CURRICULUM VITAE
LÁSZLÓ A. SZÉKELY
September 2016

ADDRESS: Department of Mathematics, University of South Carolina, Columbia, SC 29208

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HOMEPAGE: http://people.math.sc.edu/laszlo/ (includes list of publications, current preprints, and lists 1600 citations)

LANGUAGES: I speak English and Hungarian, read German and Russian.

DEGREES:

- Candidate for Math. Sci., Hungarian Academy of Sciences, 1987, Thesis: "Analytic Methods in Combinatorics", referees: Zoltán Füredi and Paul Erdős.
- Ph.D., Eötvös University, 1983; Thesis: "Geometric Graphs", supervisors: Vera T. Sós and M. Simonovits.
- Master of Sci., Eötvös University, 1980.

POSITIONS:

- 2005–07 Interim Director of the Industrial Mathematics Institute of the University of South Carolina.
- 2002–03 Visiting Fellow at the National Center for Biotechnology Information, supported by the Oak Ridge Institute for Science and Education.
- 1996– professor at the University of South Carolina, Columbia.
- 1994–96 Director of the Institute of Mathematics I at Eötvös University, Budapest.
- 1991–92: Alexander von Humboldt Fellow at the Rheinische Friedrich-Wilhelms Universität, Institut für Ökonometrie und Operations Research, and Institut für Diskrete Mathematik, Bonn, Germany.
- 1991–1996 senior associate professor at Eötvös University, Budapest.
- 1988–90, 1992–93: visiting associate professor at University of New Mexico, Albuquerque, NM.
- 1986–87: postdoctoral fellow at the University of Auckland, New Zealand.
- 1984–91 associate professor at Eötvös University, Budapest.
- 1982–84: research fellow at József Attila University, Szeged.

INVITED CONFERENCE TALKS:

1. Conference of the Australasian Combinatorial Society, Dunedin, New Zealand, December 1986 "Inclusion-exclusion formulae without higher terms" (50 mins)

2. AMS Meeting at Manhattan, Kansas, Graph Theory Session, March 1990 "Integral concurrent flows" (20 mins)

3. Twente/Osnabrück Seminar, Enschede, The Netherlands, February 1992 "Applications of classical inequalities in graph theory" (50 mins)

4. 7^{th} Midwest Conference on Combinatorics, Cryptography and Computing, Carbondale, Illinois, October 1992 "Reconstruction of evolutionary trees" (50 mins)

5. AMS Meeting at deKalb, Illinois, Extremal Combinatorics Session, May 1993 "Crossing number problems" (20 mins)

6. Extremal Combinatorics Workshop, MSRI, Berkeley, November 1996 "Crossing numbers and Szemerédi-Trotter theorems" (30 mins)

7. DIMACS Workshop on Probabilistic Analysis of Algorithms, Princeton University, May 1997 "The Short Quartet Method" (30 mins)

8. AMS Meeting at Oaxaca, Mexico, Graph Theory and Combinatorial Geometry Session, December 1997 "On bipartite crossings, largest biplanar subgraphs, and the linear arrangement problem" (20 mins)

9. Buneman and Beyond, Massey University, Palmerston North, New Zealand, May 1998 "The Short Quartet Method" (30 mins)

10. Frontiers of Combinatorics, Los Alamos National Laboratory, August 1998 "The Short Quartet Method" (two times 50 mins)

11. AMS Meeting at Winston-Salem, North Carolina, Combinatorics and Graph Theory Session, October 1998 "Inverting random functions" (20 mins)

12. Numbers, Information and Complexity — in honour of Professor Rudolf Ahlswede on his 60th birthday, Bielefeld, Germany, 1998 (30 mins) (I could not go but contributed to the volume)

13. Meeting of the Canadian Mathematical Society, December 1998, Kingston, Ontario "New Erdős-Ko-Rado type problems" (20 mins)

14. 12^{th} Cumberland Conference, May 1999 Louisville, Kentucky "Katona type proof for the 2-intersecting Erdős-Ko-Rado theorem" (20 mins)

15. The Mathematics of Paul Erdős, July 1999, Budapest, Hungary "Erdős on unit distances" (30 mins)

16. 14^{th} Clemson Mini-Conference, September 1999, Clemson, South Carolina, "Erdős on unit distances and the Szemerédi-Trotter theorems" (50 mins)

17. AMS Meeting at Charlotte, NC, October 1999, Applied Probabilistic Combinatorics Session, "Phylogeny needs more probability for sure" (20 mins)

18. Third UNCG Mini-conference in Combinatorics and Graph Theory, November 1999, Greensboro, NC, "Are there infinitely many Leech trees?" (20 mins)

19. Tenth SIAM Conference on Discrete Mathematics, Minisymposium on Combinatorial Geometry, June 2000, Minneapolis MN, "Crossing numbers of graphs" (30 mins)

20. Sixth International Conference on Graph Theory, Marseille, August 2000 "A successful concept for measuring non-planarity of graphs: the crossing number" (60 mins)

21. Fourth UNCG Mini-conference in Combinatorics and Graph Theory, November 2000, Greensboro, NC, "Sets in Euclidean spaces without certain distances" (50 mins)

22. Workshop and Conference on Hypergraphs (Gyula O.H. Katona is 60) June 4-17, 2001 Rényi Institute, Budapest, Hungary, "Katona type proof for the 2-intersecting Erdős-Ko-Rado theorem" (30 mins)

23. DMV-Seminar "Mathematical Challenges of Molecular Biology" (45 mins), Mathematisches Forschungsinstitut Oberwolfach, Germany, November 11–17 2001 "Methods for Phylogeny Reconstruction" (45 mins),

24. Kolloquium über Kombinatorik, November 16–17 2001, Technische Universität Braunschweig, Germany, "Crossing numbers and biplanar crossing numbers" (55 mins)

25. 15th Cumberland Conference on Combinatorics, Graph Theory and Computing, University of Mississippi, May 16–18, 2002, "Biplanar crossing numbers" (15 mins)

26. PARC Mini-Symposium, Parallel Algorithms and Architecture Research Centre, Loughborough University, England, June 18, 2002, "Biplanar Crossing Numbers" (60 mins)

27. DIMACS Special Focus: Computational Geometry and Applications, workshop on Geometric Graph Theory at Rutgers University, New Brunswick, September 30–October 4, 2002 "Crossing numbers and biplanar crossing numbers" (45 mins)

28. AMS Meeting at Bloomington, Indiana, April 4-6, 2003, Probability Session, "Crossing numbers and probability" (45 mins)

29. Paths, Permutations and Trees, February 25 - 27, 2004, Tianjin, P. R. China, "Subtrees of trees" (30 mins)

30. PARADAY V, Fifth PARC Theory Day, Loughborough University, "Subtrees of trees" (30 mins), May 2004, Loughborough, England

31. Special Session on Extremal Combinatorics at the AMS Central Section Meeting (#1001) at Evanston, IL on October 23-24, 2004 "Convex crossing numbers, circular arrangement problem, and isoperimetric functions" (25 mins)

32. SOFSEM 2005, Liptovsky Jan, Slovakia "Progress on Crossing Number Problems" (90 mins), January 2005

33. Southeast Geometry Conference, Columbia SC, March 2005, "Crossing Numbers", (50 min)

34. Bioinformatics Mini-Symposium, Columbia SC, March 19 2005, "Paradoxes for Cavender-Farris model trees", (20 min)

35. Discrete Geometry, Oberwolfach, Germany, April 10–16, 2005, "Variants of the Crossing Number Problem", (20 min)

36. Joel Spencer is 60 / DIMACS Challenges for Combinatorics April 24–29, 2006, DIMACS, Rutgers University, "Biplanar crossing numbers" (20 min)

