Éva Czabarka
Resume

Address:	Department of Mathematics	**E-mail:**	czabarka@math.sc.edu
	University of South Carolina	**Work phone:**	+1 (803) 777-7524
	Columbia, SC 29208	**Homepage:**	`http://people.math.sc.edu/czabarka/`

Degrees:

1998   Ph.D. in Mathematics, University of South Carolina, Columbia.
Shifting Technique in Finite Vector Spaces. Thesis advisor: Jerrold Griggs.
1991   M.S. in Mathematics, József Attila University, Szeged, Hungary.
Bin Packing Algorithms. Thesis advisor: Gábor Galambos

Education (non-degree):

Fall 2003	Nonparametric Statistics course at the Foundation for Advanced Education in the Sciences Graduate School at the National Institutes of Health (NIH)
Oct 2001	Computational Genomics course at Cold Spring Harbor Laboratory, Cold Spring Harbor.
Fall 2000	Evolutionary Biology course at FAES Graduate School at NIH
1998-1999	M.S. studies in Statistics at the University of South Carolina, Columbia (coursework only).
1988-1990	Member of the Eötvös Kollégium (Honor's College) of József Attila University, Szeged, Hungary.

Work Experience:

2018–	Tenured Professor, Dept. of Math., University of South Carolina, Columbia, SC (USC)
2018–2021	Visiting Professor, Dept. of Math.and Applied Math. University of Johannesburg, Johannesburg, South Africa
2012–2017	Tenured Associate Professor, Dept. of Math., University of South Carolina, Columbia, SC
2006–2012	Tenure Track Assistant Professor, Dept. of Math., University of South Carolina, Columbia, SC
2004–2006	Tenure Track Assistant Professor, Dept. of Math., College of William & Mary, Williamsburg, VA
2001–2004	Research Fellow at the National Center for Biotechnology Information (NCBI), National Library of Medicine, National Institutes of Health, Bethesda, MD.
2000–2001	Visiting Fellow at NCBI, NLM, NIH, Bethesda, MD.
1991–2000	Graduate Teaching Assistant at the Department of Mathematics, U. of South Carolina, Columbia.
Aug 1996	Internship at Mosaic Computing Incorporated, Columbia, SC.

Editorial Board Member:

3) Indian Journal of Discrete Mathematics
2) Quaestiones Mathematicae
1) Theory and Applications of Graphs

Awards/Honors:

2020–2023	AMS Representative to the Delbert Ray Fulkerson Prize Selection Committee
2022 Fall	Thank a Teacher Certificate of Appreciation
2022 Spring	Thank-a-Teacher Campaign recognition
2016–2019	Student-nominated in each of four years for the Mungo Graduate Teaching Award
2008	Two Thumbs Up Award (student nominated award given by USC's Student Disability Services)
2002–2004	Performance Bonus Award in each of three years at NCBI
2002	Publication [4] (see list of publications) has been reviewed by Faculty of 1000 and received a rating of 6 (must read), has been reviewed in the September 30 issue of The Scientist.
2002	Publication [5] has been discussed in the December 23 issue of University of Utah News and Public Relations, in the December 24 issue of BBC News World Edition (Science/Nature), in the December 24 issue of Noticias (in Portuguese), in the December 27 issue of The Washington Times (page A3), in the December 30 issue of Washington Post (page A09, Science Notebook)

Grants, Fellowships:

External Funding Source:

11) 2020-21 Mathematics Research Communities Workshop: Trees in Many Contexts, co-PI, co-PIs: M. Bona (U. Florida), H.C. Smith (Davidson), S. Wagner (U. Stellenbosch), H. Wang (Georgia Southern); postponed to 2022

10) 2018 NSF-CBMS Conference on Additive Combinatorics from a Geometric Viewpoint, NSF, co-PI, PI: L.A. Székely (USC Math), co-PI: F. Thorne (USC Math)

9) 2018 Oct Crossing Numbers: Theory and Applications at Banff International Research Station (20-participant workshop) (co-organizers: G. Salazar and B. Mohar)

8) 2016-2017 Mathematics Research Communities Workshop: Beyond Planarity: Crossing Numbers of Graphs, co-PI, co-PIs: S. Fernández-Merchant(CSU Math), G. Salazar (San Luis Potosi, Math), M. Schaefer (DePaul Math), L.A. Székely (USC Math)

7) 2015 Twenty-Eighth Cumberland Conference on Combinatorics, Graph Theory and Computing, NSF, co-PI; PI: Linyuan Lu (USC Math)

6) 2015 Visiting professorship - Institute of Mathematics and Its Applications, University of Minnesota: Discrete Structures: Analysis and Application, University of Minnesota/NSF

5) 2014-2015 Ensemble-based Modeling of Large Graphs and Its Application to Social Networks, DARPA GRAPHS, Phase II (15 months) co-PI in the USC subcontract with L.A. Székely (USC Math), PI: Z. Toroczkai (UND Physics/CSE) (15 months) Other co-PI-s: K.E. Bassler (UH Math/Physics), N.V. Chawla (UND CSE), G. Korniss (RPI Physics)

4) 2014-2017 Internationalization — a Pillar of Development of the University of Maribor, European Union and the government of Slovenia, foreign collaborator, PI: Drago Bokal (Maribor, Slovenia)

3) 2012-2013 Ensemble-based Modeling of Large Graphs and Its Application to Social Networks, DARPA GRAPHS, Phase I (15 months) co-PI in the USC subcontract with L.A. Székely (USC Math), PI: Z. Toroczkai (UND Physics/CSE) Other co-PI-s: K.E. Bassler (UH Math/Physics), N.V. Chawla (UND CSE), P.L. Erdős (Rényi), G. Korniss (RPI Physics), I. Miklós (Rényi)

2) Hungarian Bioinformatics: Marie Curie Fellowships at the Rényi Institute of Mathematics of the Hungarian Academy of Sciences 2007-2010 (2 month in each summer, a total of 8 month)

1) Administrative Supplement: Phylogenetic Analysis with Complex Genome Rearrangement Events (2009-2010) by NIH NIGMS 3 R01 GM078991-03S1, co-I, PI: J. Tang (USC CSE), co-I's: L.A. Székely (USC Math) and T.J. Vision (UNC Biology)

Internal Funding Source: (Magellan and SPARC are for student support)

3) 2020 Summer-Fall Magellan Scholarship: Sydney Miyasaki: Biplanar Crossing Numbers of Complete Bipartite Graphs, internal proposal at University of South Carolina for research support of an undergraduate student

2) 2016-2017 SPARC Graduate Research Grant: Garner Paul Cochran: Diameter of Orientations of Graphs Given Minimum Degree and Girth, internal proposal at University of South Carolina to support a 3 month long collaborative research trip to South Africa

1) 2010-2011 Extremal combinatorics and biological applications of combinatorics: Promising Investigator Research Award, Track 1, Office of Research and Graduate Education, University of South Carolina

Travel grants to:

6) ICGNC 2023, India, by Faculty Travel Initiative of the Dean of CAS of USC

5) Crossing Number Workshop, Strobl, Austria, 2022 by Faculty Travel Initiative of the Dean of CAS of USC

4) JMM 2020, Jan 2020 by Faculty Travel Initiative of the Dean of CAS of USC

3) India, Dec 2018 by Global Carolina and by Faculty Travel Initiative of the Dean of CAS, USC

2) Babai is 60 Conference, Ohio State University, Columbus, Ohio, March 2010

1) Trotter is 65 Conference, Georgia Tech, Atlanta, May 2008

Invited and Supported Participant (Workshop/Conference/Special Program)

19) 2023 International Conference on Graphs, Networks and Combinatorics, Ramanujan College, University of Delhi, India, Jan 10-13 2023

18) Joint Mathematics Meetings of the AMS, Boston, Jan 4-7 2023

17) 2021 International Conference on Discrete Mathematics, annual conference of the Academy of Discrete Mathematics & Applications, India, Feb 8-11 2021

16) International Conference in Discrete Mathematics – 2018, National College (Autonomous),Tiruchirappalli, India, Dec 14-17, 2018

