TEXAS STATE VITA

I. ACADEMIC/PROFESSIONAL BACKGROUND

A. Name: Jian SHEN Title: Professor

B. Education Background

Degree	Year	University	Major	Thesis/Dissertation
Ph.D.	1998	Queen's University, Canada	Mathematics	Exponents of Primitive Digraphs
M.S.	1994	University of Science of Technology of China	Mathematics	Some Estimated Formulas on the Frobenius Numbers
B.S.	1991	University of Science of Technology of China	Mathematics	Arithmetic Graphs

C. University Experience

Position	University	Dates
Professor	Texas State University	Sept 2008 -- Present
Associate Professor	Texas State University	Sept 2004 – Aug 2008
Assistant Professor	Texas State University	Jan 2001 – Aug 2004
Visiting Assistant Professor	Queen's University, Canada	Sept 2000 – Dec 2000
Visiting Assistant Professor	University of Illinois at Urbana-Champaign	Jan 2000 – Aug 2000
NSERC Postdoctoral Fellow	University of Wisconsin-Madison	Sept 1998 – Aug 2000
Lecturer	University of Wisconsin-Madison	Sept 1999 – Dec 1999
Visiting Fellow	University of Lyon, France	June 1999 -- July1999
Honorary Fellow	University of Wisconsin-Madison	Sept 1998 – Aug 1999
Lecturer	University of Wisconsin-Madison	Sept 1998 -- May 1999

II. TEACHING

A. Courses taught:

1. At Texas State University

Fall 2017	Math 5355 (Applied Graph Theory) Math 7321 (Graph Theory)
Summer 2017	Math 2358 (Discrete Mathematics I)
Spring 2017	Math 2358 (Discrete Mathematics I) Math 3398 (Discrete Mathematics II)
Fall 2016	Math 7378A (Problem Solving, Reasoning, and Proof)

Summer 2016	Math 2358 (Discrete Mathematics I)
Spring 2016	Math 5350 (Combinatorics) Math 7331 (Combinatorics)
Fall 2015	Math 2471 (Calculus I, 2 Sections)
Summer I 2015	Math 7371G (Applied Discrete Mathematics) Math 5399B (Master's Thesis)
Spring 2015	Math 7378F (Research on Mathematical Problem Solving in Secondary Schools) Math 5399A (Master's Thesis)
Fall 2014	Math 2417 (Pre-Calcuus) I voluntarily substituted a faculty member who was on sick leave in the middle of semester. Math 2471 (Calculus I) Math 3398 (Discrete Mathematics II, 2 sections)
Spring 2013	Math 5358 (Applied Discrete Mathematics) Math 7371F (Probabilistic Methods in Discrete Mathematics)
Fall 2012	Math 2358 (Discrete Mathematics I) Math 5355 (Applied Graph Theory) Math 7321 (Graph Theory)
Spring 2012	Math 5358 (Applied Discrete Mathematics) Math 5350 (Combinatorics) Math 7331 (Combinatorics)
Fall 2011	Math 1319 (Mathematics for Business and Economics I) Math 2358 (Discrete Mathematics I) Math 5358 (Applied Discrete Mathematics) Math 7386 (Independent Study in Math Education) Seminar Course
Spring 2011	Math 2358 (Discrete Mathematics I) Math 5358 (Applied Discrete Mathematics) Math 7386 (Independent Study in Math Education) Seminar Course
Fall 2010	Math 2358 (Discrete Mathematics I) Math 5358 (Applied Discrete Mathematics) Math 4336 (Studies in Applied Mathematics) Reading Course Math 7386 (Independent Study in Math Education) Seminar Course
Summer I 2010	Math 1329 (Mathematics for Business and Economics II) Math 2358 (Discrete Mathematics I)
Spring 2010	Math 3398 (Discrete Mathematics II) Math 5358 (Applied Discrete Mathematics) Math 7386 (Independent Study in Math Education) Seminar Course
Fall 2009	Math 1315 (College Algebra) Math 2358 (Discrete Mathematics I) Math 7386 (Independent Study in Math Education) Seminar Course
Spring 2009	Math 3377 (Linear Algebra) Math 5355 (Applied Graph Theory) Math 7321 (Graph Theory) Math 7386 (Independent Study in Math Education) Seminar Course
Fall 2008	Math 1319 (Mathematics for Business and Economics I) Math 2358 (Discrete Mathematics I)

Summer II 2008	Math 1329 (Mathematics for Business and Economics II) Math 2417 (Pre-Calculus Mathematics)
Spring 2008	Math 2417 (Pre-Calculus Mathematics) Math 5358 (Applied Discrete Mathematics)
Fall 2007	Math 1319 (Mathematics for Business and Economics I) Math 1329 (Mathematics for Business and Economics II) Math 5358 (Applied Discrete Mathematics)
Summer II 2007	Math 1329 (Mathematics for Business and Economics II) Math 3323 (Differential Equations)
Fall 2006	Math 2358 (Discrete Mathematics I, 2 sections)
Summer II 2006	Math 1315 (College Algebra) Math 2472 (Calculus II)
Spring 2006	Math 1329 (Mathematics for Business and Economics II) Math 2358 (Discrete Mathematics I) Math 3398 (Discrete Mathematics II) I voluntarily taught it for a faculty who was on sick leave.
Fall 2005	Math 3305 (Introduction to Probability and Statistics, 2 sections) Math 5358 (Applied Discrete Mathematics)
Summer II 2005	Math 1319 (Mathematics for Business and Economics I) Math 2472 (Calculus II)
Spring 2005	Math 2358 (Discrete Mathematics I, 2 sections) Math 3377 (Topics in Linear Algebra)
Fall 2004	Math 2358 (Discrete Mathematics I) Math 2472 (Calculus II) Math 5358 (Applied Discrete Mathematics) Math 5399A (Master's Thesis Research I)
Summer I 2004	Math 1319 (Mathematics for Business and Economics I) Math 2358 (Discrete Mathematics I)
Spring 2004	Math 2471 (Calculus I, 2 sections) Math 5358 (Applied Discrete Mathematics)
Fall 2003	Math 1329 (Mathematics for Business and Economics II, 2 Sections) Math 5355 (Applied Graph Theory) Math 2358 (Discrete Mathematics I) I voluntarily taught it for a faculty who was on sick leave.
Spring 2003	Math 2358 (Discrete Mathematics I, 2 Sections) Math 5358 (Applied Discrete Mathematics) Math 5399B (Master's Thesis Research II)
Fall 2002	Math 1311 (Basic Mathematics) Math 2417 (Pre-Calculus Mathematics) Math 3398 (Discrete Mathematics II) Math 5399A (Master's Thesis Research I)
Summer II 2002	Math 5317 (Graduate Summer Research)
Spring 2002	Math 2331 (Mathematics for Life Sciences II) Math 3325 (Number System) Math 5358 (Applied Discrete Mathematics)

