

SEPEHR HAJEBI – CV

June 30, 2025

CONTACT

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🌐 <https://www.sepehrhajebi.com>

APPOINTMENTS

- September 2024 – present: Postdoctoral Scholar
Combinatorics and Optimization, University of Waterloo
- September 2024 – ... (pending amid visa delays): Junior faculty (Instructor)
Department of Mathematics, Princeton University

EDUCATION

- September 2020 – August 2024: PhD in Mathematics
Combinatorics and Optimization, University of Waterloo
– Thesis: *Foreshadowing the Grid Theorem for Induced Subgraphs*
– Advisor: Sophie Spirkl
- September 2012 – August 2019: BSc and MSc in Mathematics
Isfahan University of Technology

AWARDS

- Governor General’s Gold Medal, Finalist Designation, 2025
University of Waterloo
- Mathematics Doctoral Prize: First place, 2025 (\$1500 CAD)
Faculty of Mathematics, University of Waterloo
- Graduate Research Excellence Award, 2025 (\$2500 CAD)
Faculty of Mathematics, University of Waterloo
- Sinclair Graduate Scholarship, Fall 2023 and Spring 2024 (\$2000 CAD/term)
Combinatorics and Optimization, University of Waterloo
- Outstanding TA Award, 2022
Combinatorics and Optimization, University of Waterloo
- Math competitions:
 - Korean Mathematical Society Contest: Third Prize, 2016
– Invited and funded by the South Korean Embassy in Iran
 - International Mathematics Competition: Third Prizes, 2015 and 2016
 - Iranian Mathematical Society Competition: Second (2015) and Third (2016) Prizes
- Elite Student Recognition, 2016 and 2018
Isfahan University of Technology

TALKS

14. *Complete bipartite induced minor (and treewidth)*
Willaim Tutte Colloquium, University of Waterloo, 2025
13. *Local and global structure of non-basic obstructions to bounded treewidth*
CanaDAM (invited at the Structural Graph Theory Minisymposium), University of Ottawa, 2025.
12. *“Underview” of excluded induced subgraphs for bounded pathwidth*
Barbados Graph Theory Workshop, Bellairs Research Institute, 2025
11. *The pathwidth theorem for induced subgraphs*
IBS discrete math seminar, Daejeon, South Korea, 2025
10. *The pathwidth theorem for induced subgraphs*
Graphs and Matroids Seminar, University of Waterloo, 2024
9. *Anticomplete sets of large treewidth*
BIRS Workshop on New Perspectives in Colouring and Structure, 2024
8. *Survey on induced subgraphs of graphs with large treewidth*
Barbados Graph Theory Workshop, Bellairs Research Institute, 2024
7. *Treewidth, Erdős-Pósa and induced subgraphs* [virtual]
New York Combinatorics Seminar, 2024
6. *Several Gyárfás-Sumner-type results for treewidth*
Graphs and Matroids Seminar, University of Waterloo, 2023
5. *Hitting all maximum stable sets in P_5 -free graphs*
Graphs and Matroids Seminar, University of Waterloo, 2023
4. *Forests in even-hole-free graphs of large treewidth*
Barbados Graph Theory Workshop, Bellairs Research Institute, 2022
3. *Holes, hubs, and bounded treewidth* [virtual]
IBS Discrete Math Seminar, 2022
2. *Bounded treewidth in hereditary graph classes*
Graphs and Matroids Seminar, University of Waterloo, 2022
1. *Bounded treewidth in hereditary graph classes*
Seymour was 70 two years ago, ENS de Lyon, France, 2022

TEACHING

- TA at University of Waterloo:
 - CO342 Graph theory (Spring 2023)
 - MATH138 Calculus II for honors of mathematics (Winter 2023)
 - MATH600 Mathematical software (Fall 2022)
 - CO456 Game theory (Fall 2022 & 2023)
 - CO380 Mathematical discovery and invention (Spring 2022)
 - MATH239 Introduction to combinatorics (Winter 2022)
 - CO255 Advanced optimization (Winter 2022)
 - CO250 Introduction to optimization (Fall 2021 & 2023, Winter 2023 & 2024, Spring 2024)

- CO450/650 Graph theory (graduate) (Fall 2021)
- CO351 Network-flow theory (Spring 2021)
- TA at Isfahan University of Technology:
 - Computational complexity (graduate) (2019)
 - Elements of matrices and linear algebra (2018)
 - Applied linear algebra (for engineering) (2018)
 - Graph theory (2016)
 - Graph theory (graduate) (2014, 2017)
 - Elements of combinatorics (2014, 2016, 2017)

SERVICE

- Supervision/Mentorship at University of Waterloo
 - Graduate students:
 - * Xinyue Fan (MSc, 2024 – present, joint with Sophie Spirkl)
 - Directed Reading Program (DRP):
 - * Spring 2024 project: *Non-constructive methods in combinatorics*
Mentees: Anna Henderson and Gioia De Leonardis
 - * Fall 2023 project: *Introduction to graph minor theory*
Mentees: Xinyue Fan and Lyncy Li
 - Undergraduate Research Assistant Program (URA):
 - * Spring 2023 project: *Maximum transitive set in H -free tournaments*
Mentee: Yun Xing
- Refereeing for journals and conference proceedings:
 - International Mathematics Research Notices
 - Journal of Combinatorial Theory, Series B
 - European Journal of Combinatorics
 - Journal of Graph Theory
 - Electronic Journal of Combinatorics
 - ACM-SIAM Symposium on Discrete Algorithms (SODA)
 - European Conference on Combinatorics, Graph Theory and Applications
 - Workshop on Graphs