TEXAS STATE VITA

I. Academic/Professional Background

A. Name and Title

Name: Dr. Lucas J. Rusnak Title: Associate Professor

B. Educational Background

Degree	*Year*	*University*	*Major*	*Thesis/Dissertation*
PHD	2010	State Univ of NY at Binghamton	Mathematics	
MA	2003	State Univ of NY at Binghamton	Mathematics	
BS	2002	State Univ of NY at Binghamton	Mathematical Sciences	

C. University Experience

Position	*University*	*Dates*
Associate Professor, Mathematics	Texas State University	September 2023 - Present
Assistant Professor, Mathematics	Texas State University. San Marcos, TX	September 2016 - August 2023
Senior Lecturer, Mathematics	Texas State University. San Marcos, TX	September 2014 - August 2016
Lecturer, Mathematics	Texas State University. San Marcos, TX, United States	September 2010 - August 2014
Adjunct Lecturer, Mathematics	Binghamton University. Binghamton, NY, United States	January 2008 - August 2010

II. TEACHING

A. Teaching Honors and Awards:

Award / Honor Nominee: President Award for Excellence in Teaching 2019, Texas State University.
2019

Award / Honor Recipient: Presidential Distinction Award for Excellence in Teaching 2019, Texas State University.
2019

Award / Honor Recipient: Recognition for Supervision of Honors Thesis, Texas State University Honors College.
2019

Award / Honor Recipient: Student Recognition x16, Retention Management and Planning.
2011 - 2019

Award / Honor Nominee: President Award for Excellence in Teaching 2018, Texas State University.
2018

Award / Honor Recipient: Presidential Distinction Award for Excellence in Teaching 2018, Texas State University.
2018

Award / Honor Recipient: Teaching Excellence Award, Department of Mathematics - Texas State University.
December 7, 2018

Award / Honor Recipient: Favorite Professor, Alfred H. Nolle Chapter of the Alpha Chi National Honor Society.
2015
2014

Award / Honor Recipient: Recognition for Supervision of Honors Thesis, Texas State University & Honors College.
2015

Award / Honor Recipient: Certificate of Appreciation - Outstanding Research Mentor, Mathworks.
2013

B. Courses Taught:

Texas State University:

MATH 1315 - COLL ALGEBRA

MATH 1319 - MATH BUS & ECO I

MATH 1329 - MATH BUS & ECO II

MATH 2321 - CALC LIFE SCI I

MATH 2328 - ELEMENTARY STATS

MATH 2331 - CALC LIFE SCI II

MATH 2358 - DISCRETE MATHEMATICS I

MATH 2417 - PRE-CALCULUS MATH

MATH 2471 - CALCULUS I

MATH 2472 - CALCULUS II

MATH 3323 - DIFFEREN EQUAT

MATH 3373 - CALCULUS III

MATH 3376 - APPLIED LINEAR ALGEBRA

MATH 3377 - LINEAR ALGEBRA

MATH 4307 - MODERN ALGEBRA

MATH 4336 - STUDIES IN APPLIED MATH

MATH 4336 - STUDIES APPL MATH

MATH 4337B - RESEARCH IN DISCRETE MATH

MATH 4350 - COMBINATORICS

MATH 5317 - PROB ADV MATH

MATH 5350 - COMBINATORICS

MATH 5355 - APPLD GRAPH THEORY

MATH 5358 - APPLIED DISCR MATH

MATH 5388 - DISCRETE MATH

MATH 5392 - SURVY OF GEOMTRIES

MATH 5399A - THESIS

MATH 5399B - THESIS

MATH 7321 - GRAPH THEORY

MATH 7331 - COMBINATORICS

MATH 7371G - APPL DISCRETE MATH

MATH 7385 - INDPNDT STUDY MATH

Binghamton University:

MATH 107 - Basic Integrated Mathematics

MATH 108 - Algebra and Trigonometry

MATH 220 - Calculus for Management Decisions

MATH 221 - Calculus I

MATH 222 - Calculus II

MATH 304 - Linear Algebra

MATH 314 - Discrete Mathematics

MATH 323 - Calculus III

MATH 381 - Graph Theory

C. Directed Student Learning (i.e. theses, dissertations, exit committees, etc.):

Member, Dissertation, "SCALABLE HEURISTICS FOR NP-HARD PROBLEMS IN LARGE SIGNED NETWORKS", Status: Completed. (September 2023 - Present). Computer Science, Texas State University.
Student(s): Muhieddine Shebaro, Doctoral, PhD.

Member, Dissertation, Status: In Progress. (2024 - January 2026). Computer Science, Texas State University.
Student(s): Cam Bradley, Doctoral, PhD.

Member, Dissertation, "Scalable Balance Detection for Random Tree and Pendancy Correlation", Status: In Progress. (2023 - January 2026). Computer Science, Texas State University.
Student(s): Avery Vanausdal, Doctoral, PhD.

Supervisor / Chair, Master's Thesis, "Identification of Dichotomous Communities in Signed Graphs Using Coherence-Based Metrics", Status: Completed. (December 2024 - August 2025). Texas State University.
Student(s): Andrew Baas, Graduate, Mathematics.

Supervisor / Chair, Honor's Thesis, "Balance Theoretic Geospatial Mapping of State-level Crime Patterns", Status: Completed. (October 2023 - 2024). Mathematics, Texas State University.

Student(s): Axel Sanchez Moreno, Undergraduate, BS.

Supervisor / Chair, Applied Research Project, "H-LSAMP: Data Science and Balance Theory", Status: Completed. (2023 - 2024).
Student(s): Abdullah Ibn Kamal, Undergraduate, BS.

Supervisor / Chair, Applied Research Project, "H-LSAMP: Data Science and Balance Theory", Status: Completed. (2023 - 2024).
Student(s): Alexis Harris, Undergraduate, BS.

Supervisor / Chair, Applied Research Project, "H-LSAMP: Data Science and Balance Theory", Status: Completed. (2023 - 2024).
Student(s): Azul Martinez, Undergraduate, BS.

Supervisor / Chair, Applied Research Project, "H-LSAMP: Data Science and Balance Theory", Status: Completed. (2023 - 2024).
Student(s): Calvin Albin, Undergraduate, BS.

Supervisor / Chair, Applied Research Project, "H-LSAMP: Data Science and Balance Theory", Status: Completed. (2023 - 2024).
Student(s): Michala Gradner, Undergraduate, BS.

Supervisor / Chair, Applied Research Project, "H-LSAMP: Data Science and Balance Theory", Status: Completed. (2023 - 2024).
Student(s): Saad Rafiq, Undergraduate, BS.

Supervisor / Chair, Applied Research Project, "H-LSAMP: Data Science and Balance Theory", Status: Completed. (2023 - 2024).
Student(s): Tim Maraj, Undergraduate, BS.

Supervisor / Chair, Master's Thesis, "COMBINATORIAL DETERMINANTS VIA CONTRIBUTOR DUALITY", Status: Completed. (November 2023). Mathematics, Texas State University.
Student(s): Blake Dvarishkis, Graduate, MS.