Fall 2001	Math 2321 (Mathematics for Life Sciences I, 2 Sections) Math 2417 (Pre-Calculus Mathematics)
Summer II 2001	Math 1319 (Mathematics for Business and Economics I) Math 2417 (Pre-Calculus Mathematics)
Spring 2001	Math 1317 (Plane Trigonometry) Math 1329 (Mathematics for Business and Economics II, 2 Sections)

2. At Other Universities

Dates	University	Course
Summer 2005	University of Science and Technology of China	Probabilistic Methods in Discrete Mathematics (Graduate Course)
Fall 2000	Queen's University, Canada	Graph Theory
Spring 2000	University of Illinois at Urbana-Champaign	Introduction to Graph Theory
Fall 1999	University of Wisconsin-Madison	College Algebra (3 Sections)
Spring 1999	University of Wisconsin-Madison	College Algebra (2 Sections)
Fall 1998	University of Wisconsin-Madison	College Algebra (2 Sections)

B. Graduate Thesis/Dissertations or Exit Committees (if supervisor, please indicate):

1. At Texas State University

Name	Title	Degree	Defense Date	Supervisor?
Esther Conrad	Zero forcing in graphs and digraphs	M.S.	April 2018	No
Ellen Robinson		M.S.	April 2017	No
Bo Li	Semantic Tree-based 3D Model Retrieval Using 2D Sketch Queries	M.S.	July 2015	Yes
Francis Hruzek	Graphical Representations of Topologies on a Finite Set	M.S.	Nov 2013	No
Randolf Reiss	Eigenvalues and Eigenvectors in Data Dimension Reduction for Regression	M.S.	June 2013	No
Samuel Wilson	Power Domination on Permutation Graphs	M.S.	December 2012	No
Holly Floyd	The Implications of Linear Programming in Employee Work Schedule: A case Study of the Texas State University-San Marcos Student Learning Assistance Center (SLAC)	M.S.	May 2010	No

Leighann Collison	On the Pebbling Numbers of Graphs	M.S.	May 2005	Yes
Steven Greenstein	Variations on the Four-Post Tower of Hanoi Puzzle	M.S.	June 2003	Yes

2. At Defense Committee of Other Universities

University	Degree	Defense Date	Supervisor?
University of Regina, Canada	Ph. D.	February 2008	No
University of Illinois at Urbana-Champaign	Ph. D.	May 2000	No
Nanjing University, P.R. China	Ph. D.	April 2000	No

C. Courses Prepared and Curriculum Development:

Fall 2014	Math 7378F (Research on Mathematical Problem Solving in Secondary Schools)
Fall 2005	Math 7371D (Discrete Optimization) Math 7371F (Probability Methods in Discrete Mathematics)
Spring 2001	Math 7315 (Discrete Optimization I) Math 7375 (Discrete Optimization II) Math 7355 (Graph Theory II)

III. SCHOLARLY/CREATIVE

A. Works in Print

1. Chapters in Books:

1. (With X. Chen) Maximum possible hop count for package routing in MANET, in: Handbook on Theoretical and Algorithmic Aspects of Sensor, Ad Hoc Wireless and Peer-to-Peer Networks, Auerbach Publications, pp. 43-52, 2005.

2. Articles

a. Published in Refereed Journals

2. (With X. Jia) Extremal bases for finite cyclic groups, *SIAM Journal on Discrete Math*. **31**(2): 796-804 (2017). http://epubs.siam.org/doi/abs/10.1137/15M1013237
3. (With L. You, F. Chen, and B. Zhou) Generalized Competition Index of Primitive Digraphs, *Acta Mathematica Applicatae Sinica.* **33**(2): 475- 484 (2017). https://link.springer.com/article/10.1007/s10255-017-0675-0

4. (With X. Li, S. Zhang, and G. Zhang) The Locus of points with equal sum of relative distances to three points, *Journal of Mathematics (PRC).* **36**(4): 759-766 (2016).
5. (With K. Chen, S. Karson, and D. Liu) On the Chudnovsky-Seymour-Sullivan conjecture on cycles in triangle-free digraphs, *Electronic J. Linear Algebra.* **28**(1), Article 10, 117-123 (2015).
6. (With Ying Liu) The (normalized) Laplacian eigenvalue of signed graphs, *Taiwanese J. Math*. **19**(2):505-517 (2015). http://journal.tms.org.tw/index.php/TJM/article/view/4675/1805
7. (With Z. Su, X. Wei, and S. Li) On the relative distances of eleven points in the boundary of a plane convex body, *Discrete Mathematics.* **317**: 14-18 (2014).
8. (With S. Arumugan and V. Mathew) On fractional metric dimension of graphs, *Discrete Mathematics, Algorithms and Applications.* **5**(4) 1350037 (8 Pages) (2013).
9. (With L. You) A Survey on bases of sign pattern matrices, *Linear Algebra and its Applications* **439**(2): 346-357 (2013).
10. (With Z. Su and S. Li) The triangle inequality and its applications in the relative metric space, *Open Journal of Discrete Mathematic.* **3**: 127-129 (2013).
11. (With J. Manske) Three layer Q_2-free families in the Boolean lattice, *Order.* **30**(2): 585-592 (2013).
12. (With G. Xu and K. Fang) Bounds on the spectral radii of digraphs in terms of walks, *Appl. Math. Comput.* **219**: 3721-3728 (2012).
13. (With Y. Wu) Opinion dynamics with stubborn vertices, *Electronic Journal of Linear Alg*ebra **23**: 790-800 (2012).
14. (With Y. Shao and Y. Gao) The kth upper and lower bases of primitive non-powerful minimally strong signed digraphs, *Linear and Multilinear Algebra*. **60**(9): 1093-1113 (2012).
15. (With Z. Su, S. Li, and L. Yuan) On the relative distances of nine or ten points in the boundary of a plane convex body, *Discrete Applied Math.* **160**:303-305 (2012).
16. (With X. Chen and J. Wu) Enhanced Delegation Forwarding in Delay Tolerant Networks, *International Journal of Parallel, Emergent and Distributed Systems.* **26**(5):331-345 (2011).
17. (With X. Chen and J. Wu) Improving Routing Protocol Performance in Delay Tolerant Networks using Extended Information, *Journal of Systems and Software,* **83**:1301-1309 (2010).
18. (With C. Feng and L. Li) Some Inequalities in Functional Analysis, Combinatorics, and Probability Theory, *Electronic J. Combin.* **17**(1), Research Paper 58, 12 pages (2010).
19. (With L. Zhang, J. Yang and G. Li) Analyzing of the Accuracy of the Fitch Method for Reconstructing Ancestral States on Ultrametric Phylogenetic Trees, *Bulletin of Mathematical Biology,* 72(7):1760-1782 (2010).
20. (With L. Li) A sum-division estimate of reals, *Proc. Amer. Math. Soc.* **138**:101-104 (2010).
21. (With C. Feng and L. Li) On the Borel-Cantelli lemma and its generalization, *Comptes rendus Mathematique,* **347**:1313-1316 (2009).

