

# 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

- *Complete bipartite induced minor (and treewidth)*  
Willaim Tutte Colloquium, University of Waterloo, 2025
- *Local and global structure of non-basic obstructions to bounded treewidth*  
CanADAM (invited at the Structural Graph Theory Minisymposium), University of Ottawa, 2025.
- *“Underview” of excluded induced subgraphs for bounded pathwidth*  
Barbados Graph Theory Workshop, Bellairs Research Institute, 2025
- *The pathwidth theorem for induced subgraphs*  
IBS discrete math seminar, Daejeon, South Korea, 2025
- *The pathwidth theorem for induced subgraphs*  
Graphs and Matroids Seminar, University of Waterloo, 2024
- *Anticomplete sets of large treewidth*  
BIRS Workshop on New Perspectives in Colouring and Structure, 2024
- *Survey on induced subgraphs of graphs with large treewidth*  
Barbados Graph Theory Workshop, Bellairs Research Institute, 2024
- *Treewidth, Erdős-Pósa and induced subgraphs* [virtual]  
New York Combinatorics Seminar, 2024
- *Several Gyárfás-Sumner-type results for treewidth*  
Graphs and Matroids Seminar, University of Waterloo, 2023
- *Hitting all maximum stable sets in  $P_5$ -free graphs*  
Graphs and Matroids Seminar, University of Waterloo, 2023
- *Forests in even-hole-free graphs of large treewidth*  
Barbados Graph Theory Workshop, Bellairs Research Institute, 2022
- *Holes, hubs, and bounded treewidth* [virtual]  
IBS Discrete Math Seminar, 2022
- *Bounded treewidth in hereditary graph classes*  
Graphs and Matroids Seminar, University of Waterloo, 2022
- *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