Supervisor / Chair, Applied Research Project, "U.S. County Political Perception Drift (2012-2020) via Balance Theoretic Reconstruction and Signed Spectral Clustering", Status: Completed. (January 2023 - November 2023). Mathematics, Texas State University.
Student(s): Abdullah Ibn Kamal, Undergraduate, BS.
Michala Gradner, Undergraduate, BS.

Supervisor / Chair, Applied Research Project, "Signed Data Analytics: Producing Socially Relevant Cuts Using Social Balance Theory as an Alternative to Spectral Clustering", Status: Completed. (August 2023). Mathematics, Texas State university.
Student(s):

Supervisor / Chair, Applied Research Project, "A Novel Spatiotemporal Epidemiological Networking Resilience Model for COVID-19", Status: Completed. (August 2022). Mathematics, Texas State University.
Student(s): William Dai, Undergraduate.
Aaron Guo, Undergraduate.
Russell Li, Undergraduate.
Joyce Qu, Undergraduate.
Charles Sun, Undergraduate.
Sophia Zhong, Undergraduate.

Supervisor / Chair, Applied Research Project, "Tutte Polynomial Final Report", Status: Completed. (August 2021). Mathematics (Mathworks), Texas State University.
Student(s): Alice Guo, Undergraduate.
Andy Jiang, Undergraduate.
Oliver Kahn, Undergraduate.
Rich Wang, Undergraduate.

Supervisor / Chair, Applied Research Project, "Kirchhoff Laws for Hypergraphs", Status: Completed. (August 2021). Mathematics (Mathworks), Texas State University.
Student(s): Amy Guan, Undergraduate.
Skyler Johnson, Undergraduate.
Jennifer Yan, Undergraduate.
Peter Ye, Undergraduate.

Supervisor / Chair, Master's Thesis, "Two Applications of Hypergraphic Matrix Minors via Contributors", Status: Completed. (May 14, 2021). Mathematics, Texas State University.
Student(s): Josephine Reynes, Graduate, MS.

Supervisor / Chair, Applied Research Project, "Generalizing Kirchhoff's Laws to Signed Graphs", Status: Completed. (August 2020). Mathematics (Mathworks), Texas State University.
Student(s): Amelia Hu, Undergraduate.
Skyler Johnson, Undergraduate.
Peter Ye, Undergraduate.

Supervisor / Chair, Applied Research Project, "An Oriented Hypergraphic Approach to Hadamard's Conjectures", Status: Completed. (August 2020). Mathematics (Mathworks), Texas State University.
Student(s): Russell Li, Undergraduate.
Eric Yan, Undergraduate.
Justin Yu, Undergraduate.

Supervisor / Chair, Applied Research Project, "Generalizing Tutte Polynomial to Hypergraphs", Status: Completed. (September 2019). Mathematics, Texas State University.
Student(s): Michelle Li.
Elijah Stroud.
Michelle Xiang.

Supervisor / Chair, Applied Research Project, "Representable Matroids and Oriented Hypergraphs", Status: Completed. (September 2019). Mathematics, Texas State University.
Student(s): Selena Li.
Brian Xu.
Eric Yan.
Shirley Zhu.

Supervisor / Chair, Honor's Thesis, "Total Minor Polynomials for Oriented Hypergraphs", Status: Completed. (September 2018 - May 2019). Mathematics, Texas State University.
Student(s): Josephine Reynes, Undergraduate, Bachelors.

Supervisor / Chair, Applied Research Project, "Correlation between the Tutte Polynomials of Simple Graphs, Bipartite Graphs, and Hypergraphs", Status: Completed. (October 2018).
Student(s): Devanshi Gupta.
Danika Luo.
Michelle Wang.

Supervisor / Chair, Applied Research Project, "Incidence Hypergraphic Vizing's Theorem", Status: Completed. (October 2018).
Student(s): Jenny Lu.
Eric Wu.
Amy Zhao.

Supervisor / Chair, Applied Research Project, "A Characterization of Integer Matrix Minors via Oriented Hypergraphs", Status: Completed. (September 2017).
Student(s): Junu Lee.
Elizabeth Guo.
Saba Zerafa.

Supervisor / Chair, Master's Thesis, Status: Completed. (May 2017). Mathematics, Texas State University.
Student(s): Ellen Robinson, Graduate, M.S.

Supervisor / Chair, Applied Research Project, "A Generalization of Structural Degree of Imbalance and Complexity in Oriented Hypergraphs.", Status: Completed. (September 2016).
Student(s): Gina Chen.
Vivian Liu.
Kyle Wang.

Supervisor / Chair, Honor's Thesis, "A New Interpretation of the Matrix Tree Theorem Using Weak Walk Contributors and Cycle Activation", Status: Completed. (January 21, 2015 - December 1, 2015). Mathematics, Texas State University.
Student(s): Ellen Robinson, Undergraduate, BA.

Supervisor / Chair, Applied Research Project, "Signed Path Matrices and Oriented Hypergraphic Generalizations.", Status: Completed. (September 2015).
Student(s): Eric Li.
Amber Lu.
David Xiang.

Supervisor / Chair, Applied Research Project, "A Characterization of Structural Frustration via Minimal Graphic Hyperplanes.", Status: Completed. (September 2014).
Student(s): Vincent Liu.
Evan Tey.
Jessica Yu.

Supervisor / Chair, Applied Research Project, "A characterization of oriented hypergraphic balance via signed weak walks", Status: Completed. (September 2013).
Student(s): Vinciane Chen.
Angeline Rao.
Alex Yang.

D. Courses Prepared and Curriculum Development:

Differential Equations, Course Notes, Texas State University: December 2016.

Survey's of Geometry, Course notes, Texas State University: 2016.

Basic Integrated Mathematics (MATH 107), Curriculum Development, Binghamton University: 2003.

Math 3377, Curriculum Development, Texas State University: December 2020.

Math 7321, First Time Course Preparation, Texas State University: December 2020.

Combinatorics, First Time Course Preparation, Texas State University: 2013.

Complex Analysis (Undergraduate), New Course, Texas State University: 2013.

F. Other:

Guest Lecture, Math 5311. (2012).

Presidential Award Letters of Support, Presidential Award Letters of Support. (2019).

Presidential Award Letters of Support, Presidential Award Letters of Support. (2018).

Student Class Retrospective, Student Class Retrospective. (2019).

Student Reviews 2012, Student Reviews 2012. (2012).

Student Reviews 2013, Student Reviews 2013. (2013).

Student Reviews 2014, Student Reviews 2014. (2014).

Student Reviews 2015, Student Reviews 2015. (2015).

Student Reviews 2016, Student Reviews 2016. (2016).

Student Reviews 2017, Student Reviews 2017. (2017).

Student Reviews 2018, Student Reviews 2018. (2018).