15) International Conference on Mathematical Modelling and Computations, Graph Theoretical Modelling special session, South Asian University, New Delhi, India, Dec 1-3 2018

14) Joint Mathematics Meetings of the AMS, MAA, San Diego CA, Jan 10-13 2018

13) 31st Clemson Mini-Conference on Discrete Mathematics and Algorithms, Clemson, SC, Oct 21 2016

12) International Conference on Current Trends in Graph Theory and Computation, South Asian University, New Delhi, India, Sept 17-19, 2016

11) A New Era of Discrete and Computational Geometry Monte Veritá, Ascona (invitation only conference at the Congressi Stefano Franscini conference center of ETH Zurich), Switzerland, June 26-July 1 2016

10) Intersectionfest (plenary speaker) Virginia Commonwealth University March 7-9, 2016

9) 29th Midwestern Conference on Combinatorics & Combinatorial Computing (plenary speaker) College of Charleston, Oct 17-19, 2015

8) Institute of Mathematics and Applications Special Year in Discrete Structures, University of Minnesota, Spring Semester 2015, including invited workshops

   - Convexity and Optimization: Theory and Applications February 23-27, 2015

   - Information Theory and Concentration Phenomena April 13-17, 2015

7) NSF-CBMS Conference on Mathematical Phylogenetics, Winthrop University, Rockhill, SC June 2014

6) Combinatorial Optimization Approaches to Graph Crossing Numbers, Maribor, Slovenia, June 2014

5) Exact Crossing Numbers Workshop, American Institute of Mathematics, Palo Alto, California, April 2014

4) Search Methodologies III Bielefeld, Germany, September 3-7, 2012

3) Mathematical Physics of Complex Networks: from Graph Theory to Biological Physics, Max-Planck-Institut für Physik komplexer Systeme, Dresden, Germany, May 2012

2) BIRS Workshop Crossing Numbers Turn Useful, Banff, Canada, August 21-26 2011

1) Hypergraph Turán Workshop, American Institute of Mathematics, Palo Alto, California, March 2011

Dates of Longer Research Visits without Employment:

Dec 2018	3 weeks in India, visiting South Asian University, Manonmaniyam Sundaranar University, Cochin University for Science and Technology, National College Tiruchirappalli
Aug-Oct 2017	3 months in South Africa, visiting the Universities of Johannesburg, Stellenbosch, Cape Town, Witwatersrand, and African Institute of Mathematical Sciences, Muizenberg
Dec 2014	1 month in South Africa, visiting the Universities of Johannesburg and Stellenbosch
May 2014	1 month at the Rényi Institute of Mathematics, Budapest, Hungary
March 2014	2 weeks at the Department of Mathematics, University of Florida, Gainsville, FL
Feb 2014	2 weeks at the Department of Physics, University of Houston, TX
Dec 2013	2 weeks in China (Tongji University in Shanghai, Zhejiang University in Hongzhu, Nanjing Normal University in Nanjing)
Aug-Nov 2013	3 months at the Interdisciplinary Center for Network Science & Applications, University of Notre Dame, IN
June 2013	40 days at the Rényi Institute of Mathematics, Budapest, Hungary
June 2011	2 weeks at the University of East Anglia, Norwich, and at the Isaac Newton Institute, University of Cambridge

Dec 2010	1 month at the Bioinformatics Research Centre, University of Canterbury, NZ
Sep-Nov 2010	3 months at the Institut für Diskrete Mathematik in Bonn, Germany
Dec 2007-Jan 2008	3 weeks in South Africa, University of Kwa-Zulu Natal and Stellenbosch University
May-June 2006	1 month at the Department of Computer Science, Loughborough University, UK
May-June 2005	1 month at the Department of Computer Science, Loughborough University, UK
May-June 2004	1 month at the Department of Computer Science, Loughborough University, UK

Teaching Experience:

Taught preparatory seminars for the National Teacher's Examination (NTE) at South Carolina State University; gave outreach talks (see talks for general audience). Has been cited by at least one graduate of the University of South Carolina as a teacher who significantly contributed to his/her success. Courses taught include: (M=math major course, P=math major prerequisite, H=honors course, G=graduate course, X=other)

- Basic College Mathematics (X)
- Precalculus Mathematics(X)
- Calculus for Business Adm. & Social Sciences (X)
- Finite Mathematics (X)
- Discrete Mathematics for Computer Science (X)
- Basic Concepts of Elementary Mathematics (X)
- Elementary Probability and Statistics (X)
- Advanced Applied Statistics (X)
- Calculus I (P)
- Vector Calculus (X)
- Differential Equations (X/H)
- Transition to Advanced Mathematics (P/H)
- Foundations of Mathematics (M)

- Linear Algebra (M/H)
- Discrete Mathematics (M/H)
- Discrete Mathematics II (M/H)
- Abstract Algebra (M)
- Senior Thesis Project (H)
- Directed Readings and Research (G)
- Thesis Preparation (G)
- Dissertation Preparation (G)
- Discrete Geometry (G)
- Discrete Mathematics I (G)
- Discrete Mathematics II (G)
- Graph Theory I (G)
- Graph Theory II (G)

Work with Students and Postdoctoral Researchers:

Postdoctoral Advisees:

- Aaron Dutle, 2012-2014 (co-advising with L.A. Székely), Research Computer Scientist at the Safety-Critical Avionics Systems Branch of Langley Research Center, NASA, 2018 recipient of Early Career Achievement Medal at NASA .

Ph.D. students (dissertation advisor):

- Alec Helm, current, co-advising with L.A. Székely

- Stephen J. Smith, May 2022, co-advising with L.A. Székely, *Results on select Combinatorial Problems with an Extremal Nature*, recipient of 2019 Outstanding First Year Graduate Student Award, the College of Arts & Sciences Graduate Stipend Enhancement Award Fall 2018 -Spring 2022, and 2022 Breakthrough Graduate Scholars Award

- Trevor Olsen, May 2020, co-advising with L.A. Székely, *Distance Related Graph Invariants in Triangulations and Quadrangulations of the Sphere*, Computer Science Ph.D. from USC Dec 2021, Senior Data Scientist at Freddie Mac.

- Inne Singgih, May 2020, co-advising with L.A. Székely, recipient of 2016 Outstanding First Year ACM Graduate Student Award, first place at SIAM's 2017 "Math Matters, Apply It!" contest, 2020 Outstanding Graduate Student Instructor, *Diameter of 3-colorable Graphs and Some Remarks on the Midrange Crossing Constant*, Assistant Professor Educator University of Cincinnati, OH.

- Josiah Reiswig, May 2019, co-advising with L.A. Székely, *A few problems on the Steiner distance and crossing number of graphs*, tenure track Assistant Professor at the Department of Mathematics, Anderson University, SC.

- Garner Cochran, May 2018, *Quick Trips: On the Oriented Diameter of Graphs*, recipient of 2016-2017 SPARC Graduate Research Grant, 2018 Project NExT Fellow, tenure track Assistant Professor at Berry College, GA

- Virginia Johnson, Aug 2012 *Enumeration Results on Leaf-Labeled Trees*, Outstanding Graduate Teaching Assistant Award for 2009-2010, retired as Associate Professor of Mathematics and Program Chair at Columbia College, SC, recipient of Columbia College Faculty Excellence Award in 2017.

M.S. students (thesis advisor):

- Drew Scalzo, May 2022, *Tangled up in Tanglegrams*, Operations Partner at Chick-fil-A inc. Atlanta, GA
- Joe Hidakatsu, May 2016, *Structure of the Stable Marriage and Stable Roommate Problems and Applications*, Software Developer at SIVENTH, Japan
- Clifford Gaddy, Aug 2013, *Spectral Analysis of Randomly Generated Networks with Prescribed Degree Sequences*, M.D. from the School of Medicine at Tulane University, Residency at USA Health Children's & Women's Hospital, Mobil, AL.
- Kevin Hathcock, Aug 2012 *Phylogenetic Tree Inferences Using Quartet Splits*, instructor at Davidson-Davie Community College, Thomasville, NC.
- Tatiana Orlova, Aug 2010, *Mathematical Models, Algorithms and Statistics of Sequence Alignment*, Ph.D. in computer science from the University of Chicago, Chief Data Scientist and co-owner, Amper Technologies, Inc.
- Charles Cavalier, Aug 2009, *Graceful Labelings*, M.S. in Information Systems and Decision Sciences at E.J. Ourso College of Business, Lousiana State University, Manager of Consulting, Analytics at the SAS institute.
- Ivan Haynes, Dec 2008, *Analysis of generalized Sudoku puzzles: A mixture of discrete techniques*, was instructor at the University of South Carolina.