37. BIRS Workshop, Banff, Canada, October 21–25, 2006 "Bounds on the minor crossing number" (20 min)

38. "Extremal Combinatorics" Budapest, June 4-8, 2007 "Lovász Local Lemma for random functions" (45 min)

39. Sixth Slovenian International Conference on Graph Theory, June 23–30 2007, Bled, Slovenia, Minisymposium on Crossing Numbers of Graphs, "An optimality criterion for crossing numbers" (25 min)

40. Special Session in Graph Theory at the AMS Central Section Meeting at DePaul University, Chicago, October 5-6, 2007 "On the minor crossing number" (25 min)

41. Cumberland Conference on Graph Theory, Vanderbilt University, Nashville, May 2008 "Lovász Local Lemma - a new tool for asymptotic enumeration?" (20 min)

42. International Conference on Interdisciplinary Mathematical & Statistical Techniques IMST 2008 / FIM XVI (Memphis, May 2008) "Classical and phylogenetic combinatorics" (30 min)

43. 23th Clemson Mini-Conference, October 2008, Clemson, South Carolina, "Lovász local lemma: a tool for asymptotic enumeration?" (45 min)

44. Ulam Centennial Conference March 7–11, 2009 Gainesville, FL "Minimizing the number of episodes and Gallai's theorem on intervals" (30 min)

45. AMS 2009 Spring Central Sectional Meeting Meeting 1047, Special Session on Probabilistic and Extremal Combinatorics, Urbana Il "Phylogenetic combinatorics" (30 min)

46. Algorithmic and Combinatorial Geometry, Rényi Institute, Budapest, June 15–19, 2009 "Crossing numbers: connections and some open problems" (50 min)

47. Phylogeny workshop, Rényi Institute, Budapest, June 22–25, 2009 "Reconstruction and testing in phylogenetic combinatorics" (50 min)

48. Triangle Lectures in Combinatorics, North Carolina State University, Raleigh NC, February 6, 2010, "Lovász local lemma: a tool for asymptotic enumeration? (50 min)

49. Paul Erdős Memorial Lecture Series, University of Memphis, Memphis TN, March 19–20, 2010, "Lovász local lemma: a tool for asymptotic enumeration? (45 min)

50. Search Methodologies II, Universität Bielefeld, Germany, October 25–29, 2010 "M-part Sperner problems" (30 min)

51. SIAM-SEAS meeting, Charlotte, March 26–27, 2011, "On the domination numbers of regular graphs and Kneser graphs", (25 min)

52. Atlanta Lecture Series in Combinatorics and Graph Theory, Georgia Institute of Technology, April 16–17, 2011, "M-part Sperner families, transversals, and mixed orthogonal arrays" (50 min)

53. Rudolf Ahlswede Memorial Conference, July 25–26, 2011, Bielefeld, Germany "Higher-Order Extremal Problems" (30 min)

54. 25th Midwest Conference on Combinatorics, Cryptography and Computing, Las Vegas, October 19–21, 2011 "Using the Lovász Local Lemma for asymptotic enumeration" (50 min)

55. Integer Conference, Oct. 26–29, 2011, University of West Georgia, Carrollton GA "M-part Sperner families, transversals, and mixed orthogonal arrays" (50 min)

56. # 1073 Fall Southeastern Sectional AMS Meeting, Developments in Graph Theory, Winston-Salem, NC, September 24–25, 2011, "Using the Lovász Local Lemma for asymptotic enumeration" (25 min)

57. # 1079 Spring Southeastern Sectional AMS Meeting, Tampa, Florida, March 10-11, 2012, Session in Graph Theory, "Quest for negative dependency graphs", (25 min)

58. Mathematical Physics of Complex Networks: from Graph Theory to Biological Physics, May 2012, Dresden, Germany, May "The Lovász Local Lemma and the configuration model" (30 min)

59. GraDR 2012 Crossing Number Workshop and Minischool, May 20-24, 2012, Valtice, Czech Republic "Crossing numbers: history, applications to discrete geometry and open problems" (90 mins)

60. Search Methodologies III Conference, ZiF, University of Bielefeld, Germany, September 2012 "Constructions for the diamond problem" (30 min)

61. International Conference on Advances in Interdisciplinary Statistics and Combinatorics October 5–7, 2012, Greensboro, NC, Combinatorics Session "M-part Sperner multifamilies, multitransversals, and mixed orthogonal arrays" (30 min)

62. Carolina Math Seminar, Citadel, Charleston SC, October 2012, "M-part Sperner multifamilies, multitransversals, and mixed orthogonal arrays" (30 min)

63. SIAM-SEAS meeting, University of Tennessee-Knoxville and Oak Ridge National laboratory, TN, Extremal Combinatorics session, March 2013, "Threshold functions for distinct parts: revisiting Erdős-Lehner" (30 min)

64. #1092 AMS Sectional Meeting (Louisville, KY, October 2013) Extremal Combinatorics session "Extremal values of ratios: distances vs. the number of subtrees" (30 min)

65. Joint Mathematics Meeting (Baltimore, MD, January 2014) Extremal and Structural Graph Theory Session "Counting graphs with the Lovász Local Lemma" (30 minutes)

66. Joint Mathematics Meeting (Baltimore, MD, January 2014) Famous Conjectures in Graph Theory III Session "Zarankiewicz' Crossing Number Conjecture" (30 minutes)

67. American Institute of Mathematics workshop Exact Crossing Numbers, April 28-May 2 2014, "Biplanar crossing numbers" (50 min)

68. Combinatorial Optimization approaches to Graph Crossing Numbers, workshop, June 2014 in Maribor, Slovenia "Minor crossing number" (30 minutes)

69. # 1105 Southeastern Sectional AMS Meeting, Greensboro, NC, Special Session on Recent Developments in Graph Theory and Hypergraph Theory, November 8–9, 2014 "A note on k-planar crossing numbers" (30 min)

70. # 1107 Spring Eastern Sectional AMS Meeting, Georgetown University, Washington D.C., Special Session on Crossing numbers of graphs, March 7–8, 2015 "Biplanar and k-planar crossing numbers" (30 min)

71. # 1112 Fall Central Sectional AMS Meeting, Loyola University, Chicago IL, Special Session on the Mathematics of Evolution, October 3–4, 2015 "Minimizing the number of duplication episodes and Gallai's min-max theorem" (20 min)

72. # 1117 Spring Southeastern Sectional AMS Meeting, University of Georgia, Athens GA, Special Session on the Theory and Applications of Graphs, March 5–6, 2016 "On the number of nonisomorphic subtrees of a tree" (25 min)

73. IntersectionFest, Virginia Commonwealth University, Richmond VA, March 7–9, 2016 "Higher order extremal problems" (50 min)

74. International Conference on Current Trends in Graph Theory and Computing, September 17–19, 2016, New Delhi, India "The number of induced subtrees in trees" (30 min)

75. #1123 Fall Central Sectional AMS Meeting, University of St. Thomas (Minneapolis campus), Minneapolis MN, October 28–30, 2016, IMA Reunion Special Session, "Number of nonisomorphic subtrees of trees" (25 min)