Student Reviews 2019, Student Reviews 2019. (2019).

Student Reviews 2020, Student Reviews 2020. (2020).

Student Reviews 2021, Student Reviews 2021. (2021).

Student Reviews 2022, Student Reviews 2022. (2022).

Student Reviews 2023, Student Reviews 2023. (2023).

Student Reviews 2024, Student Reviews 2024. (2024).

Student Accomplishments:

Award:

Supervisor, SPARK Award Fall 2015-Spring 2017. (2017). Texas State University.
Student(s): Josephine Reynes, Undergraduate.

Mentor, Siemens Competition Regional Semi-Finalist. "A Characterization of Integer Matrix Minors via Oriented Hypergraphs," Siemens Competition 2017. Status: Completed. (October 2017). Mathematics (Mathworks), Texas State University.
Student(s): Junu Lee.
Elizabeth Guo.
Saba Zerafa.

Mentor, Siemens Competition Regional Semi-Finalist. "A Generalization of Structural Degree of Imbalance and Complexity in Oriented Hypergraphs.," Siemens Competition 2016. Status: Completed. (October 2016). Mathematics (Mathworks), Texas State University.
Student(s): Gina Chen.
Vivian Liu.
Kyle Wang.

Mentor, Siemens Competition Regional Finalist. "Signed Path Matrices and Oriented Hypergraphic Generalizations," Siemens Competition 2015.

Status: Completed. (October 2015). Mathematics (Mathworks), Texas State University.
Student(s): David Xiang.
Amber Lu.
Eric Li.

Mentor, Siemens Competition Regional Finalist. "A Characterization of Balance in Oriented Hypernetworks via Generalized Signed Walks," Siemens Competition 2013. Status: Completed. (October 2013). Mathematics (Mathworks), Texas State University.
Student(s): Angeline Rao.
Vinciane Chen.
Alex Yang.

Exhibition:

Supervisor. AfroTech. (2023).
Student(s): Alexis Harris, Undergraduate, BS.

Grant:

Mentor, NSF-GRFP. "Applying a Predictive Model to Detect Abnormalities in the Volume of Amniotic Fluid in an Ultrasound." (2025).
Student(s): Michala Gradner, Undergraduate, BS.

Presentation:

Mentor. "Signed Path Matrices and Oriented Hypergraphic Generalizations," Mathematical Association of America (MAA) MathFest 2016 national conference held in Columbus, OHInvited to present research paper at Mathematical Association of America (MAA) MathFest 2016, Columbus, OH. Status: Completed. (2016).
Student(s): Amber Lu.

Supervisor, Outstanding Undergraduate Research Award. "A New Interpretation of the Matrix Tree Theorem Using Weak Walk Contributors and Cycle Activation.," Collin College Undergraduate Research Conference, Collin College. Status: Completed. (2016). Mathematics, Texas State University.
Student(s): Ellen Robinson, Undergraduate, Mathematics.

Published Work:

Supervisor, Journal Publication. "A characterization of oriented hypergraphic balance via signed weak walks." Status: Completed. (2015). Mathematics (Mathworks), Texas State University.
Student(s): Angeline Rao.
Vinciane Chen.
Alex Yang.

Scholarship:

Mentor, RIPS Scholar. Research in Industrial Projects for Students (RIPS). (2025).
Student(s): Axel Sanchez Moreno, Undergraduate, BS.

Supervisor, Texas State Achievement Scholarship Fall 2015- Spring 2019. (2019).
Student(s): Josephine Reynes, Undergraduate.

Mentor, Mariel Muir Science Scholarship Fall 2018-Spring 2019. (2018). Texas State University.
Student(s): Josephine Reynes, Undergraduate.

Supervisor, Wayment Endowed Math Scholarship Fall 2018-Spring 2019. (2018). Mathematics, Texas State University.
Student(s): Josephine Reynes, Undergraduate.

Mentor, Durrenberger Scholarship for Women Fall 2018-Spring 2019. Status: Completed. (2018). Texas State University.
Student(s): Josephine Reynes, Undergraduate.

Mentor, 2017 Barry Goldwater Scholarship. Status: In Progress. (2017). Mathematics, University of North Texas.
Student(s): Amber Lu.

G. Teaching Professional Development Activities Attended

Workshop, "Excellence in Teaching and Learning Workshop," Texas State University. (August 2016 - May 2017).

III. SCHOLARLY/CREATIVE

A. Works in Print (including works accepted, forthcoming, in press):

2. Articles:

a. Refereed Journal Articles:

Rusnak, L. J., Reynes, J. E. A., Li, R. L., Yan, E., & Yu, J. (2024). The Determinant of {±1}-Matrices and Oriented Hypergraphs. *Linear Algebra and Its Applications*, *702*, 161–178. https://doi.org/10.1016/j.laa.2024.08.013 http://dx.doi.org/10.1016/j.laa.2024.08.013

Grilliette, W., & Rusnak, L. J. (2023). Incidence hypergraphs: the categorical inconsistency of set-systems and a characterization of quiver exponentials. *Journal of Algebraic Combinatorics*, *58*(1), 1–36. https://doi.org/https://doi.org/10.1007/s10801-023-01232-8

Rusnak, L. J., Tesic, J., & Tomasso, M. (2022). Advances in scaling community discovery methods for signed graph networks. *Journal of Complex Networks*, *10*(3). https://doi.org/https://doi.org/10.1093/comnet/cnac013

Rusnak, L. J., Li, S., Xu, B., Yan, E., & Zhu, S. (2022). Oriented hypergraphs: Balanceability. *Discrete Mathematics*, *345*(6). https://doi.org/https://doi.org/10.1016/j.disc.2022.112832 https://www.sciencedirect.com/science/article/pii/S0012365X22000383

Tomasso, M. E., Rusnak, L. J., & Tesic, J. (2022). Advances in Scaling Community Discovery Methods for Large Signed Graph Networks. *Network Science*, *10*(3). https://doi.org/10.1093/comnet/cnac013 https://doi.org/10.1093/comnet/cnac013

Rusnak, L. J., Grilliette, W. B., & Reynes, J. (2022). Incidence Hypergraphs: Injectivity, Uniformity, and Matrix-tree Theorems. *Linear Algebra and Its Applications*, *634*, 77–105. https://doi.org/https://doi.org/10.1016/j.laa.2021.10.023 https://www.sciencedirect.com/science/article/abs/pii/S0024379521003888

Rusnak, L. J., Reynes, J. E. A., Johnson, S., & Ye, P. (2021). Generalizing Kirchhoff Laws for Signed Graphs. *Australasian Journal of Combinatorics*, *81*(3), 388–411. Retrieved from https://ajc.maths.uq.edu.au/pdf/81/ajc_v81_p388.pdf https://ajc.maths.uq.edu.au/pdf/81/ajc_v81_p388.pdf