22. (With M. Akelbek and S. Fital) A bound on the scrambling index of a primitive matrix using Boolean rank, *Linear Algebra Appl*. **431**:1923-1931 (2009).
23. (With Y. Shao and Y. Gao) The k-th upper bases of primitive non-powerful signed digraphs, *Discrete Math.* **309**:2682-2686 (2009).
24. (With Y. Gao and Y. Shao) Bounds on the local bases of primitive non-powerful nearly reducible sign patterns, *Linear and Multilinear Algebra* **57**(2):205-215 (2009).
25. (With C. Nguyen, M. Hou, L. Sheng, W. Miller, and L. Zhang) Approximating the Spanning Star Forest Problem and Its Applications to Genomic Sequence Alignment, *SIAM J. Computing*. **38**:946-962 (2008).
26. (With R. Gera) Extension of strongly regular graphs, *Electronic J. Combin.* **15**(1), Note 3, 5 pages (2008).
27. (With B. Liu and X. Wang) On the largest eigenvalue of non-regular graphs, *J. Combin. Theory, Ser. B*. **97**(6):1010-1018 (2007).
28. (With G. Chen, J. Hutchinson, and K. Keating) Characterization of [1,k]-Bar Visibility Trees, *Electronic J. Combin*. **13**, Research Paper 90, 12 pages (2006).
29. (With A. Bondy, S. Thomasse, and C. Thomassen) Density conditions for triangles in multipartite graphs, *Combinatorica* **26**(2):121-131 (2006).
30. On two Turán numbers, *J. Graph Theory* **51**(3):244-250 (2006).
31. (With X. Chen) Improved schemes for power-efficient broadcast in Ad Hoc networks, *International Journal of High Performance Computing and Networking* **4**(3/4):198-206 (2006).
32. (With L. You and B. Liu) r-indecomposable and r-nearly decomposable matrices, *Linear Algebra Appl*. **407**:105-116 (2005).
33. (With X. Chen) On the Frame-Stewart conjecture about the towers of Hanoi, *SIAM J. Computing* **33**(3):584-589 (2004).
34. (With L. Sheng and J. Wu) Searching for sorted sequences of kings in tournaments, *SIAM J. Computing* **32**(5):1201-1209 (2003).
35. Short cycles in digraphs with local average outdegree at least two, *Electronic J. Combin.* **10**(1) Research paper 26, 11 pages (2003).
36. (With G. Chen and R. Yuster) Second neighborhood via first neighborhood in digraphs, *Ann. Comb*. **7**(1):15-20 (2003).
37. (With C. Wyels) On the number of arcs in primitive digraphs with large exponents, *Linear Algebra Appl*. **364**:243-251 (2003).
38. (With B. Zhou) On generalized exponents of tournaments, *Taiwanese J. Math*. **6**(4):565-572 (2002).
39. On the Caccetta-Häggkvist conjecture, *Graphs Combin*. **18**(3):645-654 (2002).
40. (With R. Brualdi) Disjoint cycles in Eulerian digraphs and the diameter of interchange graphs, *J. Combin. Theory, Ser. B* **85**(2):189--196 (2002).
41. (With R. Yuster) A note on the number of edges guaranteeing a C_4 in Eulerian bipartite digraphs, *Electronic J. Combin*. **9**(1), Note 6, 6 pages (2002).
42. (With R. Brualdi) Landau's inequalities for tournament scores and a short proof of a theorem on transitive sub-tournaments, *J. Graph Theory* **38**(4):244-254 (2001).
43. (With D. Gregory) On the girth of digraphs with high connectivity, *Ars Combin*. **60**:201-207 (2001).

44. (With R. Brualdi) Diameter of NEPS of bipartite graphs, *Discrete Math*. **226**(1-3):373-376 (2001).
45. (With B. Liu, B. Zhou and Q. Li) Generalized index of Boolean matrices, *Ars Combin*. **57**:247-255 (2000).
46. Exponents of 2-regular digraphs, *Discrete Math*. **214**(1-3):211-219 (2000).
47. (With D. Gregory) Exponents of vertex-transitive digraphs, *Discrete Math*. **212**(3):245-255 (2000).
48. On the girth of digraphs, *Discrete Math*. **211**(1-3):167-181 (2000).
49. (With R. Brualdi) Discrepancy of matrices of zeros and ones, *Electronic J. Combin.* **6**, Research Paper 15, 12 pages (1999).
50. (With D. Gregory and S. Neufeld) Exponents of indecomposability, *Linear Algebra Appl*. **288**:229-241 (1999).
51. (With S. Neufeld) Local exponents of primitive digraphs, *Linear Algebra Appl*. **268**:117-129 (1998).
52. (With S. Neufeld) On a problem of Lewin, *Linear Algebra Appl*. **274**:411-426 (1998).
53. (With S. Neufeld) Some results on generalized exponents, *J. Graph Theory* **28**(4):215-225 (1998).
54. (With J. Xu and Z. Li) Some results on arithmetic and balanced graphs, *J. China Univ. Sci. Tech*. **28**(2):183-193 (1998).
55. Directed triangles in digraphs, *J. Combin. Theory, Ser. B* **74**:405-407 (1998).
56. (With D. Gregory) Some eigenvalue inequalities for matrices with restricted entries, *Linear and Multilinear Algebra* **41**:107-112 (1996).
57. An improvement of the Dulmage-Mendelsohn theorem, *Discrete Math*. **158**(1-3):295-297 (1996).
58. A problem on the exponent of primitive matrices, *Linear Algebra Appl*. **244**:255-264 (1996).
59. A bound on the exponent of primitivity in terms of diameter, *Linear Algebra Appl.* **244**:21-34 (1996).
60. Some estimated formulas on the Frobenius numbers, *Linear Algebra Appl*. **244**:13-20 (1996).
61. (With Q. Li) Two theorems on double loop network, *J. China Univ. Sci. Tech*. **25**(2):127-132 (1995).
62. Proof of a conjecture about the exponent of primitive matrices, *Linear Algebra Appl*. **216**:185-203 (1995).