76. #1124 Fall Southeastern Sectional AMS Meeting, North Carolina State University, Raleigh, NC November 12–13, 2016, Special Session on Graphs, Hypergraphs, and Set Systems, "Subtrees of trees" (25 min)

VISITS AND SEMINARS AT UNIVERSITIES: (seminars given at my affiliation and in my home town not listed)

1. University of New South Wales, Sydney (1986)
2. LaTrobe University, Melbourne (1986)
3. University of Western Australia, Perth (1986)
4. University of Queensland, Brisbane (1986)
5. University of Newcastle, Newcastle (1986)
6. Otago University, Dunedin (1986)
7. University of Colorado at Denver (1988)
8. Queen's University, Kingston (1990)(1997)
9. University of North Texas, Denton (1990)
10. University of Waterloo, Waterloo (1990)

11. Universita degli Studia di Napoli Federico II, Naples (1991)
12. Zentrum für interdisziplinäre Forschung, Bielefeld (one week) (1991);
13. Arizona State University, Tempe (1993);
14. DIMACS, Rutgers University, Special Year of Mathematical Support to Molecular Biology, Piscataway (one month) (1995)
15. Yale University, New Haven (1995)(1999)
16. University of Pennsylvania, Philadelphia (1997)
17. József Attila University/University of Szeged, Szeged (1997)(2010)(2011)(2012)(2014)(2015)(2016)
18. University of Canterbury, Biomathematics Research Centre, Christchurch, New Zealand (one month in 1998)(two weeks in 2000)(three weeks in 2004)(one month in 2010)
19. University of Memphis (1999)
20. Stefan Banach International Mathematical Center, Warsaw (two weeks) (1999)
21. University of North Carolina, Pembroke, NC (2000)
22. University of Louisville, Louisville, KY (2000)
23. University of Loughborough, Loughborough, England (three weeks in 2001)(two weeks in 2002)(1 month in 2004) (1 month in 2005)(1 month in 2006)
24. State University of West Georgia, GA (2003)
25. Virginia Tech, VA (2003)
26. University of Illinois at Urbana-Champaign, IL (2003)
27. Allan Wilson Centre for Molecular Ecology and Evolution, Massey University, New Zealand (2004)
28. The College of William & Mary, VA (2004)
29. University of California, Berkeley, Department of Statistics, Neyman Seminar (2005)
30. Illinois Institute of Technology (2006)
31. Georgia Tech (2006)
32. University of Delaware (2006)
33. University of Florida (2006) (two talks)
34. University of Alberta (2006)(2011)
35. Rényi Institute, Budapest, Hungary (2003) (3 talks) (2007) (2 months) (2008) (2 months) (2009) (2 months) (2010) (3 months) (2011) (1 talk) (2013) (1 month) (2014) (1 month)
36. Cambridge University, Newton Institute (2007) (1 month)

37. Oxford University (2007)
38. Stellenbosch University (2008)(2014)
39. University of Kwa-Zulu-Natal (2008)
40. Mathematics Institute of the Slovak Academy of Sciences (2008)(2009)(2010)
41. University of Alabama (2008)(2011)
42. Notre Dame University, Center for Complex Network Research (2009)
43. University of Texas at Dallas (2009)
44. Georgia Southern University (2009)
45. Ohio State University, Colloquium at the Mathematical Biosciences Institute (2010)
46. University of Maribor, Slovenia (2010)(2015)
47. Rheinische Friedrich-Wilhelms Universität, Bonn, Germany (2010) (3 months)
48. Technische Universität Berlin Germany (2010)
49. NCBI/NLM/NIH (2011)
50. University of Alaska (2011)
51. Monash University, Melbourne, Australia (2013)
52. Tongji University, Shanghai, P.R. China (2013)
53. Nanjing Normal University, Nanjing, P.R. China (2013)
54. Zhejiang University, Hangzhou, P.R. China (2013)
55. University of British Columbia (2014)
56. Iowa State University (2016)

RESEARCH INTERESTS:
My primary research areas are combinatorics and graph theory, and their applications to geometry, computer science and biology. In particular:

- Combinatorial geometry: Erdős type problems in geometry, density of sets without certain distances, maximum number of unit distances or minimum number of distinct distances in finite point sets, Szemerédi-Trotter type theorems
- Graph drawing: crossing numbers of graphs, applications of crossing numbers of graphs to discrete geometry, graph drawing algorithms on surfaces, books, etc., approximation algorithms for crossing number problems

- Phylogeny reconstruction: stochastic models of the evolution of biomolecular sequences, identifiability conditions for reconstructible past, polynomial time algorithms for phylogeny reconstruction, the length of biomolecular sequences necessary for phylogeny reconstruction for all methods and for particular methods, Fourier-Hadamard transform
- Discrete probability: stochastic models for biomolecular sequence evolution, derandomization of randomized algorithms for graph drawing, Lovász Local Lemma
- Design and analysis of algorithms: algorithms for graph drawing, approximation algorithms for crossing number problems, algorithms for phylogeny reconstruction
- Combinatorial optimization: the multiway cut problem, integral uniform multicommodity flow problem
- Extremal problems (graphs and set systems): Erdős-Ko-Rado type theorems, Sperner and LYM type theorems, extremal graph theory
- Network science: generation and analysis of networks, similarity of networks

TEACHING:

- Courses taught: combinatorics, number theory, calculus and advanced calculus, vector analysis, algorithms, and abstract algebra at undergraduate levels, and several courses of combinatorics, combinatorial optimization and theoretical computer science at graduate level
- Co-supervised postdoctoral fellow Aaron Dutle 2012–14. Dutle is now a research computer scientist at the NASA Langley Research Center.
- Supervising Ph. D. students:
    1. Taylor Short, USC 2016 "Some extremal and structural problems in graph theory" (won SPARC Graduate Student Fellowship from the USC VP for Research, is a visiting assistant professor at Grand Valley State University)
    2. Heather Smith, USC 2015 "Partitions, trees, and other combinatorial structures" (Heather Smith won the "Dean's Dissertation Fellowship", a SPARC Graduate Student Fellowship from the USC VP for Research, was admitted to the Mathematics Research Communities program of the AMS, is a post-doc at Georgia Tech)
    3. Austin Mohr, USC 2013 "Applications of the Lopsided Lovász Local Lemma regarding Hypergraphs" (won the "Dean's Dissertation Fellowship", is a tenure-track assistant professor at Nebraska Wesleyan University)
    4. Yiting Yang, USC 2010, "Genome rearrangement, Randič index and routing number" (Yiting Yang received "Outstanding Graduate Student Award" from the Department of Mathematics at USC (Yiting Yang is a faculty at Tongji University, Shanghai, after a postdoc at Zhejiang University)
    5. Hua Wang, USC 2005, "Subtrees of trees, Wiener index, and related problems" (Hua Wang was a John G. Thompson Research Assistant Professor at the University of Florida, and is currently a tenure-track associate professor at Georgia Southern University) (Hua Wang received the "Dean's Award of Excellence" and the "Dissertation Award of the Graduate School in Science, Mathematics, and Engineering")