Undergraduate students (thesis advisor):

- Sydney Miyasaki, May 2021, *Biplanar Crossing Numbers of Bipartite Graphs*, honors thesis and BS with distinction, recipient of 2020-2021 Magellan Scholarship, Ph.D. student in mathematics at Iowa State University.

Other

- Advisement of M.A. student Konrad Swygert
- Ph.D. committee member for USC computer science students Hatim Alsuwat, Annamaria Kish, Trevor Olsen.
- Comprehensive Exam/PhD committee member for USC math Ph.D. students Edward Bohnlein, Gregory Clark, Aaron Dutle, Grant Fickes, Joshua Grice, Tommy Luckner, Xing Peng, Danny Rorabaugh, Paisa Seeulangsawat, Taylor Short, Heather Smith, Anton Strizhov, Zhiyu Wang, Hays Whitlatch, Duncan Wright.
- Outside committee member and PhD dissertation evaluator of Beáta Bényi at University of Szeged, Hungary, Valisoa Razanajatovo Misanantenaina at University of Stellenbosch, South Africa, Debarun Ghosh Central European University, Stijn Cambie Radboud University The Netherlands
- Student research prize evaluator for M.S. student András Mészáros at Eötvös Lóránd University, Budapest
- M.S. defense exam committee member/reader for USC computer science student Thorben Primke, math student Michael Levet
- Second reader for USC undergraduate theses: Hunter Damron (distinction), Dylan Fillmore (honors), Lauren Seidl (honors), Jeffrey Russel (honors)
- Research during visits with: 2018: A.A.V. Dossou-Olory (math PhD student at Stellenbosch University); 2017: Shanise Walker (math PhD student at Iowa State University); 2016-17: Johannes Rauh (postdoc Max Planck Institute, Kayvan Sadeghi (postdoc Carnegie Mellon and Cambridge); 2002-04: Hongmei He, (computer science Ph.D. student at Loughborough University UK); 2007: William Arndt (computer science Ph.D. student at USC), Suja Thomas (biology Ph.D. student at UNC), Jixin Deng (biology postdoc at UNC); 2008 at Rényi Institute of Mathematics, Hungary: postdocs Taoyang Wu and Balchandra Thatte, and Ph.D. student/Fulbright visitor Ameera Chaudury
- Research at MRC conference (2016-17) with: Undergraduate Libby Taylor (Georgia Tech); PhD students: Shulian Bang, Gregory Clark, Zhiyu, Wang, Hays Whitlatch (USC math), Natalie Hobson (U. of Georgia); Postdoctoral researchers: Jephian C.-H. Lin (U. of Victoria), Fidel Barrera-Cruz, Heather Smith (Georgia Tech)
- Research at MRC conference (2022-23) with: PhD students: Ann Clifton (Lousiana Tech), Kevin Liu (u. Wisconsin), Utku Okur (USC math)
- Undergraduate research with: (through a USC based REU experience, led by Ph.D. student Virginia Johnson under my supervision) Shanequa Roy (USC) and Fabian Maple (Morris College); Hakan Seyalioglu (William & Mary)

Publications:

56) É. Czabarka, S.J. Smith, L.A. Székely, Maximum diameter of 3 and 4-colorable graphs, *Journal of Graph Theory* Vol 102, Issue 2, 201-417 (2023)

55) É. Czabarka, T.V. Olsen, S.J. Smith, L.A. Székely, Minimum Wiener index in triangulations and quadrangulations, *Discrete Applied Mathematics*, Vol. 322, 295-310 (2022)

54) É. Czabarka, S.J. Smith, L.A. Székely, An infinite antichain of planar tanglegrams, *Order* Vol. 39, issue 1, 45-54, April 2022

53) É. Czabarka, P. Dankelmann, T.V. Olsen, L.A. Székely, Proximity in triangulations and quadrangulations, *Electronic Journal of Graph Theory and Applications*, Vol.10, no 2, 425–445, (2022)

52) H. Smith Blake, M Bóna, É. Czabarka, S. Wagner, Hua Wang, Trees in many contexts, *Notices of the AMS*, Vol. 69, Number 2, Feb. 2022, 284–286

51) É. Czabarka, L.A. Székely, Z. Toroczkai, S. Walker, An algebraic Monte-Carlo algorithm for the Partition Adjacency Matrix realization problem, *Algebraic Statistics* 12-2 (2021), 115–124. DOI 10.2140/astat.2021.12.115

50) É. Czabarka, J. Reiswig, L.A. Székely, The Steiner distance problem for large subsets in the hypercube, *Bulletin of the ICA* Vol. 93 119–125 (2021)

49) É Czabarka, I. Singgih, L.A. Székely, On the diameter of k-colorable graphs, *Electronic Journal of Combinatorics*, Vol 28, Issue 3, P3.52 (2021)

48) É Czabarka, I. Singgih, L.A. Székely, Counterexamples to a conjecture of Erdős, Pach, Pollack and Tuza, *Journal of Combinatorial Theory, B* Vol. 151, 38-45. (2021)

47) É. Czabarka, P. Dankelmann, T.V. Olsen, L.A. Székely, Wiener index and remoteness in triangulations and quadrangulations, *Discrete Mathematics & Theoretical Computer Science*, vol.23, No 1, (30 pages) March 8, 2021

46) G. Cochran, É. Czabarka, P. Dankelmann, L.A. Székely, A size condition for diameter two orientability of graphs, *Graphs and Combinatorics* 37, pages 527–544 (2021)

45) É. Czabarka, I. Singgih, L.A. Székely, Zhiyu Wang, Some remarks on the midrange crossing constant, *Studia Math. Sci. Hung.* Vol. 57, Issue 2, 187-192 (2020)

44) É. Czabarka, A.A.V. Dossou-Olory, L.A. Székely, S. Wagner, Inducibility of d-ary trees, *Discrete Mathematics* Vol. 343, Issue 2, February 2020, Article 111671

43) É. Czabarka, J. Reiswig, L.A. Székely, Zhiyu Wang, Midrange crossing numbers of graph classes, *Indian Journal of Discrete Math.*, Vol 5, Issue 1, 23-35 (2019)

42) J. Asplund, G. Clark, G. Cochran, É. Czabarka, A. Hamm, G. Spencer, L.A. Székely, Libby Taylor, Zhiyu Wang, Using Block Designs in Crossing Number Bounds , *Journal of Combinatorial Designs* Volume 27, Issue 10, 586-597 (2019)

41) É. Czabarka, P. Dankelmann L.A. Székely, A degree condition for diameter two orientable graphs, *Discrete Mathematics*, Vol. 342, Issue 4, 1063-1065 (2019)

40) É. Czabarka, Zhiyu Wang, Erdős-Szekeres theorem for cyclic permutations, *Involve* Vol. 12, No. 2, 351-360 (2019)

39) É. Czabarka, L.A. Székely, S. Wagner, A tanglegram Kuratowski theorem, *Journal of Graph Theory* Vol. 90, Issue 2 111–122 (2019)

38) R. Anderson, Shuliang Bai, F. Barrera-Cruz, É. Czabarka, G. Da Lozzo, N.L. F. Hobson, Jephian C.-H. Lin, A. Mohr, H.C. Smith, L.A. Székely, H. Whitlatch, Analogies between the crossing number and the tangle crossing number, *Electronic Journal of Combinatorics*, Vol. 25, Issue 4 (2018)