b. Accepted by Refereed Journals:

63. (With J. Huang) New upper bounds for the bondage number of a graph in terms of its maximum degree and Euler characteristic, accepted by *Ars Combinatoria*.

c. Submitted to Refereed Journals:

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64. (With N. Dean, A. Ilic, I. Ramirez, and K. Tian) On the power domination of hypercubes, submitted to *J. Interconnection Networks*.

65. (With Z. Su and S. Li) Ellipses in relative metric space, submitted to *Studia Scientiarum Mathematicarum Hungarica*.
66. (With Z. Su, X. Ma, G. Zhang) Tilings of Right Trapezoids with Similar Triangles, submitted to Acta Mathematica Sinica

c. In Preparation to Submit to Refereed Journals:

67. (With E. Curtin, Y. Jiang, and R. Qiu) Generalization of the Friendship Theorem.

d. Published in Refereed Mathematics Conference Proceedings:

68. (With Y. Jiang, K. Qiu and R. Qiu) On the Spectrum of Middle-Cubes, *Congr. Numer*. **195**:195-204 (2009).
69. (With D. Gregory) Two conjectures on the index of convergence of an irreducible Boolean matrix, *Congr. Numer*. **146**:43-50 (2000).
70. A short proof of a theorem on primitive matrices, *Congr. Numer*. **121**:204-210 (1996).

e. Published in Refereed Computer Science Conference Proceedings:

71. (With X. Chen, Z. Jiang, K. Xiong) Practical Routing Protocol for Impromptu Mobile Social Networks, Proceedings of the 12th IEEE/IFIP International Conference on Embedded and Ubiquitous Computing, Milan, Italy, August 26-28, 2014.
72. (With Z. Mao and J. Chen) A new lower bound on error probability for non-uniform signals over AWGN channels, Proceedings of IEEE Wireless Communications and Networking Conference (WCNC), pp. 3005-3009, Shanghai, China, April 7-10, 2013.
73. (With N. Dean, A. Ilic, I. Ramirez, and K. Tian) On the power dominating sets of hypercubes, *Proceedings of the 11th International Symposium on Pervasive System, Algorithms, and Networks (I-SPAN 2011)*, pp. 488-491, August 2011.
74. (With X. Chen, T. Groves and J. Wu) Probability Delegation Forwarding in Delay Tolerant Networks, *Proceedings of the 18th IEEE International Conference on Computer Communications and Networks (ICCCN 2009)*, San Francisco, California, USA, August 2009.
75. (With X. Chen and J. Wu) A Novel Information Model for Efficient Routing Protocols in Delay Tolerant Networks, *Proceedings of the 8th International Workshop PMEO UCNS'2009* (in conjunction with the 23rd IEEE International Parallel & Distributed Processing Symposium, Rome, Italy).
76. (With X. Chen) Energy Reducing Broadcasting Algorithms in Ad Hoc Networks, *Proceedings of the 20th International Conference on Computers and Their Applications*, pp. 97-102, March 2005.
77. (With X. Chen) Reducing Connected Dominating Set Size with Multipoint Relays in Ad Hoc Wireless Networks, *Proceedings of the 7th International Symposium on Parallel Architectures, Algorithms & Networks (I-SPAN)*, pp. 539-543, May 2004.

78. (With X. Chen) Algorithms for Multiple IP Address Lookups, *Proceedings of the 15th IASTED International Conference on Parallel and Distributed Computing and Systems*, pp.844-847, November 2003.
79. (With X. Chen) A quorum-based fault-tolerant method for distributed mutual exclusion, *Proceedings of the 7th Joint Conference on Information Sciences*, pp. 568-571, September 2003.
80. (With X. Chen) Secure group key distribution protocols, *Proceedings of the ISCA 15th International Conference on Parallel and Distributed Computing Systems (PDCS-2002)*, pp. 307-311, Louisville, Kentucky, September 2002.
81. (With X. Chen and X. Jia) An upper bound for a mobile Ad-Hoc wireless network, *Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications*, pp. 1617-1620, Las Vegas, June 2001.

f. Accepted by Refereed Computer Science Conference Proceedings:

82. (With B. Li and Y. Lu) A Semantic Tree-Based Approach for Sketch-Based 3D Model Retrieval, the 23rd International Conference on Pattern Recognition (ICPR 2016). Accepted in July 2016.

B. Works not in Print

1. Invited Talks, Lectures, Presentations:

1. Fifth Annual International Research Conference for Graduate Students, Texas State University, San Marcos, TX, Nov 6-7, 2013.
2. AMS Sectional Meeting, Middle Tennessee State University, Murfreesboro, TN, Nov 3-4, 2007.
3. Workshop on the Caccatta-Häggkvist Conjecture, American Institute of Mathematics, Palo Alto, California, Jan 30 - Feb 3, 2006.
4. Seventeenth Cumberland Conference on Combinatorics, Graph Theory and Computing, Middle Tennessee State University, Murfreesboro, Tennessee, May 20 - 22, 2004.
5. Special Session on Graph Theory and Combinatorics, Sixth Joint AMS-SMM International Meeting, Houston, TX, May 13 - 15, 2004.
6. Mini-symposium on Cycle Structures in Graph Theory, 11th SIAM Conference on Discrete Mathematics, San Diego, CA, August 11-14, 2002.
7. Mini-symposium on Exponents of Digraphs and Their Generalizations, 11th SIAM Conference on Discrete Mathematics, San Diego, CA, August 11-14, 2002.
8. International Conference on Combinatorial Matrix Theory, the Combinatorial and Computational Mathematics Center at Pohang University of Science and Technology, Korea, January 14 - 17, 2002.
9. 1999 CMS Doctoral Prize Lecture, Canadian Mathematical Society winter meeting, Montréal, Québec, Canada, December 11-13, 1999.
10. Mini-conference on Combinatorial Matrix Theory, Utah State University, Logan, Utah, May 10, 1999.

