

LUYINING (ELAINE) GAN

CONTACT INFORMATION	Department of Mathematics and Statistics University of Nevada Reno, Reno, NV 89557 Phone: (334)332-0874 Email: lgan@unr.edu	
INTERESTS	Linear Algebra, Matrix Analysis, Extremal Graph Theory, Statistical Learning.	
ACADEMIC APPOINTMENTS	Postdoctoral Scholar University of Nevada Reno, Reno, NV Advisor: Prof. Raúl Rojas	July 2020 – Present
EDUCATION	Ph.D. in Mathematics Auburn University, Auburn, AL Advisor: Prof. Tin-Yau Tam and Prof. Ming Liao	Aug. 2015 – May 2020
	M.S. in Statistics Auburn University, Auburn, AL Advisor: Dr. Peng Zeng	Aug. 2017 – May 2019
	B.S. in Mathematics and Applied Mathematics Jiangxi Normal University, Jiangxi, China	Sept. 2011 – June 2015
TEACHING EXPERIENCE	University of Nevada Reno Complex Analysis Statistical Learning Linear Algebra	Fall 2022 Spring 2022 Fall 2021
	Auburn University Statistics Lab Statistics for Biological and Health Science Linear Algebra Calculus III Calculus II Calculus I College Algebra Precalculus	Spring 2020 Spring 2020, Fall 2019 Summer 2017 Fall 2017 Spring 2019, Spring 2018 Summer 2019, Spring 2017, Fall 2016 Fall 2018 Summer 2018, Fall 2019
PREPRINTS	Luyining Gan , and Sejong Kim. <i>Weak log-majorization between the spectral geometric and Wasserstein means</i> , submitted and preprinted on arXiv: 2301.07934.	
	Luyining Gan , and Jie Han. <i>On the Keevash-Knox-Mycroft conjecture</i> , submitted and preprinted on arXiv: 2202.04246.	
	Bryan Curtis, Luyining Gan , Jamie Haddock, Rachel Lawrence, and Sam Spiro. <i>Zero Forcing with Random Sets</i> , submitted and preprinted on arXiv: 2208.12899.	
	Craig Erickson, Luyining Gan , Jürgen Krietschgau, Jephian C. -H. Lin, and Sam Spiro. <i>Complementary vanishing graphs</i> , submitted and preprinted on arXiv: 2207.07294.	

Luyining Gan, Jie Han, Lin Sun, and Guanghui Wang. *Large $Y_{k,b}$ -tilings and Hamilton ℓ -cycles in k -uniform hypergraphs*, submitted and preprinted on arXiv: 2109.00722.

PUBLICATIONS

Luyining Gan, and Sejong Kim. *Revisit on spectral geometric mean*, Linear and Multilinear Algebra, (2023), doi.org/10.1080/03081087.2023.2171353.

Luyining Gan, Xuhua Liu, and Tin-Yau Tam. *Inequalities for matrix exponentials and their extensions to Lie groups* (book chapter), accepted by book ‘*Matrix and Operator Equations and Applications*’ (Oct. 2022).

Luyining Gan, and Tin-Yau Tam. *Inequalities and limits of weighted spectral geometric mean*, Linear and Multilinear Algebra, (2022), doi.org/10.1080/03081087.2022.2158294.

Luyining Gan, and Jie Han. *The decision problem for perfect matchings in dense hypergraphs*, 49th International Colloquium on Automata, Languages, and Programming (ICALP 2022), volume 229 of Leibniz International Proceedings in Informatics (LIPIcs), pages 64:1-64:16, Dagstuhl, Germany, 2022.

Luyining Gan, and Jie Han. *Hamiltonicity in Cherry-quasirandom 3-graphs*, European Journal of Combinatorics, 102(2022), 103457.

Luyining Gan, Xuhua Liu, and Tin-Yau Tam. *On two geometric means and sum of adjoint orbits*, Linear Algebra and its Applications, 631(2021), 156–173.

Luyining Gan, Wei Gao, and Jie Han. *Zero-nonzero tree patterns that allow \mathbb{S}_n^** , Linear and Multilinear Algebra, (2021), doi.org/10.1080/03081087.2021.1986463.

Luyining Gan, Ming Liao, and Tin-Yau Tam. *Curvature of matrix and reductive Lie groups*, Journal of Lie Theory, 30 (2020), No. 2, 361-370.

Xiaoli Gong, **Luyining Gan**, and Zhaoyan Wu. *Adaptive impulsive cluster synchronization in community network with nonidentical nodes*, International Journal of Modern Physics C, 2016, 27(1): 1650010.

Luyining Gan, Zhaoyan Wu, and Xiaoli Gong. *Cluster synchronization of community network with nonidentical nodes via intermittent pinning control*, Chinese Physics B, 2015, 24(4): 040503.

CONFERENCES TALKS

Seminar Talk, *Matrix inequalities and properties on the spectral geometric means*, Troy University, Alabama, USA. (Feb. 16, 2023)

Invited Talk, *Matrix inequalities on metric and spectral geometric means*, 2023 Joint Mathematics Meetings, Boston, Massachusetts. (Jan. 4–7, 2023)

Invited Talk, *Matrix inequalities on metric and spectral geometric means*, International Conference on Matrix Theory with Applications to Combinatorics, Optimization and Data Science, Jeju, Korea. (December 1–5, 2022)

Invited Talk, *The decision problem for perfect matchings in dense hypergraphs*, 49th International Colloquium on Automata, Languages, and Programming (ICALP 2022), Paris, France. (July 4–8, 2022)

Invited Talk, *Metric and Spectral Geometric Means of Positive Definite Matrices*,

2022 Joint Mathematics Meetings, Seattle (Virtual). (Apr. 6–8, 2022)

Seminar Talk, *Inequalities and limit of the weighted spectral geometric mean*, University of Nevada Reno, Reno, Nevada, USA. (Oct. 15, 2021)

Invited Talk, *Extensions of Horn-Steinberg’s theorem on the eigenvalues of square matrix and its unitary part*, SIAM Conference on Applied Linear Algebra (Virtual). (May 17–21, 2021)

Contributed Talk, *Differential geometry on matrix groups*, 2020 Joint Mathematics Meetings, Denver, Colorado, USA. (Jan. 15–18, 2020)

Seminar Talk, *Curvature of matrix and reductive Lie groups*, University of Nevada Reno, Reno, Nevada, USA. (Dec. 17, 2019)

Invited Talk, *Differential geometry on matrix groups*, 8th International Conference on Matrix Analysis and Application, University of Nevada Reno, Reno, Nevada, USA. (July 15–18, 2019)

GRANTS, HONORS AND AWARDS	AMS-Simons Travel Grant – \$ 5,000	2022 – 2024
	AWM-NSF Travel Grant by NSF Grants DMS-2015440 – \$ 1,500	2022
	International Student Recognition Banquet Award, Auburn University	2020
	Dean’s Research Award, Auburn University	2020
	AMS Graduate Student Travel Grant to 2020 JMM	2020
	Excellence in Research, Auburn University.	2019
	Don and Sandy Logan Fellowship, Auburn University	2019
	Graduate Research and Travel Fellowship, Auburn University	2019
	Dr. J. Earl Perry Endowed Summer Graduate Award, Auburn University	2018
	Don and Sandy Logan Fellowship, Auburn University	2017
	David and Valerie Endowed Fund for Excellence, Auburn University	2017
	Top Ten University Student Award, Jiangxi Normal University	2015
	National Scholarship, China	2014