Rusnak, L. J., & Tesic, J. (2021). Characterizing Attitudinal Network Graphs through Frustration Cloud. *Data Mining and Knowledge Discovery*, *35*, 2498–2539. https://doi.org/https://doi.org/10.1007/s10618-021-00795-z https://link.springer.com/article/10.1007/s10618-021-00795-z

Rusnak, L. J., & Tesic, J. (2021). Characterizing Attitudinal Network Graphs through Frustration Cloud. *Data Mining and Knowledge Discovery*, *35*(6), 2498–2539. https://doi.org/10.1007/s10618-021-00795-z https://www.springer.com/journal/10618

Rusnak, L. J., Shroff, P. R., Couvillion, E. B., & Schmidt, M. (2019). Oriented Hypergraphic Matrix-tree Type Theorems and Bidirected Minors via Boolean Order Ideals. *Journal of Algebraic Combinatorics*, *49*(4), 461–473. https://doi.org/https://doi.org/10.1007/s10801-018-0831-5 https://link.springer.com/article/10.1007%2Fs10801-018-0831-5

Grilliette, W. B., & Rusnak, L. J. (Published). Incidence hypergraphs: The categorical inconsistency of set-systems and a characterization of quiver exponentials.

Rusnak, L. J., Couvillion, E. B., Chen, G., Liu, V., & Wang, K. (2018). A Characterization of Oriented Hypergraphic Laplacian and Adjacency Matrix

Coefficients. *Linear Algebra and Its Applications*, *556*, 323–341. https://doi.org/https://doi.org/10.1016/j.laa.2018.07.012 https://www.sciencedirect.com/science/article/abs/pii/S0024379518303306?via%3Dihub

Rusnak, L. J., Chen, V., Rao, A., & Yang, A. (2015). A characterization of oriented hypergraphic balance via signed weak-walks. *Linear Algebra and Its Applications*, *485*, 442–453. https://doi.org/https://doi.org/10.1016/j.laa.2015.08.001 https://www.sciencedirect.com/science/article/pii/S0024379515004541

Rusnak, L. J. (2013). Oriented Hypergraphs: Introduction and Balance. *Electronic Journal of Combinatorics*, *20*(3), 1–29. https://doi.org/https://doi.org/10.37236/2763 https://www.combinatorics.org/v20i3p48

Reff, N., & Rusnak, L. J. (2012). An oriented hypergraphic approach to algebraic graph theory. *Linear Algebra and Its Applications*, *437*(9), 2262–2270. https://doi.org/https://doi.org/10.1016/j.laa.2012.06.011 https://www.sciencedirect.com/science/article/pii/S0024379512004466?via%3Dihub

3. Conference Proceedings:

a. Refereed Conference Proceedings:

Tomasso, M. E., Rusnak, L. J., & Tesic, J. (2022). Cluster boosting and data discovery in social networks. In *Proceedings of the 37th ACM/SIGAPP Symposium on Applied Computing* (pp. 1801–1803). New York, NY, USA: Association for Computing Machinery. https://doi.org/10.1145/3477314.3507243 https://dl.acm.org/doi/abs/10.1145/3477314.3507243

Tomasso, M. E., Rusnak, L. J., & Tesic, J. (2022). Cluster Boosting and Data Discovery in Social Networks. In *SAC '22: Proceedings of the 37th ACM/SIGAPP Symposium on Applied Computing*. Association for Computing Machinery. https://doi.org/10.1145/3477314.3507243 https://dl.acm.org/doi/10.1145/3477314.3507243

Alabandi, G. A. H., Tesic, J., Rusnak, L. J., & Burtscher, M. (2021). Discovering and balancing fundamental cycles in large signed graphs. In *Proceedings of the International Conference for High Performance Computing, Networking, Storage and Analysis* (pp. 1–17). ACM. https://doi.org/10.1145/3458817.3476153 https://doi.org/10.1145/3458817.3476153

Rusnak, L. J., Burtscher, M., Tesic, J., & Alabandi, G. (2021). Discovering and Balancing Fundamental Cycles in Large Signed Graphs. In *Proceedings of the International Conference for High Performance Computing, Networking,*

Storage and Analysis. Association for Computing Machinery. https://doi.org/10.1145/3458817.3476153 https://dl.acm.org/doi/10.1145/3458817.3476153?sid=SCITRUS

10. Other Works in Print:

Thesis/Books:

Rusnak, L. J. (2010). *Oriented Hypergraphs*. ProQuest/UMI Dissertation Publishing. Retrieved from http://gradworks.umi.com/34/09/3409134.html http://gradworks.umi.com/34/09/3409134.html

B. Works Not in Print:

2. Invited Talks, Lectures, and Presentations:

Rusnak, L. J., Statistics Seminar, "Quantifying majority opinion in signed networks via structural balance," Texas State. (October 28, 2022).

Rusnak, L. J., CombinaTexas 2019, "The category of incidence structures and generalizing graph theories," NSF / TAMU, TAMU. (March 23, 2019).

Rusnak, L. J., 30th Cumberland Conference on Combinatorics, Graph Theory and Computing, "Matrix-tree Theorems for integer matrices via oriented hypergraphs," Marshall University. (May 2018).

Rusnak, L. J., CombinaTexas 2018, "Oriented incidence and naturality in hypergraphic generalization," Texas A&M. (February 2018).

Rusnak, L. J., JMM 2025, "Cognitively Consistent Decision Making via Sentiment Reconstruction and Clusterability Ranking." (January 2025).

Rusnak, L. J., Gradner, M., Ibn Kamal, A., SXSW Innovation Lab, "Adaptive Data Reconstruction: Understanding and Optimizing your Data Architecture: Detecting Data Fraud; Optimal Pandemic Quarantining; Differences in Political Perception," SXSW. (March 2024).

Rusnak, L. J., Workshop on Graph Theory and Applications, "Oriented Hypergraphs, balance, and sentiment-based linear algebra," University of Texas at Dallas, University of Texas at Dallas, Dallas, TX, United States. (December 17, 2023).

Rusnak, L. J., Graduate Open House, "Data analysis and clustering via sentiment reconstruction," Texas State Mathematics. (October 2023).

Rusnak, L. J., Our COVID Experience: Faculty Research Showcase, "A spatiotemporal quantification of COVID-19morbidity and mortality for U.S. Counties," Texas State University. (March 7, 2023).

Rusnak, L. J., TXST Data Science Seminar, "Balance and Clustering in Signed Graphs." (October 22, 2021).

Rusnak, L. J., Joyful Math Jamboree, "Community Detection in Social Networks." (October 4, 2021).

Rusnak, L. J., Mathematics Colloquium, "The All-minors Matrix-tree Theorem for Oriented Hypergraphs," University of Kerala, India. (July 19, 2021).

Rusnak, L. J., Discrete Math Days Spring 2021, "Oriented Hypergraphs and Hadamard's Conjecture," Williams College, MA. (April 2021).

Rusnak, L. J., Tesic, J., 2021 Virtual Health Scholar Showcase, "A Characterization of Diagnostic Efficacy via Structural Balance," Translational Health Center, Texas State University, San Marcos, TX, United States. (April 14, 2021).