- Substantial joint research, resulting in papers, with Ph. D. students whom I did not supervise:
  1. Y. Zhang (Ph. D. in CSE, 2005, USC), (Zhang is an assistant professor at Kutztown University)
  2. E. Czabarka (Ph. D. in Math., 1998, USC), (Czabarka is an associate professor at the University of South Carolina)
  3. A. Kooshesh (Ph. D. in Comp. Sci., 1992, University of New Mexico), (Kooshesh is a professor at the Sonoma State University)
  4. J. McCanna (Ph. D. in Math., 1990, University of New Mexico), (McCanna was a faculty at the University of Western Michigan, Kalamazoo)
  5. T. Porter (Ph. D. in Math., 1990, University of New Mexico), (Porter deceased as professor emeritus of the Southern Illinois University, Carbondale)
- Supervising Master's Degree students:
  1. Greg Ferrin USC 2014, "Independence Polynomial"
  2. Kirk McMullan, USC 2006, (left school without degree)
  3. Devin James Henson, USC 2006, "Optimization Problems from Genome Sequence Rearrangement"
  4. Henry Chen, USC 2001, (left school without degree)
  5. Jason Burns, USC 2000, "Graph subdivision problems" (graduated with Ph. D. from M.I.T.)
  6. Szilárd Bokros, USC 1999, "Implementing the Short Quartet Methods"
  7. Li Chong, USC 1998, "Minimum spanning trees and more: algorithms and analysis"
  8. Csaba Szász, Eötvös University, 1996, "Tournaments"
  9. Gábor Hetyei, Eötvös University, 1988, "Catalan numbers" (Hetyei is an associate professor at the University of North Carolina at Charlotte)
  10. József Solymosi, Eötvös University, 1988, "Combinatorial Problems in Finite Ramsey theory" (Solymosi is a professor at the University of British Columbia)
  11. Bernd Radtke, József Attila University, 1985, "Flow and circulation problems: effective algorithms and combinatorial consequences"
  12. Lenke Körmöczi, József Attila University, 1984, "Expander graphs in the theory of algorithms"
  13. Zoltán Blázsik, József Attila University, 1984, "Interconnection of probability theory and combinatorics" (Blázsik is a faculty at Szeged University, Szeged)
- Wrote the lecture notes "Combinatorial Exercises" at József Attila University (1982)
- Ran study group for highschool students specializing in advanced mathematics (1975-76, 1984-86)
- Course development "Theoretical Computer Science" at Eötvös University (1984-86)
- Taught a course at the "Budapest Semester in Mathematics" for mathematically inclined North-American undergraduates (1988)
- Taught a short course on graph theory in Naples and wrote a lecture notes (1991)

- Prepared problems for the USC Highschool Mathematics Contest and participated in running the Contest (1996–2000)
- Gave talks to undergraduates about research:
    1. South Carolina State University, 1997, "The Mathematics of Paul Erdős"
    2. South Carolina State University, 1998, "Phylogeny reconstruction"
    3. University of South Carolina PME, 1999, "Phylogeny reconstruction"
    4. South Carolina State University, 2002, "Hilbert's problems from 1900"
    5. USC SIAM Student Chapter, 2005, "Complexities of phylogeny reconstruction"
    6. Georgia Tech ACO (Algorithm and Combinatorial Optimization) Pizza Seminar, February 2006, "Mathematical problems of phylogeny"
- Programs written by students
    1. S. Bokros implemented under my supervision my "Short Quartet Method" in a program package, http://people.math.sc.edu/laszlo/szilard/Laciproject/shortq.html
    2. Yong Zhang implemented under my supervision a program to find Leech trees http://people.math.sc.edu/laszlo/leechtree/index.htm

AWARDS, HONORS, SCHOLARSHIPS:

1. "People's Republic Scholar", twice, for the academic years 1978–79 and 1979–80 (the most prestigious scholarship of the time in Hungary, given to one percent of the university student population).
2. "Outstanding Student of the Faculty of Sciences", 1980, by Faculty of Sciences of Eötvös University
3. Alexander von Humboldt Fellow, 1991–92, at the Rheinische Friedrich-Wilhelms Universität, Bonn, Germany (12 months)
4. Exterior member, Alfréd Rényi Mathematical Institute of Mathematics, Hungarian Academy of Sciences, from 1996
5. "Doctor of the Hungarian Academy of Sciences", 1998
6. Visiting Fellow at the National Center of Biotechnology Information (NCBI/NLM/NIH) supported by the Oak Ridge Institute for Science and Education, 2002–2003 (ten months)
7. External Advisory Board Member of a $2.5 million NSF "Research Infused STEM Curriculum" grant at the South Carolina State University 2005–2010
8. Russell Research Award for Science, Mathematics and Engineering, University of South Carolina, 2007
9. Marie Curie Fellowship in bioinformatics at the Rényi Mathematical Research Institute of the Hungarian Academy of Sciences (2 months in 2007) (2 months in 2008) (2 months in 2009) (2 months in 2010)
10. Two Thumbs Up! teaching award, University of South Carolina, 2009

11. Alexander von Humboldt Fellow, 2010, at the Rheinische Friedrich-Wilhelms Universität, Bonn, Germany (3 months)

12. Elsevier "Top Cited Paper in Adv. Appl. Math. Award" 2010 (for the top cited paper in the period 2005–2010, which is a joint paper with then Ph.D. student Hua Wang)

RESEARCH GRANTS:

1. "Efficient communication in networks", (1992–93) by the U.S. Office of Naval Research under the contract N-0014-91-J-1385 my role: co-PI, PD: Roger C. Entringer total amount: $75,000

2. "New problems in the theory of finite set systems", (1995–98) by the Hungarian National Science Fund under the contract T 016 358 my role: PD, co-PI: Péter L. Erdős total amount: HUF 1,480,000

3. "Extremal combinatorics", (1997–2000) by NSF under the contract DMS 9701211 my role: co-PD, co-PD: Jerrold Griggs total amount: $135,000

4. "On the analysis and interpretation of biological sequence data", (2000), by the South Carolina Commission on Higher Education, my role: co-PI, PD: A. Hughes. total amount applied for: $170,000 (approved with reduced budget),

5. "Combinatorics and its applications", (2000–2003) by NSF under the contract DMS 0072187 my role: co-PD, co-PD: Jerrold Griggs total amount: $165,000.

6. "Computational improvements in statistical genomics through the use of novel hardware and parallelized software" (2002) by USC (Focal Points of Excellence) my role: co-PD, co-PDs: Peter Waddell and Duncan Buell total amount: $58,108

7. Visiting Fellow at the National Center of Biotechnology Information (NCBI/NLM/NIH) (2002–03, ten months) by the Oak Ridge Institute for Science and Education total amount: $34,000

8. "Combinatorics with Applications" (2003–2006) by NSF under contract number 0302307, my role: co-PD, co-PD: Jerrold Griggs total amount: $210,000

9. "Phylogenetic Analysis with Complex Genome Rearrangement Events" (2006–2009) by NIH NIGMS under contract number 1 R01 GM078991-01 co-I, PI: Jijun Tang, co-I: Todd Vision total amount: $639,000

10. "Extremal and Probabilistic Combinatorics" (2007–2010) by NSF under contract DMS 070 1111 my role: PI, co-PI: Lincoln Lu total amount: $104,118

11. Support from SIAM to organize the 33rd annual SIAM-SEAS conference in Columbia, SC, April 4–5, 2009 $4,180

12. Administrative Supplement: "Phylogenetic Analysis with Complex Genome Rearrangement Events" (2009–10) by NIH NIGMS under contract number 3 R01 GM078991-03S1 my role: co-I, PI: Jijun Tang, co-I's: Eva Czabarka and Todd Vision total amount: $89,000