2. Workshops:

1. Workshop on Research Experience for Undergraduate Faculty, American Institute of Mathematics, Palo Alto, California, July 20-24, 2009.
2. DIMACS Workshop on Graph Coloring and Structure, Princeton University, NJ, May 7-11, 2009.
3. Workshop on Algebraic Methods in Systems Biology and Statistics, Statistical and Applied Mathematical Sciences Institute, Research Triangle Park, NC, September 14-17, 2008.
4. Introduction to Ergodic Theory and Additive Combinatorics, Mathematical Sciences Research Institute, UC-Berkeley, CA, August 25-29, 2008.
5. Ergodic Ramsey Theory: A Dynamical Approach to Static Theorems, Eastern Illinois University, IL, June 22-28, 2008.
6. Random Matrix Theory, DIMACS Center-Rutgers University, NJ, March 17-19, 2008.
7. Combinatorial Group Testing, DIMACS Center-Rutgers University, NJ, May 17-19, 2006.
8. Geometric graph theory, University of North Texas, Deton, TX, May 28-June 1, 2002.
9. Structure and decomposition of graphs, East Tennessee State University, Johnson City, TN, May 20-24, 2002.

3. Conferences Attended:

1. Mathematicians in Mathematics Education, Texas A&M University, March 16 - 18, 2014.
2. NAM MathFest XXIII, San Marcos, TX, Nov 8-9, 2013.
3. CombinaTexas '11, Sam Houston State University, TX, April 16-17, 2011.
4. SIAM Conference on Discrete Mathematics, Austin, TX, June 14-17, 2010.
5. CombinaTexas '10, Texas State University, San Marcos, TX, April 24-25, 2010.
6. ACM-SIAM Symposium on Discrete Algorithms, Austin, TX, Jan 17-19, 2010.
7. CombinaTexas '09, University of Houston, TX, April 25-26, 2009.
8. AMS Sectional Meeting, Urbana, IL, March 27-29, 2009.
9. 47^{th} Midwst Graph Theory Conference, Illinois Institute of Technology, Chicago, IL, November 8, 2008.
10. CombinaTexas '08, University of Texas at El Paso, TX, April 19-20, 2008.
11. CombinaTexas '04, Texas A&M University, College Station, TX, April 9 - 10, 2004.
12. Thirty-third southeastern international conference on combinatorics, graph theory and computing, Florida Atlantic University, Boca Raton, FL, March 4 - 8, 2002.
13. Conference on horizons in combinatorics and 16th Shanks Lecture Series, Vanderbilt University, Nashville, Tennessee, May 21- 24, 2001.
14. Thirty-second southeastern international conference on combinatorics, graph theory and computing, Louisiana State University, Baton Rouge, Louisiana, February 26 - March 2, 2001.

15. Ninth quadrennial international conference on graph theory, combinatorics, algorithms and applications, Western Michigan University, Kalamazoo, Michigan, June 4-9, 2000.
16. Thirtieth southeastern international conference on combinatorics, graph theory and computing, Florida Atlantic University, Boca Raton, FL, March 8-12, 1999.
17. Canadian Mathematical Society summer meeting, University of Manitoba, Winnipeg, Canada, June 7-9, 1997.
18. Twenty-eighth southeastern international conference on combinatorics, graph theory and computing, Florida Atlantic University, Boca Raton, FL, March 3-7, 1997.
19. International symposium on combinatorics and applications, Nankai University, Tianjing, P.R. China, June 28-30, 1996.
20. Twenty-seventh southeastern international conference on combinatorics, graph theory and computing, Louisiana State University, Baton Rouge, FL, February 19-23, 1996.
21. Conference on combinatorics, Tongji University, Shanghai, P.R. China, May 28-30, 1994.

4. Colloquium/Seminar Talks at Various Universities

1. Talk at Department of Mathematics Open House, November 2017
2. Talk at the TxState Discrete Mathematics Seminar, May 1, 2015
3. Talk at the TxState Mathematics Education Seminar, April 3, 2015
4. Talk at the TxState Discrete Mathematics Seminar, September 5, 2014
5. Talk at the TxState Discrete Mathematics Seminar, October 11, 2013
6. Talk at the TxState Discrete Mathematics Seminar, September 27, 2013
7. Talk at the TxState Discrete Mathematics Seminar, February 8, 2013
8. Talk at the TxState Discrete Mathematics Seminar, September 7, 2012
9. Talk at the TxState Discrete Mathematics Seminar, February 3, 2012
10. Talk at the TxState Discrete Mathematics Seminar, February 10, 2012
11. Talk at the TxState Discrete Mathematics Seminar, October 14, 2011
12. Talk at the TxState Discrete Mathematics Seminar, March 11, 2011
13. Talk at the TxState Discrete Mathematics Seminar, February 12, 2010
14. Talk at the TxState Discrete Mathematics Seminar, February 5, 2010
15. Talk at the TxState Discrete Mathematics Seminar, September 4, 2009
16. Talk at the TxState Discrete Mathematics Seminar, January 23, 2009
17. Talk at the TxState Discrete Mathematics Seminar, January 30, 2009
18. Talk at the TxState Discrete Mathematics Seminar, February 6, 2009
19. Talk at the TxState Discrete Mathematics Seminar, December 5, 2008
20. Colloquium, Kent State University, October 23, 2008
21. Talk at the TxState Discrete Mathematics Seminar, September 19, 2008
22. Talk at the TxState Discrete Mathematics Seminar, March 28, 2008
23. Talk at the TxState Discrete Mathematics Seminar, February 1, 2008
24. Talk at the TxState Discrete Mathematics Seminar, November 30, 2007
25. Talk at the TxState Discrete Mathematics Seminar, November 16, 2007
26. Talk at the TxState Discrete Mathematics Seminar, October 5, 2007