Rusnak, L. J., International Web Conference on SIGNED GRAPHS & ALLIED AREAS (ICSGAA-2020), "Oriented Hypergraphs and Generalizing Signed Graphs," Central University of Kerala, Kerala, India. (December 8, 2020).

Rusnak, L. J., Discrete Math Seminar, "A Survey of Oriented Incidence and Applications to Quantifying Status, Bias, and Inequity," Texas State University. (September 20, 2019).

Rusnak, L. J., 8th Annual Math Department Symposium and Recruitment Fair, "Generalizing graph theory through oriented incidence.," Texas State University. (November 10, 2017).

Rusnak, L. J., 5th annual Mississippi Discrete Math Workshop, "Oriented hypergraphic matrix-tree and Sachs type theorems," University of Mississippi. (November 5, 2017).

Grilliette, W. B. (Presenter, coauthor), Rusnak, L. J. (Coauthor), Discrete Math Seminar, "Natural Generalizations of Graphs Part II: Commas, Topoi, & Homomorphisms," Texas State University, San Marcos, TX, United States. (October 27, 2017).

Rusnak, L. J., Grilliette, W. B., Discrete Math Seminar, "Natural Generalizations of Graphs Part I: Graphs, Oriented hypergraphs, and integer matrices," Texas State University. (October 20, 2017).

Rusnak, L. J., Discrete Math Seminar, "Developments in Oriented Hypergraphs," Texas State University. (February 2017).

Rusnak, L. J., 7th Annual Math Department Symposium and Recruitment Fair, "Connecting into Mathematics Research," Texas State University. (November 2016).

Rusnak, L. J., CombinaTexas 2016, "Structure Theory for Oriented Hypergraphs," Texas A&M University. (May 2016).

Rusnak, L. J., Discrete Mathematics Seminar, "Structure Theory for Oriented Hypergraphs: Parts 1 and 2," Texas State University. (April 2016).

Rusnak, L. J., Texas State Math Club Talks, "An Introduction to Matroids by (Hyper)graphs," Texas State University. (March 2016).

Rusnak, L. J., Discrete Mathematics Seminar, "Weak walks, Incidence, and Oriented Hypergraphs," Texas State University. (October 2015).

Rusnak, L. J., Texas State Math Club Talks, "An Introduction to Matroids and Signed Graphs," Texas State University. (March 2014).

Rusnak, L. J., Discrete Mathematics Seminar, "A Harary-type Theorem for Balanced Oriented Hypergraphs," Texas State University. (October 2013).

Rusnak, L. J., Discrete Mathematics Seminar, "Balanceable Circuits: Unraveling the Lie in Hypernetworks," Texas State University. (April 2013).

Rusnak, L. J., Discrete Mathematics Seminar, "Extensions of the Laplacian and Kirchho's Laws," Texas State University. (November 2012).

Rusnak, L. J., Discrete Mathematics Seminar, "A signed hypergraphic analog of q-distance matrices," Texas State University. (March 2012).

Rusnak, L. J., Combinatorics Seminar, "Networks, social networks, and hypernetworks," Trinity University. (February 2012).

Rusnak, L. J., 2012 Joint Mathematics Meeting, "An Oriented Hypergraphic Approach to Algebraic Graph Theory," AMS-MAA, Boston, United States. (January 2012).

Rusnak, L. J., CombinaTexas 2011, "A survey of oriented hypergraphs," Sam Houston State University. (2011).

Rusnak, L. J., Combinatorics Seminar, "Developments in oriented hypergraphs," Binghamton University. (2011).

Rusnak, L. J., 2011 Joint Mathematics Meeting, "Oriented Hypergraphs and the Structure of Rational Matrices," AMS-MAA, New Orleans, LA, United States. (2011).

Rusnak, L. J., Discrete Mathematics Seminar, "An Oriented Hypergraphic Approach to Algebraic Graph Theory," Texas State University. (September 2011).

Rusnak, L. J., Discrete Mathematics Seminar, "A survey of oriented hypergraphs," Texas State University. (March 2011).

Rusnak, L. J., Second Workshop on Graphs and Matroids, "Oriented Hypergraphs and Matroid Circuits," Maastricht University. (2010).

Rusnak, L. J., 2010 Joint Mathematics Meeting, "Oriented Incidence and a Generalization of Hypergraphs," AMS-Maa, San Francisco, United States. (2010).

Rusnak, L. J., 2010 Spring Southeastern AMS Sectional Meeting - Special Session on Matroid Theory, "Oriented Incidence and a Generalization of Hypergraphs," University of Kentucky. (2010).

Rusnak, L. J., Discrete Mathematics Seminar, "Representable matroids, oriented hypergraphs, and the circuit classification theorem," Texas State University. (September 2010).

Rusnak, L. J., Combinatorics Seminar, "Oriented Incidence and a Generalization of Hypergraphs: An Introduction," Binghamton University. (September 2009).

Rusnak, L. J., Combinatorics Seminar, "Oriented Incidence and a Generalization of Hypergraphs: Balance and Dependency," Binghamton University. (September 2009).

Rusnak, L. J., Combinatorics Seminar, "Multi-directed hypergraph representations of {0, +1, -1}-matrices," Cornell University. (February 2009).

Rusnak, L. J., Combinatorics Seminar, "Multi-directed hypergraph representations of {0, +1, -1}-matrices," NYU Courant Institute. (February 2009).

Rusnak, L. J., Combinatorics Seminar, "A Multidirected Hypergraph Representation of Matrices with 0, 1, -1 Entries (Parts I and II)," Binghamton University. (December 2008).

Rusnak, L. J., Combinatorics Seminar, "Z_4-Connected Graphs.," Binghamton University. (November 2007).

Rusnak, L. J., Combinatorics Seminar, "The Combinatorics of Lopsided Sets," Binghamton University. (May 2007).

Rusnak, L. J., Combinatorics Seminar, "Squaring the Rectangle through Graphs (Parts 1 and 2)," Binghamton University. (December 2005).

Rusnak, L. J., Combinatorics Seminar, "Transpedances and Kirchho's Laws in (Di)graphs," Binghamton University. (October 2005).

5. Other Works not in Print:

a. Works "submitted" or "under review":

Conference Proceedings:

Rusnak, L. J., Burtscher, M., & Vanausdal, A. (Submitted / Under Review). Signed Graph Balancing in Linear Time. (January 21, 2026)

Journal Articles:

Rusnak, L. J., Johnson, S., & Ye, P. (Submitted / Under Review). Oriented hypergraphs and generalizing the Harary-Sachs theorem to integer matrices.

