

# SEPEHR HAJEBI

Curriculum Vitæ (January 10, 2025)

## CONTACT

- ✉ shajebi at uwaterloo dot ca (current)
- ✉ shajebi at princeton dot edu (current-ish)
- 🌐 <https://www.sepehrhajebi.com>

## APPOINTMENTS

- September 2024 – present: Postdoctoral Scholar  
Combinatorics and Optimization, University of Waterloo  
- Host: Sophie Spirkl

## 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

5. Sinclair Graduate Scholarship, (Fall 2023 and Spring 2024,  $\$2000 \pm \varepsilon$  CAD per term)  
Combinatorics and Optimization, University of Waterloo
4. Outstanding TA Award (Winter 2022)  
Combinatorics and Optimization, University of Waterloo
3. Visit at KMS, KIAS and NIMS (2016)  
Invited and funded by the South Korean embassy in Iran
2. Math competitions:
  - Korean Mathematical Society Contest, Third Prize (2016)
  - International Mathematics Competition, Third Prizes (2015 and 2016)
  - Iranian Mathematical Society Competition, Second (2015) and Third (2016) Prize
1. Elite Student Recognition (2016 and 2018)  
Isfahan University of Technology

## TALKS

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 Virtual Discrete Math Colloquium (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)

## MENTORSHIP

- University of Waterloo:
  2. 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
  1. Undergraduate Research Assistant Program (URA)
    - Spring 2023 project: *Maximum transitive set in  $H$ -free tournaments*  
Mentee: Yun Xing

## TEACHING

- TA at University of Waterloo:
  10. CO342 Graph theory (Spring 2023)
  9. MATH138 Calculus II for honors of mathematics (Winter 2023)
  8. MATH600 Mathematical software (Fall 2022)

7. CO456 Game theory (Fall 2022 and 2023)
  6. CO380 Mathematical discovery and invention (Spring 2022)
  5. MATH239 Introduction to combinatorics (Winter 2022)
  4. CO255 Advanced optimization (Winter 2022)
  3. CO250 Introduction to optimization (Fall 2021 and 2023, Winter 2023 and 2024, Spring 2024)
  2. CO450/650 Graph theory (graduate) (Fall 2021)
  1. CO351 Network-flow theory (Spring 2021)
- TA at Isfahan University of Technology:
    6. Computational complexity (graduate) (2019)
    5. Elements of matrices and linear algebra (2018)
    4. Applied linear algebra (for engineering) (2018)
    3. Graph theory (2016)
    2. Graph theory (graduate) (2014, 2017)
    1. Elements of combinatorics (2014, 2016, 2017)

## SERVICE

- Refereeing for journals and conference proceedings:
  8. International Mathematics Research Notices
  7. Journal of Combinatorial Theory, Series B
  6. European Journal of Combinatorics
  5. Journal of Graph Theory
  4. Electronic Journal of Combinatorics
  3. ACM-SIAM Symposium on Discrete Algorithms (SODA)
  2. European Conference on Combinatorics, Graph Theory and Applications
  1. Workshop on Graphs