13. "Extremal and Probabilistic Combinatorics II" (2010–2013) by NSF under contract DMS 1000475 my role: PI, co-PI: Lincoln Lu total amount: $184,500

14. Support from the Banff International Research Station to co-organize a 20-participant workshop "Crossing numbers turn useful" with G. Salazar and D. Archdeacon, August 21-26 2011, Banff

15. "Ensemble-Based Modeling of Large Graphs and Its Applications to Social Networks' (2012–2016) by DARPA-AFOSR, PI: Z. Toroczkai (Notre Dame) $ 2.4 million, my role: PI of USC subcontract for Phase I of direct cost $ 145,000 (co-PI: Eva Czabarka)

16. "Summer School in Network Science at USC" , (2012–2013), USC Provost's Office, PI: Laszlo Szekely, co-PIs Qi Wang, Linyuan Lu, 03/12-06/13, $ 21,940

17. "Fast Convergent Markov Chains for Graph Sampling" (2013) USC Provost's SPARC grant, $ 5,000, my role: PI, co-PI Heather Smith (to support Heather Smith's one-month research trip to the Renyi Institute, Budapest, Hungary)

18. Extremal and Probabilistic Combinatorics with Applications (2013–2016) by NSF under contract DMS 1300547 PI, co-PI: Lincoln Lu total amount: $184,000

19. "Ensemble-Based Modeling of Large Graphs and Its Applications to Social Networks" (2012–2016) by DARPA-AFOSR, PI: Z. Toroczkai (Notre Dame) $ 2.4 million, my role: PI of USC subcontract for Phase II of direct cost $ 98,500 (co-PI: Eva Czabarka)

20. "Chemical Graph Theory in Croatia" (2015) USC VP Research SPARC grant, $ 5,000, my role: PI, co-PI Taylor Short (to support Taylor Short's one-month research trip to Croatia)

21. "Internationalisation a pillar of development of the University of Maribor", supported by the EU and the Government of Slovenia (2014–2017), PI: D. Bokal, my role: foreign collaborator

22. "Extremal and Probabilistic Combinatorics with Applications II" (2016–2019) by NSF under contract DMS 1600811 PI, co-PI: Lincoln Lu total amount: $180,000

23. AMS funding of a 40-participant Mathematics Research Communities workshop, June 2017, Snowbird, Utah "Beyond planarity: crossing numbers of graphs" (PIs: Éva Czabarka, Silvia Fernandez-Merchant, Gelasio Salazar, Marcus Schaefer, László Székely)

EDITORSHIP:

1. Editorial board member of the journal *Combinatorica*, Springer, since 1987, managing editor till 1995

2. Guest co-editor of the special issue XXXV A (1993) of *Ars Combinatoria*

3. Co-editor of the volume *Graph Theory and Combinatorial Biology*, Bolyai Society Mathematical Studies **7**, Budapest, 1999.

4. Guest co-editor of the special issue vol. 28, no 4, Dec 2002 of *Discrete and Computational Geometry* based on selected papers presented at the special session "Discrete and Computational Geometry and Graph Drawing" at the # 963 Sectional Meeting of the American Mathematical Society, in Columbia SC, 2001

5. Editorial board member of the journal *SIAM Journal on Discrete Mathematics*, since 2003

6. Editorial board member of the journal *Central European J. Mathematics*, De Gruyter, 2009–2014 (the editorial board resigned in 2014)

7. Editorial board member of the journal *International J. Combinatorics*, Hindawi, since 2009

8. Editorial board member of the journal *Pure Mathematical Sciences*, Hikari Publishers, since 2012

9. Editorial board member of the journal *European J. Mathematics*, Springer, since 2014

CONFERENCE ORGANIZATION:

1. Organized a session on "Mathematical Methods in Molecular Biology" at the International Conference on Combinatorics and Graph Theory held at Balatonlelle, 1996

2. Organized the poster session of the conference "Paul Erdős and His Mathematics" held at Budapest, 1999

3. Co-organizer of a special session on "Discrete and Computational Geometry and Graph Drawing" at the # 963 Sectional Meeting of the American Mathematical Society, Columbia SC, March 2001.

4. Member of the organizing committee of the NSF/CBMS Regional Research Conference in Mathematical Sciences on Geometric Graph Theory, 2002, University of North Texas, Denton TX

5. Co-organizer of an invited double minisymposium at the SIAM Conference on Discrete Mathematics Nashville, June 2004

6. Member of the program committee of the 12th International Symposium on Graph Drawing, New York City, September 29–October 2, 2004

7. Member of the organizing committee of the SIAM Conference on Discrete Mathematics, June 25–28, 2006, Vancouver, BC, Canada (this is the major biannual conference of the field)

8. Co-organizer of the "Ondrej Sykora Memorial Theory Day" at Loughborough University, England, June 2006

9. Co-organizer of a Special Session on "Algebraic and Extremal Combinatorics" at the AMS Southeastern Sectional Meeting, March 2007, Davidson College, NC

10. Member of the organizing committee of the "Mini-Conference on Applied Combinatorics with emphasis on Search Theory" at Columbia SC, October 2007

11. Member of the Scientific Committee of "Fifth International Conference of Applied Mathematics and Computing" Plovdiv, Bulgaria, August 12–18, 2008

12. Invited minisymposium organizer at the SIAM 2008 Conference on Discrete Mathematics, June 2008, Burlington, Vermont

13. Chair of the Organizing Committee of the 33rd SIAM Southeastern-Atlantic Section Conference April 4–5 2009, University of South Carolina

14. Co-organizer of a Special Session on "Applied Combinatorics" at the AMS #1068 Southeastern Sectional Meeting, Georgia Southern University, Statesboro, GA, March 12–13, 2011.

15. Co-organizer of a 20-participant workshop "Crossing numbers turn useful" with G. Salazar and D. Archdeacon, August 21-26 2011, Banff International Research Station

16. Co-organizer of a Special Session on "Graphs, Hypergraphs, and Counting" at the # 1091 AMS Sectional Meeting, Ames, Iowa, April 2013 (with Éva Czabarka)

17. Chair of the organizing committee of the "Network Science Summer School at USC", May 20–31, 2013

18. Co-organizer of a minisymposium at the biannual SIAM Discrete Mathematics Conference, June 2014, Minneapolis "Modeling networks under exact and soft constraints" (with Éva Czabarka)

19. Co-organizer of a minisymposium at the biannual SIAM Discrete Mathematics Conference, June 2016, Atlanta "Structures in trees" (with Éva Czabarka)

20. Co-organizer of a 40-participant Mathematics Research Communities workshop, June 2017, Snowbird, Utah "Beyond planarity: crossing numbers of graphs" (with Éva Czabarka, Silvia Fernandez-Merchant, Gelasio Salazar, Marcus Schaefer)

MEMBERSHIP:

- American Mathematical Society
- János Bolyai Mathematical Society
- Fellow of the Institute of Combinatorics and its Applications
- Society for Industrial and Applied Mathematics

SERVICES TO SCIENCE:

- Wrote 29 book reviews
- Reviewed more than 400 papers for Zentralblatt
- Reviewed grant proposals for NSF (3), NSA (24), NSERC (Canada) (2), OTKA (Hungarian NSF) (4), NKFI (Hungarian NSF) (1), Israeli NSF (2), FWF (Austrian NSF) (2, and also participated three times in panels in Vienna), Louisiana Board of Regents (1), European Research Council (1), National Research Foundation, South Africa (1)
- Worked on Thompson–Reuter's world education ranking survey (2010)
- Worked on National Research Council doctoral program ranking survey (2008)
- Pre-publication evaluation of book manuscripts for publishers (Polygon, 1997), (Kluwer, 1998), (Prentice Hall, 2002)
- Referees about 5–10 papers per year
- Advisor to the Political Secretary of Culture and Education in Hungary on issues of higher education and legislation in this area (1996)

