CORY GLOVER, M.S.
NETWORK SCIENTIST ● MATHEMATICIAN ● DATA SCIENTIST

Email: cory.s.glover@gmail.com

Address: Atlanta, GA 30033 | **Website**: https://coryglover.github.io/

RESEARCH OVERVIEW

My research applies **network science** to uncover the organizing principles behind the complex systems that shape our world. From transportation and social media to nanomaterials and Broadway productions, networks are everywhere—and I use tools from **mathematics, statistical physics**, and **computer science** to model them, analyze their structure, and reveal hidden patterns. I strive to work on **interdisciplinary projects** where I can combine my theoretical expertise with domain experts to solve larger problems.

EDUCATION

PhD Candidate in Network Science   **2021-2026**
Northeastern University
Advisor: Dr. Albert-László Barabási
Committee Members: Brennan Klein, Márton Pósfai, Gabor Lippner

Master's in Network Science   **2025**
Northeastern University
Advisor: Dr. Albert-László Barabási

Master's in Mathematics   **2021**
Brigham Young University
Advisor: Dr. Mark Kempton

Bachelor's in Mathematics   **2019**
Brigham Young University
Applied and Computational Emphasis

Publications

*Editors' Suggestion †Journal Best of Year Collection

*†Glover, C., & Barabási, A. L. (2024). Measuring Entanglement in Physical Networks. *Physical Review Letters, 133(7),* 007401.

Breen, J., Faught, N., **Glover, C.**, Kempton, M., Knudson, A., & Oveson, A. (2023). Kemeny's constant for non-backtracking random walks. *Random Structures and Algorithms*.

Glover, C., & Kempton, M. (2021). Some spectral properties of the non-backtracking matrix of a graph. *Linear Algebra and its Applications, 618,* 37-57.

Colton, L., **Glover, C.**, Hughes, M. & Sandberg, S. (2019). A Reidemeister type theorem for petal diagrams of knots. *Topology and its Applications, 267,* 106896.

In Progress

Glover, C., Van der Kolk, J., & Barabási, Albert-László. (In progress). *Network Design*.

Glover, C., Weis, E., Ehlert, J., Kumar, S., & Klein, B. (In progress). *Structural Bias in Network Reconstruction*.

Glover, C., & Barabási, Albert-László. (In Progress). *Physical Properties of Network Entanglement*.

Frandsen, S., **Glover, C.**, Cash, R., Blumberger, D., Choi, K.S., ... & Siddiqui, S. (In progress). *A dual-circuit causal model of depression in humans*.

Presentations

APS Annual Meeting, *Measuring Entanglement in Physical Networks*, Anaheim, CA, March 2025.

*Joint Mathematics Meetings, *Non-Backtracking Spectrum of Graphs*, Seattle, WA, January 2025.

SIAM MDS, *Deconstructing Reconstruction: Structural Biases in Networks Reconstructed from Time Series Data*, Atlanta, GA, October 2024.

SIAM MDS, *Measuring Entanglement in Physical Networks*, Atlanta, GA, October 2024.

NetSci, *Measuring Entanglement in Physical Networks*, Quebec City, Canada, June 2024.

Zámeček DYNASNET Workshop, *Effects of Network Topology on Entanglement*, Lednice, Czech Republic, 2023.

NetSci, *Effects of Network Topology on the Entanglement of Physical Networks*, Vienna, Austria, 2023.

Joint Mathematics Meetings, *Fabrication of Physical Networks: Counting Graphs in Three-Dimensional Space*, Boston, MA, 2023.

Joint Mathematics Meetings, *Effects of Backtracking on PageRank*, Boston, MA 2023.

Zámeček DYNASNET Workshop, *The Fabrics of Physical Networks*, Lednice, Czech Republic, 2022.

Graduate Student Combinatorics Conference, *Non-Backtracking Spectrum of Graphs*, Minneapolis, MN, 2021.

Brigham Young University Spring Research Conference, *Non-Backtracking Spectrum of Graphs*, Provo, UT, 2021.

AMS Fall Western Sectional Meeting, *Understanding the Non-Backtracking Spectrum of Graphs*, Salt Lake City, UT 2020.

Brigham Young University Spring Research Conference, *Spectral Properties of Non-Backtracking Random Walks*, Provo, UT, 2019.

Brigham Young University Spring Research Conference, *A Reidemeister Type Theorem on Petal Projections of Knots*, Provo, UT 2019.

Joint Mathematics Meetings, *A Reidemeister Type Theorem on Petal Projections of Knots*, Baltimore, MD, 2019.

Teaching Experience

Teaching Assistant, *Computational Linear Algebra*, 2021.

Teaching Assistant, *Modeling with Uncertainty and Data*, 2019-2021.

Instructor, *Finite Mathematics*, 2020.

Teaching Assistant, *Algorithm Design and Optimization Lab*, 2018-2019.

Class Developer, *Modeling with Uncertainty and Data Lab*, 2018-2019.

Class Developer, *Algorithm Design and Optimization Lab*, 2018-2019.

Class Developer, *Mathematical Analysis Lab*, 2018-2019.

Linear Algebra Tutor, 2017-2018

Multivariate Calculus Tutor, 2017-2018

Real Analysis Tutor, 2017-2018.

Course Materials

Humphreys, J. & Jarvis, T. (2018). *Lab Manuals for Foundations of Applied Mathematics*. https://foundations-of-applied-mathematics.github.io. Brigham Young University. (Contributor).

Academic Achievements

Outstanding Achievement in Mathematics, Brigham Young University, 2018-2019.

Best Presentation of Session, Brigham Young University Spring Research Conference, 2019.

Outstanding Achievement in Mathematics, Brigham Young University, 2017-2018.

Professional Honors

COMAP MCM/ICM Judge, 2025.

COMAP MCM/ICM Judge, 2023.

Acceptance to National Security Agency Graduate Mathematics Program, 2020. Canceled due to COVID-19.

Acceptance to MSRI Summer Graduate School on Random Graphs, 2020. Canceled due to COVID-19

Additional Skill

Python, Github, NumPy, SciPy, NetworkX, Pandas, MatPlotLib, SciKit Learn, GraphTool

Blender Computer Software

3D Printing

Network Analysis, Machine Learning, Algorithm Design, Optimization Techniques, Probability, Statistics.

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