27. Talk at the TxState Discrete Mathematics Seminar, September 28, 2007
28. Talk at the TxState Discrete Mathematics Seminar, September 21, 2007
29. Talk at the TxState Discrete Mathematics Seminar, February 29, 2007
30. Talk at the TxState Discrete Mathematics Seminar, April 27, 2007
31. Colloquium, Middle Tennessee State University, November 9, 2006
32. Talk at the TxState Discrete Mathematics Seminar, October 11, 2006
33. Talk at the TxState Discrete Mathematics Seminar, September 20, 2006
34. Colloquium, Texas State University, March 24, 2006
35. Colloquium, Georgia Institute of Technology, Atlanta, GA, January 23, 2006
36. Colloquium, Tong Ji University, Shanghai, P.R. China, June 17, 2005
37. Colloquium, Institute for Applied Mathematics, Chinese Academy of Science, June 30, 2005
38. Colloquium, University of Science and Technology of China, May 20, 2005
39. Two Colloquium Talks, University of Science and Technology of China, January 4-5, 2005
40. Colloquium, Tong Ji University, Shanghai, P.R. China, December 29, 2004
41. Colloquium, Hebei Normal University, P.R. China, December 20, 2004
42. Colloquium, Honors Summer Math Camp, TxState, July 2, 2004
43. Colloquium, Junior Summer Math Camp, TxState, June 18, 2004
44. Talk at the TxState Discrete Mathematics Seminar, February 25, 2004
45. Talk at the TxState Discrete Mathematics Seminar, February 11, 2004
46. Talk at the TxState Discrete Mathematics Seminar, September 26, 2003
47. Colloquium, Department of Computer Science, Florida Atlanta University, July 18, 2003
48. Colloquium, Georgia State University, March 12, 2003
49. Talk at the TxState Discrete Mathematics Seminar, January 24, 2003
50. Colloquium, Tong Ji University, Shanghai, P.R. China, January 10, 2002
51. Talk at the TxState Discrete Mathematics Seminar, March 18, 2002
52. Four Talks at the Department Discrete Mathematics Seminar, TxState, 2001
53. Seminar Talk, Math Club, TxState, November 7, 2001
54. Approximately 15 Seminar Talks at Queen's University, 1994 -- 2000
55. Colloquium, Simon Fraser University, February 2000
56. Three Seminar Talks at University of Illinois at Urbana-Champaign, 2000
57. Three Seminar Talks at University of Wisconsin-Madison, 1998-1999
58. Colloquium, Carleton University, April 1999
59. Colloquium, University of Regina, March 1999
60. Colloquium, University of Waterloo, February 1999
61. Memorial University of Newfoundland, January 1999
62. Three Colloquium Talks at Tong Ji University, July 1998
63. Colloquium, University of Science and Technology of China, June 1996

C. Grants and Contracts

1. Funded External Grants and Contracts:

1. REU Site in Discrete Mathematics and Algebra, Student Education Grant (NSF, DMS 1005206, $210,000, PI), 2010-2013.
2. National Research Experience for Undergraduates Program, Student Education Grant (MAA, $31,150, Co-PI), 2010-2011.
3. Research Experience for Undergraduates, Supplement Grant (NSF, CNS 0934028, $16,000, PI), 2009-2010.
4. Study on the Approaches to Determination for Classification of Manifolds Trajectory in Complex Systems of Fire, Research Grant (National Natural Science Foundation of China, Program No. 50876097, CHN$360,000, Co-PI), 2009-2011.
5. A Novel Information Model for Efficient Routing Protocols in Delay Tolerant Networks with General Mobility, Research Grant (NSF, CNS 0835834, $59,842, PI), 2008-2010.
6. Caccetta-Häggkvist Conjecture and Related Conjectures, Research Grant (Texas Higher Education Coordinating Board, Advanced Research Program 003615-0039-2007, $67,000, PI), 2008-2011.
7. American Mathematical Society, Travel Grant (Fan Fund China Exchange Program, $4,000, Co-PI), 2008-2009.
8. Natural Sciences and Engineering Research Council of Canada, Postdoctoral Research Fellowship (CAN$70,000), 1998-2000.

2. Funded Internal Grants and Contracts:

9. On the Sullivan Conjecture, TxState Faculty Research Enhancement Grant ($8,000, PI), 2012-2013.
10. Set Union Estimates and Their Applications, TxState Faculty Research Enhancement Grant ($8,000, PI), 2010-2011.
11. The Chudnovsky-Seymour-Sullivan Conjecture, TxState Faculty Research Enhancement Grant ($8,000, PI), 2008-2009.
12. Searching for Sorted Sequences of Kings in Tournaments, TxState Faculty Research Enhancement Grant ($8,000, PI), 2005-2006.
13. On the Seymour Second Neighborhood Conjecture, TxState Faculty Research Enhancement Grant ($8,000, PI), 2002-2003.
14. On the Caccetta-Häggkvist Conjecture and Some Related Conjectures, TxState Faculty Research Enhancement Grant ($8,000, PI), 2001-2002.

3. Pending Grants and Contracts:

4. Submitted, but not Funded, External Grants and Contracts:

1. REU Site in Discrete Mathematics and Algebra, Student Education Grant (NSF, DMS 1263039, $345,583, PI), 2013-2015. (Not Funded)
2. The Chudnovsky-Seymour-Sullivan Conjecture and Cycles in Triangle-free Digraphs, THEBC ($144,900), 2010-2012. (Not Funded)
3. CBMS/NSF Regional Conference on Circuits in Digraphs, NSF ($29,836), 2008. (Not Funded)

4. Nonnegative Matrix Factorization Applied in Pattern Recognition, National Natural Science Foundation of China (247,600 Chinese Yuan) (Co-PI), 2008. (Not Funded)
5. CBMS/NSF Regional Conference on Circuits in Digraphs, NSF ($30,492), 2007. (Not Funded)
6. Ky and Yu-Fen Fan Fund Travel Grant, AMS ($5,000), 2007. (Not Funded)
7. On the Frame-Stewart conjecture about the multipeg towers of Hanoi, NSF, (Co-PI), Fall 2004. (Not Funded)
8. RTG: Algebra and Combinatorics, (NSF, DMS 1547096, $2,120,714, PI: Lucas Rusnak), Role: Senior Personnel. (Not Funded)
9. RTG Algebra and Combinatorics (NSF, DMS XXX, $2,102,637, PI: Lucas Rusnak), Role: Co-PI.