MAJOR SERVICES TO INSTITUTION:

- Director of the Institute of Mathematics I at Eötvös University 1994–96
- Member of Dean's Council at Eötvös University 1994–96
- Undergraduate advisor at USC 1996–2002, 2003–05
- Member of the departmental Undergraduate Advisory Council 1997–2002
- Member of the departmental Post-Tenure Review Committee 2003–05, 2012–13, Chair in 2013–14
- Member of the departmental T, F1 or F2 Peer Review of Teaching Committee regularly
- Member or chair of 3-member subcommittees of the Committee of Tenured Faculty or of the Committee of Tenured Full Professors (drafting teaching letters for T&P and third-year review cases) regularly
- Designated mentor of a tenure-track and several visiting faculty members
- Member of the Highschool Mathematics Contest Committee at USC 1996–2000
- Volunteering regularly at the Highschool Mathematics Contest as proctor and/or judge
- Colloquium chair at the mathematics department 1997–98
- Faculty Senator at USC 2001–02
- Monitoring the SIGSCE discussion group on the content and form of a discrete mathematics course for computer science majors
- Interim Director of the Industrial Mathematics Institute of the University of South Carolina 2005–07
- Member of the Faculty of Excellence Initiative hiring committee on bioinformatics 2006–08
- Member of the Faculty of Excellence Initiative hiring committee on computational nanoscience 2006–08
- Co-authored a Faculty Replenishment Initiative proposal "New Cluster in Complex Network Systems at USC", a joint proposal involving mathematics, physics, and mechanical engineering (2011, not funded)
- Member of the Russell Research Award in Sciences, Mathematics and Engineering Committee 2007–10, chair in 2008–09
- Member of the Provost's General Education (Quantitative Requirement) committee, 2006–07
- Ex Officio Member of the Executive Committee of the Industrial Mathematics Institute, 2005–07
- Ex Officio Member of the Self-Study Committee of the Industrial Mathematics Institute, 2005–07
- Member of Director Search Committees for the Industrial Mathematics Institute 2003–07, chair in 2007
- Member of the Executive Committee of the Interdisciplinary Mathematics Institute, 2011–, chair 2012–
- Member of the departmental Grant Mentoring Committee 2007–10

- Member of the departmental chair search committee, 2008
- PME and Gamecock Math Club faculty advisor (treasurer), 2008–10
- Chair of the Tenured Faculty in Mathematics, 2009–10
- Member of the departmental algebra search committee, 2011–12
- Ran for the position of Department Chair, making a tie, 2011
- Ran the Combinatorics Seminar at USC for several years
- Regular visits to classes of graduate teaching assistants
- Writing recommendation letters for undergraduate and graduate students, job applicants, and writing external letters for T&P cases at other universities regularly
- Attracted a number of visitors and speakers to USC, some of them multiple times (Béla Bajnok, Drago Bokal, Miklós Bóna, Steve Butler, Dominique de Caen, Peter Dankelmann, Roger Entringer, Péter Erdős, Ervin Győri, Gábor Hetyei, Paul Kainen, András Lukács, Ákos Magyar, Ryan Martin, Johann Makowsky, Paul Mezey, István Miklós, Gyula Károlyi, Gyula Katona, Balázs Patkós, Andrei Raigorodskii, Kayvan Sadeghi, Farhad Shahrokhi, Nándor Simányi, Despina Stasi, Mike Steel, Ondrej Sýkora, Zoltán Toroczkai, Baogang Xu, Tandy Warnow, Stephan Wagner, Hua Wang, etc.)

List of publications of

L. A. Székely

August 20, 2016

BOOKS

1. D. E. Knuth: A számítógép-programozás művészete (translation of part of *The Art of Computer Programming*, Vol. 1), Műszaki Könyvkiadó, Budapest, 1988 (first edition); Budapest, 1994 (second edition).

2. *Graph Theory and Combinatorial Biology*, L. Lovász, A. Gyárfás, G. Katona, A. Recski and L. Székely, eds., Bolyai Society Mathematical Studies **7**, J. Bolyai Mathematical Society, Budapest, 1999.

PAPERS

2016

1./ H. Smith, L.A. Székely, Hua Wang, Shuai Yuan, On different "middle parts" of a tree, in preparation.

2./ É. Czabarka, K. Sadeghi, J. Rauh, T. Short, L. A. Székely, On the number of non-zero elements in a Joint Degree Vector, submitted, arXiv:1511.01035.

3./ Linyuan Lu and L. A. Székely, A new asymptotic enumeration technique: the Lovász Local Lemma, submitted to *J. Comb. Theory* Ser. A arXiv:0905.3983

4./ É. Czabarka, L. A. Székely, T.J. Vision, Minimizing the number of gene duplication episodes and Gallai's theorem on intervals, arXiv:1209.5699.

5./ É. Czabarka, L. A. Székely, S. Wagner, Inducibility in binary trees and crossings in tanglegrams, submitted, arXiv:1601.07149.

6./ É. Czabarka, L. A. Székely, S. Wagner, Path vs. stars in the local profile of trees, arxiv:1512.06526

7./ É. Czabarka, L. A. Székely, S. Wagner, On the number of non-isomorphic subtrees of a tree, submitted, arXiv:1601.00944

8./ J. Pach, L.A. Székely, Cs.D. Tóth, G. Tóth, Note on k-planar crossing numbers, to appear in *Computational Geometry: Theory and Applications* Special Issue in Memoriam Ferran Hurtado.

9./ H. Smith, L.A. Székely, Hua Wang, Eccentricity sums in trees, *Discrete Applied Math.* **207**(2016), 120–131.

10./ L. A. Székely, Turán's Brick Factory Problem: the Status of the Conjectures of Zarankiewicz and Hill, in: Graph Theory—Favorite Conjectures and Open Problems -1, eds. R. Gera, S. Hedetniemi, C. Larson, Problem Books in Mathematics series, Springer-Verlag, 2016.

11./ L.A. Székely, S. Wagner, Hua Wang, Problems related to graph indices in trees, in: Recent Trends in Combinatorics, eds. A. Beveridge, J.R. Griggs, L. Hogben, G. Musiker, P. Tetali, The IMA Volumes in Mathematics and Applications **159**, Springer-Verlag, 2016, 3–31.

2015

12./ É. Czabarka, A. Dutle, T. Johnston, L. A. Székely, Abelian groups yield many large families for the diamond problem, *Europ. J. Math.* **1**(2) (2015) 320–328.

2014

13./ L. A. Székely, Hua Wang, Extremal values of ratios: distance problems vs. subtree problems in trees II, *Discrete Math.* **322** (2014), 36–47.

14./ H.C. Smith, L.A. Székely, Some remarks on Baranyai's theorem, *Congr. Num.* **222** (2014), 43–55.

15./ F. Molnár Jr., N. Derzsy, É. Czabarka, L. A. Székely, B. K. Szymanski, G. Korniss, Dominating scale-free networks using generalized probabilistic methods, *Scientific Reports* (2014) 4:6308 DOI: 10.1038/srep06308

2013

16./ Linyuan Lu, A. Mohr, L. A. Székely, Connected balanced subgraphs in random regular multigraphs under the configuration model, *J. Comb. Math. Comb. Comput.* **86** (2013), 111–123.