Vaughan, A., Tomasso, M., Johnson, S., Ye, P., Dai, W., Guo, A., … Rusnak, L. J. (Submitted / Under Review). Modeling the spatial and temporal trends of COVID-19: A balanced network analysis approach. *Annals of Epidemiology*. (November 2025)

Rusnak, L. J. (Submitted / Under Review). GraphC: Parameter-free Hierarchical Clustering of Signed Graph Networks. (2024)

Grilliette, W. B., & Rusnak, L. J. (Submitted / Under Review). Incidence Hypergraphs: Box Products & the Laplacian. (August 30, 2020)

b. Works "in progress":

Journal Articles:

Rusnak, L. J., Baas, A., & VanAusdal, A. (In Preparation; Not Yet Submitted). Identification of Dichotomous Communities in Signed Graphs Using Coherence-Based Metrics.

Rusnak, L. J., & Chase, T. (In Preparation; Not Yet Submitted). A Hypergraphic Generalization of Vizing's Theorem.

Rusnak, L. J., & Mulas, R. (In Preparation; Not Yet Submitted). Sharp inequalities for coloring numbers on signed hypergraphs.

Rusnak, L. J., & Lindsey, J. (In Preparation; Not Yet Submitted). Signed Graph Pathing Matrices and their Polynomials.

Rusnak, L. J., & Reynes, J. (In Preparation; Not Yet Submitted). The total activity polynomial and grid walking. (2025)

c. Other Works Not in Print:

Keynote / Plenary Addresses:

Rusnak, L. J., Math Stats Awareness Month, "MATH AND INFLUENCE: VISUALIZING AND ANALYZING HUMAN COGNITION, DECISIONS, AND EMOTIONS." (April 25, 2025).

Posters:

Rusnak, L. J., 2022 Health Scholar Showcase, "A Hypercongnitive Model that Admits the Imprinted Brain Hypothesis," Texas State University. (April 8, 2022).

Rusnak, L. J., Tomasso, 2022 Health Scholar Showcase, "A New Spatio-temporal Epidemiological Networking Resilience Model for COVID-19," Texas State University. (April 8, 2022).

Rusnak, L., Tomasso, M., Shroff, P. R., Health Scholar Showcase, "Modeling a "Total Lockdown" Scenario for Covid-19 in the United States via Balanced States," Transitional Health Research Center, Texas State University, San Marcos, TX, United States. (April 8, 2022).

Rusnak, L. J., NAM MathFest 2013, "Matroidal Modeling," Texas State University. (2013).

Patents:

Rusnak, Lucas J, Tesic, Jelena. "Method for Identifying and Quantifying Sentiment bias, and Apparatus for Constructing the Sentiment Probability Graph via Agreeable Cuts in Sociotechnical Networks". Patent Cooperation Treaty. Other Nations: Texas State Patent Reference No. I2019-002. Number / ID: PCT/US2019/028317. (Date of Application: 2021).

Rusnak, Lucas J, Tesic, Jelena. "Identifying and quantifying sentiment and promotion bias in social and content networks". Patent Cooperation Treaty. Number / ID: 12093970. (Date Awarded: 2024).

C. Scholarly / Creative Grants and Contracts:

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

Tesic, Jelena, Rusnak, Lucas J. MFAI: Consensus Dynamics: Network Science Approaches to Advancing AI Foundations, NSF, Federal, $590,151.00. (Submitted: October 11, 2024, Funded: June 15, 2025 - June 14, 2028). Grant.

Rusnak, Lucas J. Oriented Hypergraphs: Bridging Graphs and Matrices, NSF, Federal, $192,978.00. (Submitted: September 23, 2025). Grant.

Rusnak, Lucas J. MFAI: Consensus Dynamics: Network Science Approaches to Advancing AI Foundations, NSF, Federal, $571,343.00. (Submitted: October 10, 2024). Grant.

Tesic, Jelena, Burtscher, Martin, Rusnak, Lucas J, Menezes De Carvalho, Marcelo. Fully Signed Graph Analytics for Energy Sensor Networks, DoE, Federal, $750,000.00. (Submitted: April 23, 2023). Grant.

Rusnak, Lucas J (Principal). CAREER: Oriented Hypergraphs and Applications to Sociotechnical Systems, NSF, Federal, $644,093.00. (Submitted: July 22, 2021). Grant.

Tesic, Jelena (Principal), Burtscher, Martin (Co-Principal), Rusnak, Lucas J (Co-Principal). Global Analysis of Networks at Scale, Department of Energy, Federal, $697,439.00. (Submitted: April 23, 2021). Grant.

Tesic, Jelena, Rusnak, Lucas J, Burtscher, Martin, Vaughan, Adam David, Villagran, Melinda Morris. III: Medium: Bias-free Analysis and Prediction of Decisions and Opinions, NSF, Federal, $1,199,938.00. (Submitted: November 13, 2020). Grant.

Rusnak, Lucas J (Principal). CAREER: Oriented Hypergraphs, NSF, Federal, $646,798.00. (Submitted: July 30, 2020). Grant.

Tesic, Jelena, Rusnak, Lucas J, Villagran, Melinda Morris, Burtscher, Martin, Vaughan, Adam David. Deeds Speak Louder Than Words Policy Guidance Tool, Private / Foundation / Corporate, $981,257.00. (Submitted: July 1, 2020). Sponsored Research.

Rusnak, Lucas J (Co-Principal), Percent Contribution: 50%, Tesic, Jelena (Principal), Percent Contribution: 50%, Villagran, Melinda Morris (Supporting), Burtscher, Martin (Supporting). SCH: INT: Improving Diagnostic Efficacy and Patient Care, NSF, Federal, $1,196,052.00. (Submitted: 2019). Grant.

Rusnak, Lucas J. CAREER: Oriented Hypergraphs, NSF, Federal, $640,927.00. (Submitted: July 17, 2019). Grant.

Rusnak, Lucas J, De Nadai, Alessandro Stevens, Tesic, Jelena. HDR TRIPODS: Texas State University, NSF, Federal, $1,489,832.00. (Submitted: May 8, 2019). Grant.

Tesic, Jelena, De Nadai, Alessandro Stevens, Rusnak, Lucas J. Distributed Machine Learning of Computer Network Defense Data, JFHQ-DoDIN, Federal, $1,374,987.00. (Submitted: March 8, 2019). Sponsored Research.

Rusnak, Lucas J (Principal), Percent Contribution: 50%, Grilliette, William B (Co-Principal), Percent Contribution: 50%. Combinatorics of oriented incidence structures, NSF, $165,176.00. (Submitted: September 20, 2018). Grant.

Rusnak, Lucas J (Principal), Grilliette, William B (Co-Principal). Combinatorics of oriented incidence structures, NSF, $232,318.00. (Submitted: October 2, 2017). Grant.

Morey, Susan (Supporting), Rusnak, Lucas J (Principal), Shroff, Piyush Ravindra (Co-Principal), Ferrero, Daniela Maria (Co-Principal), Shen, Jian (Co-Principal), Warshauer, Max L (Co-Principal). RTG Algebra and Combinatorics, NSF, Federal, $2,105,222.00. (Submitted: June 2016). Grant.