5. Submitted, but not Funded, Internal Grants and Contracts:

1. Set Union Estimates and Their Applications, TxState Faculty Research Enhancement Grant ($8,000), 2009-2010. (Not Funded)
2. Breaking Cycles in Digraphs, Texas State One Time Grant ($57,800), 2010-2012. (Not Funded)
3. Caccetta-Häggkvist Conjecture and Related Conjectures, Joann Cole Mitte Faculty Grant for Excellence ($25,000), 2008-2010. (Not Funded)
4. Caccetta-Häggkvist Conjecture and Related Conjectures, Joann Cole Mitte Faculty Grant for Excellence ($25,000), 2008-2009. (Not Funded)
5. On the Chudnovsky-Seymour-Sullivan conjecture, TxState Faculty Research Enhancement Grant ($8,000), 2007-2008. (Not Funded)
6. On the Frame-Stewart conjecture about the multipeg towers of Hanoi, TxState Faculty Research Enhancement Grant ($8,000), 2004-2005. (Not Funded)
7. On the Frame-Stewart conjecture about the multipeg towers of Hanoi, TxState Faculty Research Enhancement Grant ($8,000), 2003-2004. (Not Funded)
8. Combinatorial Problems in Computational Biology, University Public Lecture Series Proposal ($1,800), 2007. (Not Funded)
9. NSF-CBMS Regional Research Conference on Circuits in Digraphs, University Public Lecture Series Proposal ($5,000), 2006. (Not Funded)

D. Awards and Honors:

1. 2004, 2013: TxState Presidential Award for Excellence in Scholarly/Creative Activities
2. 2003, 2008, 2009, 2010, 2012: Runner-up for the TxState Presidential Award for Excellence in Scholarly/Creative Activities
3. 2004, 2008, 2010, 2012: Department of Mathematics Faculty Research Excellence Award
4. 2007: Named by National Academy of Sciences as a Kavli Frontiers Fellow. (NAS only named 76 Kavli Frontiers Fellows in all areas in science in 2007.)
5. 1999: Canadian Mathematical Society Doctoral Prize
6. 1999: Winner of a Governor General's Academic Gold Medal in Canada

7. 1993-1994: President Award, Chinese Academy of Science
8. 1993: One of the ten first prizes in the 3rd "Challenge Cup", P.R. China
9. 1986: One of the six high school students, representing P.R. China, attending the 27th International Mathematical Olympiad held in Warsaw, Poland
10. 1985: The 2nd placed student in the final of the Chinese Mathematical Olympiad

E. Visiting Professors Hosted:

1. Guanghui Xu, ZheJiang Forest University (Feb 2006 – Aug 2006)
2. Yanling Shao, North University of China (Aug 2006 – Feb 2007)
3. Yaokun Wu, Shanghai Jiao Tong University (June – September 2009)
4. Ying Liu, Shanghai Lixin University of Commerce (Aug 2013 – Aug 2014)

F. Postdoctoral Research Fellows Supervised:

1. Mahmud Akelbek, Weber State University (January – August 2009)
2. Liangpan Li, Shanghai Jiao Tong University (February 2009 – December 2009)
3. Chao Yang, Sun Yat-Sen University (August 2009 – August 2010)
4. Zhanjun Su, Hebei Normal University (August 2010 – August 2011)

IV. SERVICE

A. University

2017-2018	University Research Enhancement Committee African American Studies committee
2016-2017	University Research Enhancement Committee African American Studies committee
2015-2016	University Research Enhancement Committee
2014-2015	University Research Enhancement Committee
2012-2013	Retirement Programs Committee
2011-2012	Retirement Programs Committee
2010-2011	Presidential Award for Excellence in Research Selection Committee Retirement Programs Committee
2009-2010	Presidential Award for Excellence in Research Selection Committee Retirement Programs Committee
2008-2009	Presidential Award for Excellence in Research Selection Committee Retirement Programs Committee
2007-2008	Retirement Programs Committee
2006-2007	Retirement Programs Committee
2005-2006	Presidential Award for Excellence in Research Selection Committee Retirement Programs Committee
2004-2005	Presidential Award for Excellence in Research Selection Committee
2003-2004	Graduate Scholarship Selection Committee

B. College

2017-2018	College REP Committee (Chair) Ingram Hall Active Classroom Design and Allocation Committee (as Math Department Representative)
2016-2017	College REP Committee (Chair) Ingram Hall Active Classroom Design and Allocation Committee (as Math Department Representative)
2015-2016	College REP Committee (Chair) College Review Group (as the Department's 2nd alternate) Ingram Hall Active Classroom Design and Allocation Committee (as Math Department Representative) Student Entrepreneurship Initiative Committee (as Math Department Representative)
2014-2015	College REP Committee (Chair) College Review Group (as the Department's 2nd alternate)
2013-2014	College Review Group (as the Department's 2nd alternate)
2012-2013	College Review Group (as the Department's 2nd alternate) Scholarship Committee
2011-2012	Scholarship Committee
2010-2011	Scholarship Committee
2005-2006	ARP Proposal Selection Committee

C. Departmental:

2017-2018	Associate Chair for Mathematics Department (in charge of research and graduate programs) Awards Committee Budget Committee (Chair) Performance/Merit Committee (Chair) Scheduling Oversight Committee
2016-2017	Associate Chair for Mathematics Department (in charge of research and graduate programs) Awards Committee Budget Committee Doctoral Committee Performance/Merit Committee (Chair) Scheduling Oversight Committee Discrete Mathematics Ph.D. Qualifying Exam Committee (Chair) Department Academic Program Review Committee (Chair) Department Strategic Plan (2017-2023) Committee (Chair)
2015-2016	Associate Chair for Mathematics Department (in charge of research and graduate programs) Awards Committee Budget Committee Doctoral Committee Faculty Recruitment Committee