37) É. Czabarka, R. Florez, L. Junes, J. L. Ramirez Ramirez, Enumerations of Peaks and Valleys on Non-decreasing Dyck Paths, *Discrete Mathematics* Vol 341, Issue 10, 2789-2807 (2018)

36) É. Czabarka, L.A. Székely, S. Wagner, Inducibility in binary trees and crossings in random tanglegrams *SIAM Journal of Discrete Math*, Vol. 31 No.3 (2017)

35) É. Czabarka, J. Rauh, K. Sadeghi, T. Short, L.A. Székely, On the Number of Non-zero Elements of Joint Degree Vectors, *Electronic Journal of Combinatorics* Vol. 24, Issue 1 (2017) #P1.55

34) É. Czabarka, L.A. Székely, S. Wagner, On the number of nonisomorphic subtrees in a tree *Journal of Graph Theory* Vol. 87, Issue 1, 89-95 (2017)

33) É. Czabarka, L.A. Székely, S. Wagner, Paths vs. stars in the local profile of trees , *Electronic Journal of Combinatorics*, Vol. 24, Issue 1 (2017) #P1.22

32) É. Czabarka, A. Dutle, T. Johnston, L. A. Székely, Abelian groups yield many large families for the diamond problem, *European J. Math.*, Vol 1, Issue 2, 320-328 (2015)

31) Sz. Horváth, É. Czabarka, Z. Toroczkai, Removing degeneracy in maximum enthropy models of networks, *Physical Review Letters*, Vol. 114, Issue 15, 15871, (2015)

30) É. Czabarka, R. Florez, L. Junes, A discrete convolution on the generalized Hosoya triangle, Journal of Integer Sequences, Vol 18, Article 15.1.6, 22 pp(2015)

29) É Czabarka, R Florez, J. Junes, Some enumerations on non-decreasing Dyck paths, Electronic Journal of Combinatorics, Vol. 22, Issue 1 22 pp (2015)

28) É. Czabarka, A. Dutle, P.L. Erdős, I. Miklós, On realizations of a joint degree matrix, Discrete Applied Math, Vol. 181, 283-288, (2015)

27) F. Molnár, N. Derzsy, É. Czabarka, L.A. Székely, K. Szymanszki, G. Korniss, Dominating scale free networks using generalized probabilistic methods, Scientic Reports 4, article number 6308, Sept. 2014

26) H. Aydinian, É. Czabarka, L.A. Székely, Mixed orthogonal arrays, k-dimensional M-part Sperner multi-families, and full multi-transversals, Information Theory, Combinatorics and Search Theory, LNCS 7777, (2013) 371-401, Springer, Heidelberg

25) É. Czabarka, M. Marsili, L.A. Székely, Threshold functions for distinct parts: revisiting Erdős-Lehner, Information Theory, Combinatorics, and Search Theory, LNCS 7777, (2013) 463-471, Springer, Heidelberg

24) É. Czabarka, P.L. Erdős, V. Johnson, V. Moulton: Generating functions for multi-labeled trees, Discrete Applied Mathematics 161 (2013) 107-117

23) Cs. Biró, É. Czabarka, Peter Dankelmann L.A. Székely, Remarks on the domination number of graphs. Bulletin of the I.C.A. 64 (2012) 73-82

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. Comb. Numb. Theory, 1(3)(2011) 12-24 [220-232].

21) H. Aydinian, É. Czabarka, P. L. Erdős, L.A. Székely, A tour of M-part L-Sperner families, JCT A, 118 (2011) 702–725

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

19) D. Bokal, É. Czabarka, L.A. Székely, I. Vrťo, General lower bounds for the minor crossing number of graphs, Discrete and Computational Geometry 44 (2010) 463–483

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

17) É. Czabarka, P. Dankelmann, L.A. Székely, Diameter of 4-colourable graphs, European J. of Combin. 30 (2009) 1082–1098

16) É. Czabarka, O. Sýkora, L.A. Székely, I. Vrťo, Biplanar crossing numbers. II. Comparing crossing numbers and biplanar crossing numbers using the probabilistic method. Random Structures and Algorithms 33 (4) (2008 Dec) 480–496

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

14) 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.

13) J.L. Spouge, É. Czabarka, Some central limit theorems pertinent to the effectiveness of database retrieval, Technical Reports of the Industrial Mathematics Institute, Department of Mathematics, University of South Carolina, `http://imi.cas.sc.edu/django/site_media/media/papers/2006/2006_15.pdf`

12) É. Czabarka, O. Sýkora, L.A. Székely, I. Vrťo, Outerplanar crossing numbers, circular arrangement problem, and isoperimetric functions, Electronic Journal of Combinatorics 11(1), (2004) R81 20pp

11) G.T. Marth, É. Czabarka, J. Murvai, S.T. Sherry, The allele frequency spectrum in genome-wide human variation data reveals signals of differential demographic history in three large world populations. Genetics 166 (2004) 351-372

10) G.T. Marth, G. Schuler, R. Yeh, R. Davenport, R. Agarwala, D. Church, S. Wheelan, J. Baker, M. Ward, M. Kholodov, L. Phan, É. Czabarka, J. Murvai, D. Cutler, S. Wooding, A. Rogers, A. Chakravarty, H.C. Harpending, P.-Y. Kwok, S.T. Sherry, Sequence variations in the public human genome data reflect a bottlenecked population history, Proc. Natl. Acad. Sci. USA (2003) 100: 376-381.

9) I.B. Rogozin, K.S. Makarova, J. Murvai, É. Czabarka, Y.I. Wolf, R.L. Tatusov, L.A. Székely, E.V. Koonin, Connected

gene neighborhoods in prokaryotic genomes. Nucleic Acids Res.; 30(10) (2002 May) 2212-23.

8) É. Czabarka, G. Konjedov, M. V. Marathe, A.G. Percus, D.C. Torney, Algorithms for Optimizing Production DNA Sequencing, Proceedings of the Eleventh Annual ACM-SIAM Symposium on Discrete Algorithms (SODA'2000) 399-408.

7) É. Czabarka, Intersecting Chains in Finite Vector Spaces, Combinatorics, Probability and Computing 8, (1999), 509-528.

6) S. Visvanathan, É. Czabarka, A. Sengupta: Fault-Tolerant Embedding of Hamiltonian Circuits in Line Digraph Interconnection Networks, Information Processing Letters 57, (1996), 265-271

Invited Seminar/Colloquia: (1 hr unless otherwise noted)

71) University of Szeged, Hungary, *On universal phylogenetic tree shapes*, May 19, 2023 (30 min)

70) University of Alabama, *On a conjecture of Erdős, Pach, Pollack and Tuza*, Oct. 21, 2022

69) University of Szeged, Hungary, *An infinite antichain of planar tanglegrams*, June 27, 2022

68) Graph Theory Seminar, Georgia Tech, *Diameter of k-colorable graphs* October 27, 2020

67) Combinatorics Seminar, Rényi Institute of Mathematics, Budapest, Hungary, *Diameter of k-colorable graphs*, Oct 1, 2020

66) Virtual Combinatorics Colloquium, Northeastern Combinatorics Network, Women in Combinatorics, *The midrange crossing constant and some of its uses*, Apr 16, 2020

65) University of Szeged, Hungary, *Midrange crossing constants of graph classes*, May 10, 2019

64) Cochin University for Science and Technology, India, *Tangle Crossing Numbers*, Dec 12, 2018

63) Manonmaniyam Sundaranar University, India, *Surprising applications of crossing numbers*, Dec 8, 2018

62) University of Szeged, Hungary, *Sufficient Conditions for Oriented Diameter 2*, Aug 3, 2018 (45 min)

61) University of Szeged, Hungary, *Tangle Crossing Numbers and the Tanglegram Kuratowski Theorem*, Dec 8, 2017 (45 min)

60) Technische Universität, Graz, Austria, *Tangle Crossing Numbers and the Tanglegram Kuratowski Theorem*, Dec 1, 2017

59) Maribor University, Slovenia, Department of Mathematics, *Optimization problems in discrete mathematics*, Nov 29, 2017 (3 hrs)