Rusnak, Lucas J (Principal), Shroff, Piyush Ravindra (Co-Principal), Morey, Susan (Co-Principal), Shen, Jian (Co-Principal), Ferrero, Daniela Maria (Co-Principal), Warshauer, Max L (Supporting). NSF RTG, NSF, $2,185,714.00. (Submitted: 2015). Grant.

Rusnak, Lucas J. NSF Postdoctoral Research Fellowship, NSF, $150,000.00. (Submitted: 2011). Grant.

3. Funded Internal Grants and Contracts:

Rusnak, Lucas J. Library Research Grant, Texas State University, Texas State University, $858.97. (Submitted: 2016). Grant.

Rusnak, Lucas J. A Characterization of Diagnostic Efficacy via Structural Balance, Translational Health Research Center, Texas State University, $5,000.00. (Funded: May 31, 2021 - December 31, 2021). Grant.

Rusnak, Lucas J. REP: Oriented hypergraphs, REP, Texas State University, $7,583.00. (Submitted: October 25, 2017, Funded: May 31, 2019). Grant.

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

Rusnak, Lucas J (Principal). Oriented Hypergraphs and Data Science, REP Texas State, Texas State University, $8,000.00. (Submitted: October 2023). Grant.

Rusnak, Lucas J (Principal), Percent Contribution: 50%, Tesic, Jelena (Co-Principal), Percent Contribution: 50%. A new spectral clustering method via balanced states, REP Texas State, Texas State University, $16,000.00. (Submitted: October 2022). Grant.

Rusnak, Lucas J (Principal), Shroff, Piyush Ravindra (Co-Principal), Shen, Jian (Co-Principal), Ferrero, Daniela Maria (Co-Principal), Morey, Susan (Supporting), Warshauer, Max L (Supporting). NSF RTG, NSF, $2,170,598.00. (Submitted: 2016). Grant.

Shen, Jian (Principal), Morey, Susan (Co-Principal), Keller, Thomas M (Supporting), Dean, Nathaniel (Supporting), Rusnak, Lucas J (Supporting), Manske, Jacob (Supporting). NSF REU, NSF, $345,583.00. (Submitted: 2012). Grant.

D. Scholarly / Creative Fellowships, Awards, Honors:

Fellowship Recipient: 2022 Summer Health Scholar, CHERR/THRC.
June 2022 - August 31, 2022

Fellowship Recipient: 2021 CHERR Fellowship, TXST CHERR Center / Translational Health Center.
September 1, 2021 - May 31, 2022

Award / Honor Recipient: 2021 Health Scholar Showcase Award, TXST Translational Health Center.
December 2021

Award / Honor Recipient: Outstanding Contribution in Reviewing, El Sevier - Linear Algebra and its Applications.
March 2017

E. Scholarly / Creative Professional Development Activities Attended:

Workshop, "NATIONAL SCIENCE FOUNDATION RESEARCH INFRASTRUCTURE WEBINAR SERIES III," NSF. (April 25, 2023).

Workshop, "NATIONAL SCIENCE FOUNDATION RESEARCH INFRASTRUCTURE WEBINAR SERIES II," NSF. (March 28, 2023).

Workshop, "NATIONAL SCIENCE FOUNDATION RESEARCH INFRASTRUCTURE WEBINAR SERIES I," NSF. (February 28, 2023).

Workshop, "NSF I-Corps Workshop," NSF I-Corps / Texas State. (October 2021 - November 2021).

Workshop, "USF Summer Grant Writing Workshop," USF Sarasota-Manatee. (June 2, 2021 - July 28, 2021).

Conference Attendance, "Discrete Math Days Spring 2021," Williams College, MA. (April 24, 2021 - April 25, 2021).

Conference Attendance, "2021 Virtual Health Scholar Showcase," Texas State University, San Marcos, TX, United States. (April 12, 2021 - April 15, 2021).

Conference Attendance, "International Web Conference on Signed Graphs and Allied Areas (ICSGAA - 2020)," Central University of Kerala, Kerala, India. (December 7, 2020 - December 9, 2020).

Conference Attendance, "7th Annual Mississippi Discrete Math Workshop," University of Mississippi, Oxford, MS. (October 27, 2019).

Conference Attendance, "AMS Fall Eastern Sectional 2019," American Mathematical Society, Binghamton, NY, United States. (October 12, 2019 - October 13, 2019).

Conference Attendance, "DSW 2019 - Data Science Workshop," IEEE, Minneapolis, MN, United States. (June 2, 2019 - July 5, 2019).

Conference Attendance, "CombinaTexas 2019," NSF / TAMU. (March 23, 2019).

Conference Attendance, "30th Cumberland Conference on Combinatorics, Graph Theory and Computing," NSF / Marshall University. (May 2018).

Conference Attendance, "CombinaTexas 2018," Texas A&M. (February 2018).

Conference Attendance, "5th annual Mississippi Discrete Math Workshop," University of Mississippi. (November 4, 2017 - November 5, 2017).

Conference Attendance, "AMS Fall Sectional Meeting 2017," AMS, University of North Texas, Denton, TX, United States. (September 9, 2017 - September 10, 2017).

Conference Attendance, "CombinaTexas 2016," Texas A&M. (May 2016).

Conference Attendance, "Southwest Local Algebra Meeting (SLAM)," Texas State University. (February 2016).

Conference Attendance, "2015 Joint Mathematics Meeting," AMS-MAA, San Antonio, TX, United States. (January 2015).

Conference Attendance, "CombinaTexas 2012," Southwestern University. (April 2012).

Conference Attendance, "2012 Joint Mathematics Meeting," AMS-MAA. (January 2012).

Conference Attendance, "CombinaTexas 2011," Sam Houston State. (April 2011).

Workshop, "Second Workshop on Graphs and Matroids," Maastricht University, Netherlands. (August 1, 2010 - August 7, 2010).

Conference Attendance, "2010 Spring Southeastern AMS Sectional Meeting," University of Kentucky. (March 2010).

Conference Attendance, "2010 Joint Mathematics Meeting," AMS-MAA. (January 13, 2010 - January 16, 2010).

"Graduate Student Algebra and Topology Conference," Binghamton University. (November 2009).

Conference Attendance, "2007 Spring Central AMS Sectional Meeting," Miami University (OH). (March 2007).

Conference Attendance, "Frank Quinn's 60th Birthday Conference," Binghamton University. (November 2006).

Conference Attendance, "Discrete Mathematics Day 2006," Binghamton University. (May 2006).

Conference Attendance, "Discrete Mathematics Day 2004," Bard College. (October 2004).

Conference Attendance, "2003 Fall Eastern AMS Sectional Meeting," Binghamton University. (October 2003).

IV. SERVICE

A. Institutional

1. University:

Member, Exc2el Advisory Board. (2022 - Present).

Chair, Senate Academic Freedom Comittee. (September 1, 2019 - August 31, 2025).

Member, 18th Annual Honors College Undergraduate Research Conference. (2024).