	Performance/Merit Committee (Chair) Scheduling Oversight Committee Discrete Mathematics Ph.D. Qualifying Exam Committee (Chair) Ad-Hoc Committee Reviewing PhD Discrete Math Graph Theory (Chair) Department Academic Program Review Committee (Chair)
2014-2015	Awards Committee Budget Committee Doctoral Committee Liaison Committee (Computer Science, Math 2358, 3398) Performance/Merit Committee Discrete Mathematics Ph.D. Qualifying Exam Committee (Chair) Math 2471, 2472, 3373 Textbook Committee (Chair)
2013-2014	Awards Committee Faculty Recruitment Committee Colloquium Committee Liaison Committee (Computer Science, Math 2358, 3398)
2012-2013	Awards Committee (Chair) Faculty Recruitment Committee Library Committee Colloquium Committee Liaison Committee (Computer Science, Math 2358, 3398)
2011-2012	Awards Committee (Chair) Department Strategy Plan Committee Library Committee Colloquium Committee Graduate Recruitment Committee Liaison Committee (Computer Science, Math 2358, 3398) PhD Qualifying Exam Committee (for Discrete Mathematics)
2010-2011	Awards Committee (Chair) Library Committee Liaison Committee (Computer Science, Math 2358, 3398)
2009-2010	Awards Committee (Chair) Faculty Recruitment Committee Library Committee Liaison Committee (Computer Science, Math 2358, 3398) PhD Qualifying Exam Committee (for Discrete Mathematics)
2008-2009	Awards Committee (Chair) Performance/Merit Committee (Chair) Program and Curriculum Committee Library Committee Liaison Committee (Computer Science, Math 2358, 3398) PhD Qualifying Exam Committee (for Discrete Mathematics) SACS Assessment Program
2007-2008	Awards Committee (Chair) Performance/Merit Committee Program and Curriculum Committee

	Library Committee
2006-2007	Awards Committee (Chair) Performance/Merit Committee Ph.D. Committee Program and Curriculum Committee Library Committee Mentor, Honors Summer Math Camp
2005-2006	Awards Committee (Chair) Ph.D. Committee Program and Curriculum Committee Library Committee Mentor, Honors Summer Math Camp
2004-2005	Awards Committee (Chair) Colloquium Committee Organizer, Discrete Mathematics Seminar Mentor, Honors Summer Math Camp Graduate Instructional Assistant Faculty Advisor
2003-2004	Awards Committee (Chair) TA Recruitment Committee Organizer, Discrete Mathematics Seminar Mentor, Honors Summer Math Camp Graduate Instructional Assistant Faculty Advisor
2002-2003	Awards Committee TA Recruitment Committee Math 2321/2331 Textbook Committee Initiate a Joint Ph.D. Program with Universities in China Graduate Instructional Assistant Faculty Advisor
2001-2002	Library Committee TA Recruitment Committee

Organizer, TxState Discrete Math Seminar, September 2003 – Present.

Graduate Instructional Assistant Faculty Advisor, September 2003 – Present

Faculty Mentor for Dr. L. Rusnak (2013-2014), Dr. S. Oh (2014-Present), Dr. E. Balmer (2014-Present).

D. Community:

I have been a mentor for the Honors Summer Math Camp since 2003. I volunteer to supervise teams of Honors Summer Math Camp students on research projects. Below are the results of the teams I supervised in the annual Siemens Westinghouse Competition.

Year	Number of Teams	Results
2012	1	Did not win
2011	1	Regional Finalist

2010	1	Did not submit project
2009	1	**National Champion**
2008	1	Did not win.
2007	2	Both Teams: Regional Semi-finalist
2005	1	Regional Finalist
2004	2	Team 1: Regional Semi-finalist Team 2: Did not win.
2003	1	Regional Finalist

I taught a one-week short course for Honors Summer Math Camp in 2007.
I have taught a level 5 class on problem solving for Junior Math Camp since 2008.
I have coached the PMWC (Primary Mathematics World Contest) team at Junior Math Camp since 2008. Our 2008, 2013, 2014 teams won the PMWC competition in Hong Kong.

E. Professional:

Serve as Editorial Board Member for Mathematical Journals:

1. ISRN Discrete Mathematics
2. Pure and Applied mathematics Journal

Serve as Program Committee member for Conferences: I-SPAN

1. I-SPAN 2013
2. I-SPAN 2014

Serve as Referee for Mathematical Journals:

1. Annals of Combinatorics (3 Papers)
2. Applied Mathematics Letters (4 Papers)
3. Ars Combinatoria (6 Papers)
4. Australasian Journal of Combinatorics (2 Papers)
5. Computers and Mathematics with Applications (2 Papers)
6. Discrete Applied Mathematics (4 Papers)
7. Discrete Mathematics (14 Papers)
8. Discussiones Mathematicae - Graph Theory (1 Paper)
9. Electronic Journal of Combinatorics (2 Papers)
10. Electronic Journal of Linear Algebra (1 Paper)
11. European Journal of Combinatorics (1 Paper)
12. Graphs and Combinatorics (4 Papers)
13. Integers: Electronic Journal of Combinatorial Number Theory (1 Paper)
14. International Journal of Computer Mathematics (1 Paper)
15. International Journal of Computers and Applications (1 Paper)
16. International Journal of Mathematics and Mathematical Sciences (1 Paper)
17. Journal of Applied Mathematics and Computing (2 Papers)
18. Journal of Combinatorial Theory Series A (1 Paper)
19. Journal of Combinatorial Theory Series B (3 Papers)

20. Journal of Graph Theory (7 Papers)
21. Journal of Interconnection Networks (2 Papers)
22. Linear Algebra and its Applications (28 Papers)
23. Linear Algebra and its Applications (Special Issue Devoted to the Euro-workshop on Algebraic Graph Theory) (1 Paper)
24. Linear and Multilinear Algebra (5 Papers)
25. Networks (1 Paper)
26. Quarterly Journal of the Belgian, French and Italian Operations Research Societies (1 Paper)
27. Science in China (1 Paper)
28. SIAM Journal on Discrete Mathematics (2 Papers)
29. SIAM Journal on Matrix Analysis and Applications (1 Paper)
30. Southeast Asian Bulletin of Mathematics (1 Paper)
31. Taiwanese Journal of Mathematics (2 Papers)
32. Utilitas Mathematica (1 Paper)

Serve as Reviewer for American Mathematical Society Math Reviews:

I have reviewed 11 papers for AMS Math Reviews.