58) Maribor University, Slovenia, Department of Mathematics, *Analogies Between the Crossing Number and the Tangle Crossing Number*, Nov 27, 2017

57) Stellenbosch University, South Africa, Department of Mathematics, *The Bipartite PAM Existence ond Construction Problems: The Tutte Gadget*, Oct 13, 2017

56) African Institute of Mathematical Sciences, Muizenberg, South Africa, *Tangle Crossing Numbers*, Oct. 12, 2017

55) University of Cape Town, Department of Mathematics, South Africa, *Tangle Crossing Numbers*, Oct 12, 2017

54) University of Witwatersrand, Johannesburg, South Africa, Department of Mathematics, *Results on Crossing Numbers of Tanglegrams*, Sep. 28, 2017

53) University of Jogannesburg, South Africa, Department of Mathematics, *Tangle Crossing Numbers*, Aug. 26, 2017

52) Iowa State University, Ames, Combinatorics Seminar, *Maximum number of entries in a joint degree vector*, Oct 31, 2016

51) Iowa State University, Ames, Guest Lecture for Graduate Students, *Optimization problems on phylogenetic trees*, Oct 31, 2016

50) University of Szeged, Combinatorics Seminar, *Tanglegram crossing numbers*, July 4, 2016 (45 min)

49) University of Szeged, Combinatorics Seminar, *Maximum number of entries in a joint degree vector*, Jun 23 2015 (45 min)

48) University of Maribor, Slovenia, *Sampling graphs with given assortativity*, Jun 2015

47) University of Maribor, Slovenia, *Basic results in extremal set theory*, Jun 1, 2015 (90 min)

46) Institute for Mathematics and Its Applications Annual Seminar, *Beyond degree sequences of graphs*, Feb 5 2015

45) Colloquium talk at Stellenbosch University, South Africa: *Beyond degree sequences of graphs*, Dec 17, 2014

44) Combinatorics Seminar at the Department of Mathematics, University of British Columbia, Vancouver, Canada: *Mixed orthogonal arrays and more-part Sperner families*, Oct 21 2014

43) Combinatorics seminar at Dept. Math. University of Szeged, Hungary, Combinatorics Seminar, *Partition adjacency matrices*, May 29 2014

42) Dept. Math. University of Szeged, Hungary, Combinatorics Seminar, *Partition adjacency matrices*, May 29 2014

41) Dept. Physics, University of Houston, Seminar of the Bassler Research Group, *A gentle introduction to the Lovász Local Lemma*, Feb 27, 2014 (90 min)

40) Dept. Physics, University of Houston, Seminar of the Bassler Research Group, *Sampling graph ensembles with given assortativity*, Feb 24, 2014 (90 min)

39) Dept. of Math, Zhejiang University, Hangzhou, China, *Sperner type problems and design of experiments*, Dec 19, 2013

38) Dept. of Math, Tongji University, Shanghai, China, *Sperner type problems and design of experiments*, Dec 16 2013

37) Dept. of Math, Nanjing Normal University, Nanjing, China, *Partition adjacency matrices*, Dec 13, 2013

36) Dept. of Math, Tongji University, Shanghai, China, *Partition adjacency matrices*, Dec 9 2013

35) Dept. of Math, University of Louisville, KY, *Partition adjacency matrices*, Oct 23, 2013

34) University of Notre Dame, Interdisciplinary Center for Network Science & Applications, *A gentle introduction to the Lovász Local Lemma and its applications II* (2 hours), Oct 10 2013

33) University of Notre Dame, Interdisciplinary Center for Network Science & Applications, *A gentle introduction to the Lovász Local Lemma and its applications I* (2 hours), Oct 8 2013

32) Univerity of Notre Dame Combinatorics Seminar, *Connecting Sperner problems to mixed orthogonal arrays*, Oct 7, 2013

31) Colloquium, Dept. of Applied Math, Illinois Institute of Technology, *From Sperner-type problems to mixed orthogonal arrays*, Aug 26, 2013

30) Fall Meeting of the Carolina Math Seminar at the Citadel, South Carolina, *Phylogenetic trees and Stirling numbers*, Oct 26 2012

29) University of Szeged Combinatorics Seminar, *Crossing numbers and minor crossing number of graphs*, June 4 2012

28) Colloquium, Dept. of Math, University of Alabama, Birmingham, *Structural and enumeration resultson some families of trees relevant to bioinformatics*, Feb 17, 2012

27) Dept. of Computer Science, University of Alberta, Canada, *From M-part Sperner theorems to mixed orthogonal arrays*, Aug 17-20, 2011

26) Dept of Math, University of Alaska, *M-part Sperner families, transversals and mixed orthogonal arrays.* Aug 15, 2011

25) NIH, NLM, NCBI, *Structural results on gene trees and species trees*, July 2011

24) University of Szeged Combinatorics Seminar, *Graph orientations and crossing numbers*, June 27 2011

23) Biomathematics Research Centre, *Some results on gene trees and phylogenetic trees*, University of Canterbury, NZ, Dec 19

22) Technische Universität Berlin, Dept. of Math, *More part Sperner families*, Nov 19, 2010

21) University of Maribor, Dept. of Math, *Analogues of crossing numbers*, Oct 18, 2010

20) University of Szeged, Combinatorics Seminar, *M-part Sperner families*, Aug 27, 2010

19) Colloquium University of Southern Georgia, Dept. of Math, *Models for bootstrapping in database retrieval*, Oct 16, 2008.

18) Stellenbosch University, South Africa, *What does database bootstrapping mimic?*, January 6, 2008

17) University of Kwa-Zulu Natal, Durban, South Africa, *Crossing numbers and minor crossing numbers*, January 10, 2008.

16) Colloquium, University of Alabama at Birmingham, *Modeling evaluation of database retrieval*, Sept. 7, 2007.

15) Rényi Institute of Mathematics of the Hungarian Academy of Sciences, Budapest, Hungary, *A model for database bootstrap* (in Hungarian), May 2007.

14) SZTAKI (Computer Science Research Institute of the Hungarian Academy of Sciences), Budapest, Hungary, *Justifying database bootstrapping* (in Hungarian) May 2007.

13) Department of Computer Science, University of Alberta, Edmonton, Canada, *Bootstrapping the ROC_n* Oct 2006:

12) Department of Computer & Information Sciences & Engineering, University of Florida, *Bootstrapping the ROC_n*, Oct 2006

11) Department of Mathematics, University of South Carolina, *Bootstrapping the ROC_n* March 2 2006

10) Colloquium, Department of Mathematics, College of William & Mary, *Comparing the efficiency of database retrieval methods* May 3, 2004

9) Colloquium, Virginia Polytechnic Institute and State University, Department of Computer Science, *Analysis of allele frequency spectrum in human variation data*, April 19, 2004

8) Colloquium, Department of Mathematics, San Jose State University, San Jose, CA, *Comparing the efficiency of database retrieval methods*, March 4, 2004

7) Colloquium, Department of Mathematics, Georgetown University, Washington DC, *Comparing the efficiency of database retrieval methods*, Feb. 24 2004

6) Bioinformatics Seminar of the Department of Computer Science, University of South Carolina, Columbia, *Which algorithm to choose?*, January 23 2004

5) Joint colloquium of the Departments of Mathematics/Computer Science, Biology and Chemistry, Valparaiso University, Valparaiso, IN, *Which algorithm to choose?* Nov. 10 2003

4) Colloquium, Virginia Polytechnic Institute and State University, Computer Science Department, *Comparing the efficiency of database retrieval methods* March 19, 2003

3) Genetics Discussion Group of the University of South Carolina, Columbia, SC, *Sequence alignment and accuracy of database retrieval* May 30, 2001

2) Departments of Mathematics and Computer Science, Gettysburg, PA, *Sequence alignment, protein structure matching and the Chen-Stein method*, April 19, 2001

1) NIH, NLM, National Center for Biotechnology Information, *Shifting in Finite Vector Spaces*, Nov 23, 1998

Plenary Conference Talks:

3) 2021 International Conference on Discrete Mathematics, Mangalore University, India (online) Prof. Paul Raja Endowment Lecture, *An infinite antichain of planar tanglegrams*, Feb 8, 2021

2) IntersectionFest, Virginia Commonwealth University, *More-part Sperner families and multifamilies* March 7-9 2016

1) 29th Midwestern Conference on Combinatorics & Combinatorial Computing, College of Charlestown, Charleston, SC, *Sampling graphs with given degree sequence and (somewhat) fixed assortativity*, Oct 17 2015,

Other Invited Conference Talks:

50) 2023 Spring Southeastern Sectional Meeting of the AMS, Georgia Tech, Atlanta, *Extremal problems on tanglegrams*, March 18-19, 2023

49) 2023 International Conference on Graphs, Networks and Combinatorics, Ramanujan College, University of Delhi, India, *On the maximum tanglegram crossing number* Jan 10-13 2023

48) 2023 Joint Mathematics Meeting, *The gap of the tanglegram crossing number*, Jan 4-7, 2023

47) Crossing Numbers Workshop, Strobl , Austria,*An infinite antichain of planar tanglegrams*, July 4, 2022

46) Virtual Mini Conference on Graph Theory & Combinatorics, *Maximum diameter of k-colorable graphs*, March 12-13, 2022 (25 min)

45) CanaDAM 2021, (online) *Minimum Wiener index of planar triangulations and quadrangulations*, May 26, 2021 (25 min)

44) 2020 Fall Western Sectional Meeting of the AMS, *An infinite antichain of planar tanglegrams.*, Oct 24-25, 2020 (25 min)

43) 2020 AMS Joint Mathematics Meetings, Denver, CO, *Some crossing number results using probabilistic techniques.*, Jan 15-18, 2020 (25 min)

42) 2019 Fall Southeastern Sectional Meeting, University of Florida, *Midrange crossing constant(s) of graphs*, Nov 2-3, 2019(25 min)

41) International Conference in Discrete Mathematics – 2018, National College (Autonomous),Tiruchirappalli, India, *Sampling networks with (somewhat) fixed assortativity*, Dec 14-17, 2018 (45 min)

40) International Conference on Mathematical Modelling and Computations, Graph Theoretical Modelling special session, South Asian University, New Delhi, India, *Duplucation events in species trees — an extension of Gallai's theorem on intervals*, Dec 1-3 2018 (45 min)

39) 2018 AMS Spring Southeastern Sectional Meeting, Nashville, TN, *A tanglegram Kuratowski theorem*, Apr 14-15, 2018 (25 min)

38) 2018 AMS Joint Mathematics Meeting, San Diego, CA, *A tanglegram Kuratowski theorem*, January 10-13, 2018 (25 min)

37) 2016 Fall Southeastern Sectional AMS Meeting, North Carolina State University, Raleigh, NC *The maximum number of nonzero entries in a joint degree vector*, Nov. 12-13, 2016 (25 min)

36) 2016 Fall Central Sectional AMS Meeting, University of St. Thomas, Minneapolis MN, *Inducibility in binary trees and tanglegram crossing numbers*, October 28–30, 2016 (25 min)

35) 31st Clemson Mini-Conference on Discrete Mathematics and Algorithms , Clemson, SC *Sampling networks: the joint degree vector*, Oct 21, 2016 (40 min)

34) International Symposium on Biomathematics and Ecology Education and Research, College of Charleston, *Inducibility in binary trees and tanglegram crossing number* October 14-16, 2016 (25 mins)

33) International Conference on Current Trends in Graph Theory and Computing, New Delhi, India, *Inducibility in binary trees and tanglegram crossing number* September 17-19, 2016 (30 min)

32) SIAM Conference on Discrete Mathematics, *Inducibility in binary trees and tanglegram crossing number*, June 6-10 2016 (25 min)

31) Spring Southeastern Sectional Meeting of the AMS, University of Georgia, Athens, *On the number of nonisomorphic subtrees of a tree.*, March 5-6, 2016 (25min)

30) Spring Eastern Sectional Meeting of the AMS, Georgetown University, Washington, DC, *Graph orientation lower bounds for crossing numbers*, March 8, 2015 (25 min)

29) 2014 SIAM Conference on Discrete Mathematics, Minneapolis, *Networks with similar assortativity — JDMs and PAMs*, June 16 2014 (25 min)

28) Combinatorial Optimizations Approaches to Graph Crossing Numbers Workshop, Maribor, Slovenia, *Combinatorial optimization models in crossing numbers*, June 2014 (25 min)

27) Fall Southeastern Sectional Meeting of the AMS, University of North Carolina at Greensboro, Joint degree matrices and partition adjacency matrices, Nov 8 2014 (25 min)

26) Fall Southeastern Sectional Meeting of the AMS, University of Louisville, KY, *On realizations of a joint degree matrix*, Oct 5-6 2013 (25 min)

25) SIAM-SEAS meeting, Knoxville TN, Extremal Problems in Combinatorics, *Large families for the diamond problem based on Abelian groups* March 2013 (25 min)

24) Advances in Interdisciplinary Statistics and Combinatorics, University of North Carolina Greensboro, *Mixed orthogonal arrays, k-dimensional M-part Sperner multi-families and full multi-transversals*, Oct 5-7 2012 (20 min)

23) Search Methodologies III, Zentrum für interdisziplinäre Forschung, *Mixed orthogonal arrays, k-dimensional M-part Sperner multi-families and full multi-transversals* Sep 1-5, 2012 (45 min)

22) GraDR 2012 Crossing Number Workshop and Minischool, Valtice, Czech Republic, *Minor crossing numbers*, May 20-24 (20 min)

21) Spring Southeastern Sectional Meeting of the AMS, University of South Florida, Tampa, *Phylogenetic trees and cyclic permutations*, March 10-11 2012 (25 min)

20) Fall Southeastern Sectional Meeting of the AMS, Wake Forest , University in Winston-Salem, *Graph orientations and crossing numbers*, North Carolina, Sept 24-25, 2011

19) Crossing Numbers Turn Useful, Banff International Research Station, Canada, *Crossing number lower bounds and orientations*, Aug 20-26 2011

18) Phylogenetics: New data, new Phylogenetic challenges, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK *Generalized Stirling numbers and distribution of phylogenetic trees*, June 20-24, 2011 (20 min)

17) Midsummer Phylogenetics at University of East Anglia, UK, *Optimal placement of multiplication events on a species tree*, June 17, 2011

16) SIAM SEAS 2011, UNC Charlotte, *Extremal questions on d-dimensional transversals in M-dimensional grids*, March 25-26, 2011 (25 min)

15) 2011 Southeastern Sectional Meeting of AMS, Statesboro, GA *Higher dimensional transversals in M-dimensional grids*, March 12-13, 2011 (25 min)

14) Search Methodologies II, Zentrum für interdisziplinäre Forschung, *Full transversals and mixed orthogonal arrays* Oct 25-29, 2010 (30 min)

13) 2010 Fall Eastern Sectional Meeting of the AMS, Syracuse, NY, *Some combinatorial results on gene trees*, October 2-3, 2010 (20 min),

12) Workshop on Theory and Algorithmic Aspects of Graph Crossing Number, Brno, Czech Republik, *Analogues of crossing numbers*, Aug 21-22 2010 (20 min)

11) 2009 Molecular Informatics and Bioinformatics International Symposium, Institute of Advanced Studies, Budapest, Hungary *Minimizing the number of episodes on a species tree — an extension of Gallai's theorem on intervals* March 17-19 2009 (30 min)

10) SIAM Discrete Mathematics biannual meeting, Burlington, Vermont *Minor crossing numbers*, 2008 (30 min)

9) International Conference on Interdisciplinary Mathematical and Statistical Techniques (IMST 2008/FIM XVI), Memphis, *The diameter of 4-colorable graphs*, May 2008 (30 min)

8) Sectional AMS Meeting, Special Session on Extremal and Probabilistic Combinatorics, DePaul University, Chicago, *M-part L-Sperner families*, Oct. 5-6, 2007 (30 min)