Member, Texas State External Evaluation of Academic Support (Faculty Stakeholder). (October 2023 - 2024).

University Mentor, Innovation Lab. (2023 - 2024).

University Mentor, H-LSAMP Mentor. (2022 - 2023).

University Mentor, Undergraduate Research. (2022 - 2023).

Organizer, Putnam Competition. (December 2014 - 2023).

Member, Academic Freedom Committee - Academic Freedom Day Dialogue. (February 18, 2022).

Member, Academic Freedom Committee - Cyber-harassment Policy. (2021).

Member, Academic Freedom Committee - PPS Academic Freedom. (2021).

Co-sponsor, BIG IDEAS: Data Science Solutions Center. (2019 - 2021).

Member, Innovation Lab. (2019 - 2020).

Member, STEM Living Learning Community. (2018 - 2019).

Member, Binghamton University - Discovery Program Learning Community Faculty Officer. (2007).

Member, Binghamton University - Undergraduate Research Fair Advisor. (2007).

2. College:

Participant, Assisted Computer Science Department with ABET Accreditation. (2013).

Member, Binghamton University - EOP Committee - Department Representative. (2003 - 2009).

3. Department/School:

Chair, Program and Curriculum Committee. (2022 - Present).

University Mentor, Department of Mathematics. (September 2018 - Present).

Member, Student Affairs Committee. (August 2016 - August 2025).

Chair, Student Affairs Committee. (August 2022 - 2024).

Participant, Department Awards Ceremony. (March 2014 - 2024).

Member, Lecturer Renewal Committee. (November 2023 - June 2024).

Graduate Advisor, Blake Dvarishkis. (2022 - 2023).

University Mentor, Mathworks HSMC. (2012 - 2023).

Graduate Advisor, Josephine Reynes. (2019 - 2021).

Undergraduate Advisor, Josephine Reynes. (2018 - 2019).

Undergraduate Advisor, Math Club. (October 2014 - September 2019).

Member, General Education Assessment Math 1315. (August 2014 - 2017).

Member, General Education Assessment Math 1316. (August 2014 - 2017).

Member, General Education Assessment Math 1317. (August 2014 - 2017).

Participant, 2017 Graduate Open House. (November 2017).

Organizer, Calculus Bee. (October 2014 - October 2017).

Member, Strategic Planning Committee. (August 2016 - August 2017).

Graduate Advisor, Advisor: Ellen Robinson. (September 2016 - May 2017).

Club Advisor Representative, Texas State Hispanic Welcome Reception. (2016).

Member, Committee for 60x30TX Plan. (2015 - 2016).

Participant, 2016 Graduate Open House. (November 2016).

Organizer, Math GRE subject test review. (August 2014 - August 2016).

Member, Departmental Self-Review Committee for 2016 Academic Plan Review. (June 2016).

Undergraduate Advisor, Advisor: Ellen Robinson. (September 2014 - December 2015).

Organizer, Undergraduate Training and Research Pilot. (August 2014 - 2015).

Member, Mathematics Budget Committee. (2014).

Participant, 2014 Graduate Open House. (November 2014).

Member, Action Plan Math 1315. (May 2014).

Member, Action Plan Math 1316. (May 2014).

Member, Complex Analysis Course Committee. (October 2013).

Participant, 2013 Graduate Open House. (October 2013).

Organizer, Math 4350 - Syllabus. (August 2013).

Member, Binghamton University - Academic Standards Reviewer. (2008).

B. Professional:

Editor, Special Matrices. (2021 - Present).

Editorial Review Board Member, Proceedings of the International Web Conference on SIGNED GRAPHS & ALLIED AREAS. (December 2020 - Present).

Reviewer / Referee, Combinatorica. (February 2019 - Present).

Reviewer / Referee, Discrete Mathematics. (November 2018 - Present).

Reviewer / Referee, Australasian Journal of Combinatorics. (January 2015 - Present).

Reviewer / Referee, Linear Algebra and its Applications. (January 2012 - Present).

Reviewer / Referee, Bulletin of the Iranian Mathematical Society. (December 2018 - 2019).

Coordinator / Organizer, 2019 AMS Fall Eastern Sectional Special Session, Binghamton, NY, United States. (October 13, 2019).

Reviewer / Referee, RAIRO - Operations Research. (January 2016 - 2017).

Coordinator / Organizer, 2017 AMS Fall Sectional Meeting Special Session, Denton, TX. (September 10, 2017).

Coordinator / Organizer, AMS Central Sectional 2017 - Special Session - Generalizations in Graph Theory, Denton, TX, United States. (September 9, 2017 - September 10, 2017).

Reviewer / Referee, Utilitas Mathematica. (January 2014 - 2014).

Reviewer / Referee, Central European Journal of Mathematics. (January 2013 - 2014).

Coordinator / Organizer, American Institute of Mathematics Workshop - Unfunded. (2013).

D. Organization Memberships:

Association for Computing Machinery (ACM). (October 2021 - Present).

E. Service Honors and Awards:

Award / Honor Recipient: 2024 Math Department Service Award (Associate/Full).
2024

Award / Honor Recipient: Service Excellence Award, Department of Mathematics - Texas State University.
December 9, 2016

F. Service Grants and Contracts:

2. Submitted, but not Funded, External Service Grants and Contracts:

Treinen, Raymond F (Principal), Morey, Susan (Co-Principal), White, Alexander (Co-Principal), Rusnak, Lucas J (Co-Principal), Guillen Matheus, Nestor D (Co-Principal). S-Stem: Enhancing mathematical readiness and engagement, NSF, Federal, $1,991,478.00. (Submitted: March 2024). Grant.

Treinen, Raymond F (Principal), Rusnak, Lucas J (Co-Principal). S-Stem: Enhancing Mathematical Readiness and Engagement, NSF, Federal, $2,491,040.00. (Submitted: March 2023). Grant.

Rusnak, Lucas J (Principal), Treinen, Raymond F (Co-Principal), Sun, Shuying (Co-Principal), Morey, Susan (Co-Principal), White, Alexander (Supporting), Guillen Matheus, Nestor D (Supporting), Lee, Young Ju (Supporting), Ojeda-Ruiz, Ivan (Supporting). Mid-scale RI-1 (M1:IP): Mathematical Information Science Collaborative, NSF, Federal, $17,529,101.00. (Submitted: January 2023). Grant.

Shen, Jian, Morey, Susan, White, Alexander, Sun, Shuying, Rusnak, Lucas J, Sigley, Robert, Shroff, Piyush Ravindra, Gutt-Lehr, Joanna, Ojeda-Ruiz, Ivan.

The Texas State University Mathematics Success Initiative: Hispanic-Serving Institutions Program (MSI-HSI Program). (Submitted: January 2019). Grant.

Shen, Jian, Morey, Susan, White, Alexander, Rusnak, Lucas J. The Texas State University S-STEM Mathematics Infusion Initiative (S-STEM-MII). (Submitted: January 2019). Grant.