17./ L. A. Székely, Hua Wang, Extremal values of ratios: distance problems vs. subtree problems in trees, *Electronic J. Combinatorics* **20**(1)(2013) #P67, pp. 1–20.

18./ H. Aydinian, É. Czabarka, L. A. Székely, Mixed orthogonal arrays, k-dimensional M-part Sperner multi-familes and full multi-transversals, in: *Information Theory, Combinatorics, and Search Theory (in Memory of Rudolph Ahlswede)*, eds. H. Aydinian, F. Cicalese, C. Deppe, Lecture Notes in Computer Science **7777**, 2013, Springer-Verlag, 371–401.

19./ É. Czabarka, M. Marsili, L. A. Székely, Threshold functions for distinct parts: revisiting Erdős–Lehner, in: *Information Theory, Combinatorics, and Search Theory (in Memory of Rudolph Ahlswede)*, eds. H. Aydinian, F. Cicalese, C. Deppe, Lecture Notes in Computer Science **7777**, 2013, Springer-Verlag, 463–471.

20./ Linyuan Lu, A. Mohr, L. A. Székely, Quest for negative dependency graphs, *Recent advances in harmonic analysis and applications (in honor of Konstantin Oskolkov)* eds. D. Bilyk, L. de Carli, A.M. Stokolos, A. Pethukov, B.D. Wick, Springer Proceedings in Mathematics & Statistics, Vol. 25, 2013, 243–258.

2012

21./ Cs. Bíró, É. Czabarka, P. Dankelmann, L. A. Székely, Two remarks on the domination number of graphs, *Bull. I.C.A.* **64** (2012), 73–82.

2011

22./ É. Czabarka, P. L. Erdős, V. Johnson, A. Kupczok, L. A. Székely, Asymptotically normal distribution of some tree families relevant for phylogenetics and of partitions without singletons, *Moscow J. Number Theory and Combinatorics* **1**(3)(2011) 12–24 [220–232].

23./ H. Aydinian, É. Czabarka, P. L. Erdős, L. A. Székely, A tour of M-part L-Sperner families, *J. Comb Theory* Ser A. **118** (2011) 702–725.

24./ L. A. Székely, Hua Wang, and Taoyang Wu, The sum of distances between the leaves of a tree and the 'semi-regular' property, *Discrete Math.* **311** (2011), 1197–1203.

2010

25./ H. Aydinian, É. Czabarka, K. Engel, P. L. Erdős, L. A. Székely, A note on full transversals and mixed orthogonal arrays, *Australasian J. Comb.* **48**(2010), 133–141.

26./ D. Bokal, E. Czabarka, L. A. Székely, and I. Vrťo, General lower bounds for the minor crossing numbers of graphs, *Discrete and Computational Geometry* **44**(2010), 463–483.

2009

27./ M. A. Steel and L. A. Székely, Inverting random functions III: discrete MLE revisited, *Annals Comb.* **13** (2009) 373–390.

28./ M. A. Steel, L. A. Székely, An improved bound on the Maximum Agreement Subtree problem, *Appl. Math. Letters* **22** (2009) 1778–1780.

29./ Hyunju Kim, Z. Toroczkai, I. Miklós, P. L. Erdős, L. A. Székely, Degree based graph construction, *Phys. Lett. A Math. Theor.* **42** (2009) 392001.

30./ É. Czabarka, L. A. Székely, S. Wagner, The inverse problem for certain tree parameters, *Discrete Applied Math.* **157**(15)(2009), 3314–3319.

31./ É. Czabarka, P. Dankelmann, L. A. Székely, Diameter of 4-colorable graphs, *Europ. J. Comb.* **30** (2009) 1082–1089.

32./ M. A. Steel, L. A. Székely, E. Mossel, Phylogenetic information complexity: is testing a tree easier than finding it? *J. Theor. Biology* **25** (2009) 95–102.

33./ L. A. Székely, Yiting Yang, On the expectation and variance of the reversal distance, *Acta Univ. Sapientiae, Mathematica* **1** (2009) (1) 5–20.

2008

34./ É. Czabarka, O. Sýkora, L. A. Székely and I. Vrťo, Biplanar crossing numbers II: comparing crossing numbers and biplanar crossing numbers using the probabilistic method, *Random Structures and Algorithms* **33** (2008) 480–496.

35./ L. A. Székely, An optimality criterion for the crossing number, *Ars Mathematica Contemporena* **1**(2008), 32–37.

36./ A. Sali and L. A. Székely, On the existence of Armstrong instances with bounded domains, Foundations of Information and Knowledge Systems (FoIKS 2008), Lecture Notes in Computer Science Vol. 4932, pp. 151–157, 2008, Springer-Verlag.

37./ L. A. Székely, Hua Wang, and Yong Zhang, Erratum to "Some non-existence results on Leech trees", *Bull. Inst. Comb. Appl.* **52** (2008) pp.6.

2007

38./ M. A. Steel and L. A. Székely, Teasing apart two trees, *Combinatorics, Probability, and Computing* **16** (2007) (6) 903–922.

39./ Linyuan Lu and L. A. Székely, Using Lovász Local Lemma in the space of random injections, *Electronic J. Comb.* **14** (2007) R63, pp. 13.

40./ A. Sali and L. A. Székely, $SPT(q, k, n)$-codes,
Electronic Notes in Discrete Mathematics **29** 2007, 403–409.

41./ F. Shahrokhi, O. Sýkora, L. A. Székely and I. Vrťo, k-planar crossing numbers, *Discrete Appl. Math.* **155** (2007), 1106–1115.

42./ D. Bokal, É. Czabarka, L. A. Székely, and I. Vrťo, Graph minors and the crossing number of graphs, *Electronic Notes in Discrete Math.* **28** (2007) 169–175.

2006

43./ L. A. Székely and Hua Wang, Binary trees with the largest number of subtrees, *Discrete Appl. Math.* **155** (3) 2006, 374–385.

44./ M. A. Steel and L. A. Székely, On the variational distance of two trees, *Annals Appl. Prob.* **16** (3) (2006), 1563–1575.

45./ É. Czabarka, O. Sýkora, L. A. Székely and I. Vrťo, Crossing numbers and biplanar crossing numbers I: a survey of problems and results, *More Sets, Graphs and Numbers*, eds. E. Győri, G. O. H. Katona, and L. Lovász, Bolyai Society Mathematical Studies **15**, Springer Verlag, 2006, 57–77.

2005

46./ L. A. Székely and Hua Wang, Binary trees with the largest number of subtrees with at least one leaf, 36th Southeastern International Conference on Combinatorics, Graph Theory, and Computing. *Congr. Numer.* **177** (2005), 147–169.

47./ L. A. Székely and Hua Wang, On subtrees of trees, *Adv. Appl. Math.* **34** (2005), 138–155.

48./ L. A. Székely, Progress on crossing number problems, *SOFSEM 2005: Theory and Practice of Computer Science: 31st Conference on Current Trends in Theory and Practice of Computer Science Liptovský Ján, Slovakia, January 22-28, 2005.* Editors: P. Vojtás, M. Bieliková, B. Charron-Bost, et al. Lecture Notes in Computer Science Vol. 3381, 2005, Springer-Verlag, 53–61.