7) 6th Slovenian International Conference on Graph Theory, Minisymposium on Crossing Numbers of Graphs, *Minor crossing number and crossing number of graphs*, June 2007 (30 min)

6) Ondrej Sýkora Memorial Theory Day, Loughborough University, Loughborough, UK, *What does bootstrapping mimic?* June 2006: (20 min)

5) PARADAY V, PÅRC, Dept. of Computer Science, Loughborough University, Loughborough, UK, *Bootstrapping the ROC_n in database retrieval* May 24 2004 (30 min)

4) PÅRC Mini-symposium, Parallel Algorithms and Architecture Research Centre, Department of Computer Science, Loughborough University, Loughborough, UK, *Sequence alignment algorithms* June 18 2002: (60 min)

3) 2001 Spring Southeastern Section, Columbia, SC, *Protein structure matching — an extension of the largest clique size in Erdős-Rényi random graphs* March 16-18, 2001, (20 min)

2) Third University of North Carolina at Greensboro Mini-Conference in Combinatorics and Graph Theory, *Algorithms for Optimizing Production DNA Sequencing* November 1999, (30 min)

1) Center for Nonlinear Studies Workshop, Los Alamos National Laboratory, Los Alamos, New Mexico, *Shifting in finite vector spaces* July 29-Aug 7, 1998 (60 min).

Contributed Presentations (conferences, seminars at place of employment; record not fully kept):

41) Research seminar at USC: Well quasi orderings II, Sep 30, 2021

40) Research Seminar at USC: Well quasi orderings I, Sep 23, 2021

39) Combinatorics seminar at USC: Counterexample to a conjecture of Erdős, March 19,2021

38) Combinatorics seminar at USC: Mindrange crossing constants of graph classes, Aug 30, 2019

37) Research seminar at USC: Convex hull method in set systems, Apr 15, 2019

36) Research seminar at USC: Convex hull method applications in Sperner systems, Apr 1, 2019

35) Research Seminar at USC: Idea and applications of convex hull method, March 25 2019

34) Combinatorics Seminar at USC: Number of subtrees and inducibility concepts in trees, March 31 2017

33) Research Seminar at USC: Lovász Local Lemma III: applications, proof; September 23 2015

32) Research Seminar at USC: Lovász Local Lemma II: statement and applications; September 16 2015

31) Research Seminar at USC: Lovász Local Lemma I: the probabilistic structure; September 5 2015

30) Research Seminar at USC: Phylogenetic trees II: the poset defined by quartet splits, October 15 2015

29) Research Seminar at USC: Phylogenetic trees I: the basics of quartet splits, October 8 2015

28) DARPA GRAPHS meeting: Sampling networks: MOAs, JDMs in graphs and hypergraphs July 21-24 2014 Arlington VA

27) Research Seminar at USC: Results and open problems in network science II (90 min), March 2014

26) Research Seminar at USC: Results and open problems in network science I (90 mins), March 2014

25) Combinatorics Seminar at USC: The Convex Hull Method II., Oct 24 2012

24) Combinatorics seminar at USC: The Convex Hull Method I., Oct 17 2012

23) DARPA GRAPHS meeting: Mixed Orthogonal Arrays Oct31-Nov 1 2012, University of Notre Dame, Southbend

22) Phylogenetic trees and Stirling numbers, Integers Conference 2011, University of West Georgia, Carollton, Georgia, Oct 26-29, 2011

21) From M-part Sperner theorems to mixed orthogonal arrays, Twenty-Fifth Midwest Conference on Combinatorics,

Cryptography, and Computing, University of Nevada, Las Vegas, Oct 20-21 2011

20) Sperner type problems and results, Combinatorics, Groups, Algorithms and Complexity, Ohio State University, March 21-15, 2010

19) Combinatorics seminar, University of South Carolina, Sperner type problems and results III, Nov 2010

18) Combinatorics seminar, University of South Carolina, Sperner type problems and results II, Nov 2010

17) Combinatorics seminar, University of South Carolina, Sperner type problems and results I, Nov 2010

16) Research seminar at USC, University of South Carolina, Intersection results and orthogonal arrays, April 2010

15) Minimizing the number of episodes on a species tree – an extension of Gallai's theorem on intervals 2009 Spring AMS Central Sectional Meeting, Urbana, March 27-29 2009

14) Minimizing the number of episodes on a species tree – an extension of Gallai's theorem on intervals SIAM SEAS, Univ. of South Carolina, Columbia, March 2009

13) Minimizing the number of episodes on a species tree – an extension of Gallai's theorem on intervals Rényi Institute of Mathematics of the Hungarian Academy of Sciences, Budapest, Hungary, June 22-25, 2009

12) Diameter of 4 colorable graphs with given minimum degree, Combinatorics Seminar at USC, Feb 14, 2008

11) The diameter of 4-colorable graphs, Fete of Combinatorics and Computer Science, Keszthely, Hungary, August 11 - 15, 2008

10) Minor crossing numbers, 21st Cumberland Conference on Graph Theory, Combinatorics and Computing– in Honor of Mike Plummer's 70th Birthday, May 15-17, 2008

9) Minor crossing number and crossing number of graphs, Extremal Combinatorics Workshop, Rényi Institute of Mathematics of the Hungarian Academy of Sciences, Budapest, Hungary, June 4-8, 2007

8) Minor crossing number and crossing number of graphs, Combinatorics seminar, USC, Sept 5, 2007

7) College of William & Mary, Database retrieval measures, Feb 2005

6) NCBI seminar, Some thoughts on database retrieval, 2004 Feb 12.

5) NCBI seminar, Comparing the efficiency of database retrieval methods, 2003 Dec 4.

4) NCBI seminar, Which algorithm to choose? – A simple way to evaluate significance of differences between retrieval methods, 2003 July 1.

3) NCBI seminar, A unified approach to word occurrence probabilities (on a paper of Mirreille Regnier), 2002 Feb 28.

2) NCBI seminar, Analytic ROC_n p-Values: An Easy Method for Evaluating the Significance of Differences between Database Retrieval Methods, 2001 Jun 5.

1) NCBI seminar, Correlation inequalities, 2000 Oct 5.

Invited Talks for General Audience/Outreach:

13) PME/Gamecock Math Club, University of South Carolina, Sudoku and Latin squares, March 26, 2013

12) Spring Meeting of the Carolina Math Seminar at Benedict College, Columbia, Feb 10, 2012: Orthogonal arrays and transversals

11) Talk on interesting problems to elementary school students at Mossy Oaks Elementary School, Beaufort, SC, May 2008

10) Colloquium talk at the Department of Mathematics and Computer Science, South Carolina State University, June 2006: Crossing numbers

9) Colloquium talk at the Department of Mathematics, Eastern Michigan University, November 2004: Which algorithm to choose

8) Eastern Pennsylvania and Delaware Section of the MAA, Gettysburg College, Gettysburg, PA, October 18, 2003, panelist: Careers in Mathematics

7) Career Night, Mathematics and Statistics Departments of the University of South Carolina, Columbia, SC, January 21, 2003

6) Mathematics Awareness Month Talk Series, Department of Mathematics and Computer Science of South Carolina State University, Orangeburg, SC, March 29, 2002: Sequence alignment algorithms

5) Spring Colloquium Series, Gettysburg College, Departments of Mathematics and Computer Science, Gettysburg, PA, April 19, 2001, panelist: Jobs in government

4) Mathematics Awareness Month Talk Series, Department of Mathematics and Computer Science of South Carolina

State University, Orangeburg, SC, April 16, 1997: Mathematics and the internet

3) Euclidean Club at the Department of Mathematics and Computer Science of South Carolina State University, Orangeburg, SC, October 22, 1996: Trigonometry of the ancient Greek astronomers

2) Euclidean Club at the Department of Mathematics and Computer Science of South Carolina State University, Orangeburg, SC, March 20, 1996: Fractals

1) Euclidean Club at the Department of Mathematics and Computer Science of South Carolina State University, Orangeburg, SC, November 14, 1995: Oh, that colorful mathematics! (Problems that can be solved by coloring)

