.1992. Visiting Ph.D. Student (TEMPUS).
 Università degli Studi della Basilicata, Potenza, Italy.

ACADEMIC TEACHING

2015 – Eötvös Loránd University.

Convexity for graduate students majoring in mathematics and informatics. Algorithmic Discrete Mathematics, Design and Analysis of Algorithms (in English as well), Advanced Algorithms (in English as well), Algorithms and Data Structures I, II (in English as well) for undergraduate, graduate and Ph.D. students majoring in informatics.

2002 – 2016. University of West-Hungary.

Mathematical Analysis and Linear Algebra for undergraduate students majoring in economics. Discrete Mathematics, Theory of Algorithms, Optimization Algorithms, Theory of Databases, Java Programming for undergraduate, graduate and Ph.D. students majoring in business informatics.

1999 – 2002. Technical University of Budapest.

Mathematical Analysis and Linear Algebra, Geometry, Descriptive Geometry for undergraduate students majoring in mechanical and civil engineering.

1992. Università degli Studi della Basilicata, Potenza, Italy.

Graph Theory (in Italian) for undergraduate and graduate students majoring in mathematics.

1988 – 2006. Eötvös Loránd University.

Mathematical Analysis, Geometry, Convexity, Descriptive Geometry, Projective Geometry, Combinatorial Geometry, Computational Geometry, Geometric Tomography for undergraduate, graduate and Ph.D. students majoring in mathematics and informatics.

PROFESSIONAL ACTIVITIES

Member of the Faculty Council of Faculty of Informatics, Eötvös Loránd University.

Member of the Committee on Education of Faculty of Informatics, Eötvös Loránd University.

Participation in several scientific qualifying committees, Eötvös Loránd University.

Advisor of undergraduate and graduate theses in mathematics and informatics. Two of them were awarded Best MSc Thesis Prize in 2017 and 2018, respectively, and another two of them were awarded Best BSc Thesis Prize in 2020 and 2021.

Reviewer of the American Mathematical Reviews.

LIST OF PUBLICATIONS

Books

1. Szabó, L.: *Combinatorial Geometry and Geometric Algorithms*. Polygon, Szeged, 2003.
2. Szabó, L.: *Algorithm Problem Book*. Eötvös Loránd University, Budapest, 2016.
3. Szabó, L.: *Adventures in Discrete Mathematics*. Eötvös Loránd University, Budapest, 2017.
4. Szabó, L.: *Introduction to Convex Geometry*. Eötvös Loránd University, Budapest, 2018.

Papers

1. Szabó, L.: 21-neighbour packing of equal balls in the 4-dimensional Euclidean space. *Geometriae Dedicata* **38** (1991), 193-197.
2. Heppes, A., Szabó, L.: On the number of cylinders touching a ball. *Geometriae Dedicata* **40** (1991), 111-116.
3. Szabó, L.: Classical art gallery problems. *Polygon* **3**(2) (1993), 37-64.
4. Szabó, L.: Regular circle packings. In: *Intuitive Geometry, (Szeged, 1991), Colloq. Math. Soc. János Bolyai* **63**, eds. Böröczky, K., Fejes Tóth, G., North-Holland, Amsterdam, 1994, pp. 465-474.
5. Szabó, L.: On the density of unit balls touching a unit cylinder. *Arch. Math. (Basel)* **64** (1995), 459-464.
6. Szabó, L., Talata, I.: An illumination problem for convex polyhedra. *Studia Sci. Math. Hungar.* **32** (1996), 349-353.
7. Szabó, L.: Classical art gallery problems II. *Polygon* **6**(2) (1996), 45-61.
8. Szabó, L.: A simple proof for the Jordan measurability of convex sets. *Elem. Math.* **52** (1997), 84-86.
9. Soltan, V., Szabó, L., Vásárhelyi, É.: Primitive illumination systems for families of convex bodies in the plane. *Geometriae Dedicata* **66** (1997), 125-148.
10. Szabó, L.: Recent results on illumination problems. In: *Intuitive Geometry, (Budapest, 1995), Bolyai Society Mathematical Studies* **6**, eds. Bárány, I., Böröczky, K., János Bolyai Mathematical Society, Budapest, 1997, pp. 207-221.
11. Harborth, H., Szabó, L., Ujváry-Menyhárt, Z.: Smallest limited vertex-to-vertex snakes of unit triangles. *Geometriae Dedicata* **78** (1999), 171-181.
12. Szabó, L.: Some problems in combinatorial geometry. *Polygon* **9**(2) (1999), 1-13.

13. Kemnitz, A., Szabó, L., Ujváry-Menyhárt, Z.: Protecting regular polygons. *Beiträge Alg. Geom.* **41** (2000), 391-399.
14. Szabó, L., Ujváry-Menyhárt, Z.: Maximal facet-to-facet snakes of unit cubes. *Beiträge Alg. Geom.* **42** (2001), 203-217.
15. Harborth, H., Koch, M., Szabó, L.: Newton numbers for overlapping circular discs. *Studia Sci. Math. Hungar.* **37** (2001), 119-130.
16. Gulyás, A., Szabó, L.: Disjoint empty convex polygons in planar point sets. *Elem. Math.* **56** (2001), 62-70.
17. Kemnitz, A., Szabó, L.: Relative Newton numbers of regular polygons with equal side lengths. *Studia Sci. Math. Hungar.* **37** (2001), 343-354.
18. Harborth, H., Szabó, L., Ujváry-Menyhárt, Z.: Regular sphere packings. *Arch. Math. (Basel)* **78** (2002), 81-89.
19. Szabó, L., Ujváry-Menyhárt, Z.: Clouds of planar convex bodies. *Aequationes Math.* **63** (2002), 292-302.
20. Böröczky, K., Szabó, L.: Minkowski arrangements of circles in the plane. *Rendiconti del Circolo Matematico di Palermo. Serie II, Suppl.* **70** (2002), 87-92.
21. Böröczky, K., Szabó, L.: Arrangements of 13 points on a sphere. In: *Discrete geometry - In honor of W. Kuperberg's 60th birthday*, (A. Bezdek, ed.), Marcel Dekker, New York-Basel, 2003, pp. 111-184.
22. Böröczky, K., Szabó, L.: Arrangements of 14, 15, 16 and 17 points on a sphere. *Studia Sci. Math. Hungar.* **40** (2003), 407-421.
23. Böröczky, K., Szabó, L.: Minkowski arrangements of spheres. *Monatshefte für Mathematik* **141** (2004), 11-19.
24. Szabó, L., Ujváry-Menyhárt, Z.: Smallest limited snakes. *Elemente der Mathematik* **62** (2007), 98-101.
25. Böröczky, K., Szabó, L.: 12-neighbour packings of unit balls in \mathbb{E}^3 . *Acta Mathematica Hungarica* **146** (2015), 421-448.
26. Bene, K., Szabó, L.: Dynamic programming vs. greedy method. *Polygon* **23**(1-2) (2016), 41-59.
27. Böröczky, K., Szabó, L.: ε -quasi-twelve-neighbour packings of unit balls in \mathbb{E}^3 . *Acta Mathematica Hungarica* **148** (2016), 509-521.
28. Bene, K., Szabó, L.: Lloyd's clustering method is not 1-separability detecting. *Annales Computatorica*. Accepted for publication.