

# Sulin Song

---

## CONTACT INFORMATION

WTAMU Mathematics  
WTAMU Box 60787  
Canyon, Texas 79016

*Phone:* (304) 276-6465

*E-mail:* [ssong@wtamu.edu](mailto:ssong@wtamu.edu)

## EDUCATION

**West Virginia University**, Morgantown, West Virginia, USA

Ph.D., Discrete Mathematics, August 2022

- Dissertation Title: "On Generalizations of Supereulerian Graphs"
- Advisor: Hong-Jian Lai

**Fujian Normal University**, Fuzhou, Fujian, PRC

M.S., Operational Research and Cybernetics, June 2016

**Jimei University**, Xiamen, Fujian, PRC

B.S., Mathematics and Applied Mathematics, June 2013

## TEACHING EXPERIENCE

**West Texas A&M University**, Canyon, Texas USA

*Instructor*

**August 2022 - Present**

Taught undergraduate-level courses for students, and was responsible for lectures, exams, homework assignments, and grading.

- Math 2413 - Calculus I, Fall 2022 & Spring 2023
- Math 2412 - Precalculus, Fall 2022

**West Virginia University**, Morgantown, West Virginia USA

*Instructor*

**August 2020 - December 2020 & August 2021 - December 2021**

Taught undergraduate-level courses for students, was responsible for lectures, tutoring students with worksheets created by myself, and grading.

- Math 104 - Algebra with Applications Co-Requisite, Fall 2021
- Math 124/104 - Algebra with Applications, Fall 2020

*Class Assistant*

**January 2021 - May 2021 & January 2022 - May 2022**

Tutored students via virtual meetings per week, provided homework solutions in detail, proctored and graded.

- Math 378 - Discrete Mathematics, Spring 2021
- Math 156 - Calculus 2, Spring 2022

*Lab Assistant*

**January 2020 - May 2020**

Tutored students with worksheets and provided a review class before exams including but not limited to the course below:

- Math 154 - Calculus 1b with Precalculus

*Teaching Assistant*

**August 2017 - December 2019**

Graded and assisted the following courses:

**Multivariable Calculus, Elementary Differential Equations, Introduction to Analysis and Topology and Calculus II.**

## AWARDS AND ACHIEVEMENT

Summer Research Fellowship, West Virginia University, 2021

Excellent Graduation Paper, Fujian Normal University, 2016

National Scholarship for Graduate Students, Fujian Normal University, 2015

The Third Prize of Graduate Students' Scientific Research Achievement in university, Fujian Normal University, 2015

RESEARCH INTERESTS Graph theory, combinatorial optimization, algorithm analysis, network optimization and diagnosis

PUBLICATIONS *Spanning trails avoiding and containing given edges* (with L. Lei, X. Li, Y. Xie, and H.-J. Lai), accepted by *Discussiones Mathematicae Graph Theory* in 2023.

*On Hamiltonian Properties of  $K_{1,r}$ -free Split Graphs* (with X. Liu, M. Zhan, and H.-J. Lai), *Discrete Mathematics*, 346(7) (2023): 113402.

*Asymptotically sharpening the  $s$ -Hamiltonian index bound* (with L. Lei, Y. Shao, and H.-J. Lai), *Discrete Mathematics & Theoretical Computer Science*, 24(1) (2022).

*Hamiltonian Line Graphs with Local Degree Conditions* (with X. Liu and H.-J. Lai), *Discrete Mathematics*, 345(6) (2022): 112825.

*On hamiltonian line graphs of hypergraphs* (with X. Gu and H.-J. Lai), *J. Graph Theory*, 100(3) (2022): 489-503.

*Polynomially determine if a graph is  $(s, 3)$ -supereulerian* (with W. Xiong and H.-J. Lai), *Discrete Mathematics*, 344(12) (2021): 112601.

*Spectral and extremal conditions for supereulerian graphs* (with J. Wei, Z. You, and H.-J. Lai), *Linear and Multilinear Algebra*, <https://doi.org/10.1080/03081087.2021.1942772> (online publication).

*Polynomially determining spanning connectivity of locally connected line graphs* (with W. Xiong, Y. Xie, M. Zhan, and H.-J. Lai), *Discrete Applied Mathematics*, 295(31) (2021): 102-111.

*A Characterization of Graphs with Supereulerian Line Graphs* (with Y. Huang, W. He, G. Huang, and H.-J. Lai), *International Journal of Computer Mathematics Computer Systems Theory*, 5(1) (2019): 1-14.

*On conditional fault tolerance and diagnosability of hierarchical cubic networks* (with S. Zhou, X. Yang, and L. Chen), *Theoretical Computer Science*, 609 (2016): 421-433.

*Conditional Diagnosability of Burnt Pancake Networks Under the PMC Model* (with S. Zhou and X. Li), *The Computer Journal*, 59(1) (2016): 91-105.

*Fault tolerance and diagnosability of burnt pancake networks under the comparison model* (with X. Li, S. Zhou, and M. Chen), *Theoretical Computer Science*, 582 (2015): 48-59.

*The  $t/k$ -diagnosability and diagnosis algorithm of Pancake networks* (with L. Lin and S. Zhou), *Operations Research Transactions*, 18(4) (2014): 65-77.

CONFERENCE PRESENTATIONS *On Hamiltonian Properties of  $K_{1,r}$ -Free Split Graphs*, The 32<sup>nd</sup> Cumberland Conference Combinatorics, Graph Theory & Computing, Middle Tennessee State University, Murfreesboro, TN, May 13-14, 2023 (Saturday - Sunday).

*On Spanning Closed Trails of Hypergraphs*, 2023 Spring Southeastern Sectional Meeting, Georgia Institute of Technology, Atlanta, GA, March 18-19, 2023 (Saturday - Sunday).

*On Hamiltonian Line Graphs of Hypergraphs*, 2022 Workshop on Eulerian Subgraphs and

Related Problems, Online, November 2022.

*On Hamiltonian Line Graphs of Hypergraphs*, 2022 Joint Mathematics Meetings, Online, April 2022.

*The  $k$ -Triangular Index of Graphs and Its Application*, 2020 International Euler Subgraph Problem Online Conference, Qinghai Nationalities University, December 2020.

*Reliability of burnt pancake networks based on conditional fault*, MIGHTY LXII (The 62<sup>th</sup> Midwest Graph Theory Conference), Ohio State University - Marion, Marion, OH, October 2019.

*A Sufficient and Necessary Characterization of Supereulerian Line Graphs*, MIGHTY LXI (The 61<sup>th</sup> Midwest Graph Theory Conference), University of Detroit Mercy, Detroit, MI, March 2019.