Poster presentations:

6) Applying the Lovász Local Lemma (with: L. Lu, A. Mohr, L.A. Székely, A. Dutle, F. Molnár, G. Korniss) DARPA GRAPHS meeting, July 21-24 2014 Arlington VA

5) Scaling of Dominating Sets in Various Network Ensembles (with F. Molnár Jr, N. Derzsy, S. Sreenivasan, L.A. Székely, B. K. Szymanski, G. Korniss) DARPA GRAPHS meeting July 21-24 2014 Arlington VA

4) Network modeling with Joint Degree Matrices (with A. Dutle, P.L. Erdős, I. Miklós) DARPA GRAPHS meeting July 21-24 2014 Arlington VA

3) Mixed orthogonal arrays (with H. Aydinian, L.A. Székely) DARPA GRAPHS meeting July 21-24 2014 Arlington VA

2) Gene trees: enumeration and min-max theorems (with P.L. Erdős, V. Johnson, A. Kupczok, V. Moulton, L.A. Székely, T.J. Vision); Mathematical Physics of Complex Networks: from Graph Theory to Biological Physics, Dresden, Germany, May 2012

1) The diameter of 4-colorable graphs, Algorithms and Combinatorial Optimization, Trotter 65, Atlanta, May 2008

Conference Organization:

16) The 31st International Symposium on Graph Drawing and Network Visualization, member of the Program Committee, Isola delle Femmine (Palermo), Italy, September 20-22, 2023

15) Graduate Mini-Conference in Discrete Mathematics, (with L. A. Székely), March 6, 2023

14) Mathematics Research Communities Workshop, Trees in Many Contexts, Summer 2022 (postponed from 2021) (with M. Bóna, H.C. Smith, S. Wagner, Hua Wang)

13) International Conference on Discrete Mathematics (ICDM), Mangalore, Karnakata State, India, Feb 8-11 2021, postponed from June 5-13, 2020, invited member of the Organizing Committee

12) Crossing Numbers: Theory and Applications at Banff International Research Station (20-participant workshop) (co-organizers: G. Salazar and B. Mohar) Oct 21-28, 2018

11) NSF-CBMS Conference on Additive Combinatorics from a Geometric Viewpoint, (with L.A. Székely and Frank Thorne) May 21-25, 2018

10) Biplanar Crossing Numbers and Random Graphs (Follow-up Workshop to the Mathematics Research Communities "Beyond Planarity: Crossing Numbers of Graphs" program), Interdisciplinary Mathematics Institute (co-organizers: Arran Hamm and L.A. Székely), Feb 22-25, 2018

9) Mathematics Research Communities Workshop, Beyond Planarity – Crossing Numbers of Graphs, Snowbird, Utah, June 11-18, 2017 (with S. Fernández-Merchant, G. Salazar, M. Schaefer, L.A. Székely)

8) SIAM Discrete Math Conference, Structures in Trees Minisymposium, Atlanta, June 6-10 2016 (co-organizing with L.A. Székely)

7) 28th Cumberland Conference on Combinatorics, Graph Theory and Computing, March 15-17 2015 (co-chair; Chair: Linyuan Lu)

6) SIAM Discrete Math Conference, Modeling Networks under Exact and Soft Constraints Minisymposium, Minnesota 2014 (co-organizing with L.A. Székely)

5) Summer School in Network Science May 20-24, 27-31, University of South Carolina, Columbia. (member of the organizing committee, chair: L.A. Székely; co-chairs: L. Lu, Q. Wang; other organizing committee members: V. Gudkov, X. Li)

4) Special Session on Graphs, Hypergraphs and Counting, Spring Sectional Meeting of the AMS, Iowa State University, Ames, IA, Apr 27-28, 2013 (co-organizer with L.A. Székely)

3) Discrete Mathematics and Bioinformatics Minisymposium (3 sessions) at the 33rd SIAM Southeastern Atlantic section Conference, April 4-5, 2009, Columbia, SC

2) Mini-Conference on Applied Combinatorics (member of the organizing committee, chair: G.O.H. Katona, committee members: J.R. Griggs and L.A. Székely) October 15-16, 2007, Columbia, SC

1) Ondrej Sýkora Memorial Theory Day, (member of the organizing committee, committee members: L.A. Székely and Imrich Vrťo) June 7 2006, Loughborough University, UK

Service:

at University of South Carolina:

- Scholarship and Fellowship Advisory Committee (2011-present): Knowles Fellowship advisor (mentored 2011 scholarship winner Madison Miller); Participated in advising Goldwater Scholarship applicants (advised 2012 winners William Franks and Daniel Grier), country expert in Fulbright Scholarship Committee (2016)
- Faculty Advisory Council (2008-2010, 2015-2017,2023-present)
- Member of the Peer Review of Teaching Committees, (2014-2015, 2022-23)
- Faculty Mentor (2022-present)
- AMS Representative to the Delbert Ray Fulkerson Prize Selection Committee (2020-2023)
- MATH574 course coordinator (2021-2023)
- Hiring Committee Member (2009-2010, 2021-2022)
- Post Tenure Review Committee (2015-2017, 2021-2023)
- AWM Faculty Advisor (2021-2023)
- Outside evaluator of 3 tenure/promotion cases and one research ranking evaluation
- Chair of Tenured Full Professor Committee (2019-2020)
- Moderator/session leader of the virtual AMS Networking Session: Tips for Pursuing your Research During the Pandemic, Oct 24,2020
- Member of Calculus Coordination and Placement Committee (2018-2019)
- Mentoring Ph.D. students at the Association for Women in Mathematics session at the Joint Mathematics Meeting in 2018
- Ad hoc reviewer for SPARC (Support to Promote Advancement of Research and Creativity) Graduate Research Fund (2017)
- Ad-Hoc Committee for Criteria for Promotion of Clinical Faculty (2016-17)
- Undergraduate Advisor for math majors (2004-2013, 2015-2020)
- Undergraduate Advisory Council (2006-2013, 2015-2020)
- Top Scholar Committee member (2016-2017) and Scholar Review Committee Member for Carolina and McNair Scholars (2013-2014)
- Member of the College of Arts and Sciences Curiculum Committee (2012-1013)
- Co-organizer of combinatorics research seminar (with L.A. Székely) (2010-present)
- Faculty Senator (2011-2013, 2018-2020)
- PME/Gamecock Math Club Faculty Advisor (2009-2010)
- Gamecock Leadership Society Faculty Advisor (2009-2010)
- Co-organizer of bioinformatics research seminar (with J.Tang and L.A. Székely) 2009-2010
- Events Committee (2009-2010)
- Qualifying Exam Committee chair (2009, 2018)
- Webpage Committee (2006-2008) — maintenance of Industrial Mathematics Institute webpages
- Member of High School Mathematics Committee (2006-2008)
- Mentor at the Women's Mentor Network of South Carolina (2011-2013)
- First-Year Scholar Mentor, Mentor Program of the Office of Fellowships and Scholar Programs (2012-2013)
- Organizer of the combinatorics seminar (2012-2013)
- Regularly hosting combinatorics seminar/colloquium speakers, e.g. from Carnegie Mellon, Iowa State U., U. Notre Dame, Georgia Tech, UIUC, U. Florida, U. of Alabama Birmingham, Citadel, Georgetown U., UNC Charlotte, UNC Greensboro, Georgia Southern, Davidson College, NASA, NIH, Stellenbosch U. (South Africa), U. Johannesburg (South Africa), Memorial U. of Newfoundland (Canada), Rényi Institute of Mathematics (Hungary), U. of Maribor (Slovenia).

- Inviting and hosting 4 Pi Mu Epsion/Gamecock Math Club seminar speakers e.g. from NASA, U. Notre Dame, Savannah River National Laboratory, SAS Institute, data science company 360i, Georgia Southern,.
- Graduate student class visitations
- Proctoring and ciphering judge tournament at high school math competition

at College of William & Mary:

- Undergraduate Advisor for math majors (2004-2006)
- Undergraduate Curriculum Committee (2005-2006)