49./ P. L. Erdős, Á. Seress and L. A. Székely, Non-trivial t-intersection in the function lattice, *Annals of Combinatorics* **9** (2005), 177–187.

50./ L. A. Székely, Hua Wang, and Yong Zhang, Some non-existence results on Leech trees, *Bull. Inst. Comb. Appl.* **44** (2005), 37–45. **52** (2008).

2004

51./ L. A. Székely, Short proof for a theorem of Pach, Spencer, and Tóth, in: *Towards a Theory of Geometric Graphs*, ed. J. Pach, *Contemporary Mathematics* **342**, Amer. Math. Soc. 2004, 281–283.

52./ F. Shahrokhi, O. Sýkora, L. A. Székely and I. Vrťo, The gap between the crossing number and the convex crossing number, in: *Towards a Theory of Geometric Graphs*, ed. J. Pach, *Contemporary Mathematics* **342**, Amer. Math. Soc. 2004, 249–258.

53./ F. Shahrokhi, O. Sýkora, L. A. Székely and I. Vrťo, Bounds and methods for k-planar crossing numbers, *Graph Drawing* 2004, Lecture Notes in Computer Science Vol. 2912, Springer Verlag, Berlin, 2004, 37–46.

54./ O. Sýkora, L. A. Székely and I. Vrťo, A note on Halton's conjecture, *Information Sciences* **164** (2004) (1-4) 61–64.

55./ L. A. Székely, Counting rooted spanning forests in complete multipartite graphs, *Ars Combinatoria* **73** (2004), 97–100.

56./ É. Czabarka, O. Sýkora, L. A. Székely and I. Vrťo, Outerplanar Crossing Numbers, Circular Arrangement Problem, and Isoperimetric Functions, *Electronic J. Combinatorics* **11** (1) (2004) R81 (20 pages).

57./ L. A. Székely, A successful concept for measuring non-planarity of graphs: the crossing number, *Discrete Math.* **276** (2004), 1–3, 331–352.

2003

58./ F. Shahrokhi, O. Sýkora, L. A. Székely and I. Vrťo, Bounds on convex crossing numbers, *COCOON* 2003, The Ninth International Computing and Combinatorics Conference, Lecture Notes in Computer Science vol. 2697, Springer Verlag, 2003 487–495.

2002

59./ M. Fischermann, A. Hoffmann, D. Rautenbach, L. Székely and L. Volkmann, Wiener index versus maximum degree in trees, *Discrete Appl. Math.* **122** (1-3) (2002) 127–137.

60./ O. Sýkora, L. A. Székely and I. Vrťo, Two counterexamples in graph drawing, Proc. *28th Intl. Workshop on Graph-Theoretic Concepts in Computer Science*, ed. L. Kucera, Lecture Notes in Computer Science Vol. 2573, Springer Verlag, Berlin, 2002, 389-396.

61./ I. B. Rogozin, K. S. Makarova, Y. I. Wolf, J. Murvai, E. Czabarka, L. A. Szekely, R. L. Tatusov, and E. V. Koonin, Connected gene neighborhoods in prokaryotic genomes, *Nucleic Acids Res.* **30** (10) (2002), 2212–2223.

62./ L. A. Székely, Erdős on unit distances and the Szemerédi-Trotter theorems, *Paul Erdős and his Mathematics II.*, eds. G. Halász, L. Lovász, M. Simonovits, and V. T. Sós, Bolyai Society Mathematical Studies **11**, János Bolyai Mathematical Society, Budapest, and Springer-Verlag, Berlin, 2002, 649–666.

63./ O. Sýkora, L. A. Székely and I. Vrťo, Fractional length and crossing numbers, in: *Graph Drawing 2002*, Lecture Notes in Computer Science Vol. 2528, Springer Verlag, Berlin, 2002, 186–192.

64./ L. A. Székely, Zarankiewicz crossing number conjecture, article in: Kluwer Encyclopaedia of Mathematics, Supplement III Managing Editor: M. Hazewinkel Kluwer Academic Publishers, 2002, 451–452.

65./ M. A. Steel and L. A. Székely, Inverting random functions II: explicit bounds for discrete maximum likelihood estimation, with applications, *SIAM J. Discrete Math.* **15** (4) (2002), 562–575.

2001

66./ F. Shahrokhi and L. A. Székely, Constructing integral uniform flows in symmetric networks and application to the forwarding index problem, *Discrete Applied Math.* **108** (2001), 175–191.

67./ R. Howard, G. Károlyi, and L. A. Székely, Towards a Katona type proof for the 2-intersecting Erdős-Ko-Rado theorem, *Electronic J. Combinatorics*, **8** (1) (2001), R31 (8 pages).

2000

68./ L. A. Székely, A successful concept for measuring non-planarity of graphs: the crossing number, in: *Electronic Notes in Discrete Mathematics* Vol. 5 `http://www.elsevier.nl/locate/endm` Elsevier, Amsterdam, 2000, 284–287.

69./ P. L. Erdős, and L. A. Székely, Erdős-Ko-Rado theorems of higher order, in: *Numbers, Information and Complexity*, Ingo Althöfer, Ning Cai, Günther Dueck, Levon Khachatrian, Mark S. Pinsker, András Sárközy, Ingo Wegener and Zhen Zhang (eds.), Kluwer Academic Publishers, 2000, 117–124.

70./ P. L. Erdős, Á. Seress and L. A. Székely, Erdős-Ko-Rado and Hilton-Milner type theorems for intersecting chains in posets, *Combinatorica* **20**(1) (2000) 27–45.

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1999

73./ M. A. Steel and L. A. Székely, Inverting random functions, *Annals of Combinatorics* **3** (1999), 103–113.

74./ P. L. Erdős, M. A. Steel, L. A. Székely, and T. J. Warnow, A few logs suffice to build (almost) all trees I, *Random Structures and Algorithms* **14**(1999)(2) 153–184.

75./ P. L. Erdős, M. A. Steel, L. A. Székely, and T. J. Warnow, A few logs suffice to build (almost) all trees II, *Theor. Comp. Sci.* **221** (1-2)(1999), 77–118.

1998

76./ F. Shahrokhi, O. Sýkora, L. A. Székely and I. Vrťo, Crossing numbers of $C_m \times C_n$ and other families of curves, *Discrete and Comp. Geometry* **19**(2)(1998), 237–248.

77./ P. L. Erdős, A. Frank, and L. A. Székely, Minimum multiway cuts in trees, *Discrete Appl. Math.* **87** (1998), 67–75.

78./ F. Shahrokhi and L. A. Székely Integral uniform flows in symmetric networks, *Graph-Theoretic Concepts in Computer Science (WG'98, Smolenice)*, J. Hromkovič and O. Sýkora eds., Lecture Notes in Computer Science 1517, Springer-Verlag, 1998, 272–284.

1997

79./ P. L. Erdős, Á. Seress and L. A. Székely, On intersecting chains in Boolean algebras, *Combinatorics, Geometry, and Probability. A tribute to Paul Erdős. Papers from the Conference in Honor of Erdős' 80th Birthday held at Trinity College, Cambridge, March 1993. Eds. B. Bollobás and A. Thomason, Partial reprinting of Combinatorics, Probability and Computing*, Cambridge University Press, Cambridge, 1997, 299–304. (reprint)

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82./ D. de Caen and L. A. Székely, On dense bipartite graphs of girth eight and upper bounds for certain configurations in planar point-line systems, *J. Combin. Theory* Ser. A. **77**(1997), 268–278.

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