

# Sepehr Assadi

**Address:** DC 2334  
Cheriton School of Computer Science  
University of Waterloo  
Waterloo, ON.

**Emails:** [sepehr@assadi.info](mailto:sepehr@assadi.info)  
[sassadi@uwaterloo.ca](mailto:sassadi@uwaterloo.ca)

**Webpage:** [sepehr.assadi.info](http://sepehr.assadi.info)

## Personal Data

- PROFESSIONAL EXPERIENCE ◇ **Associate Professor** July 2023 to present  
**University of Waterloo**, Cheriton School of Computer Science  
Faculty of Mathematics Research Chair
- ◇ **Visiting Professor** July 2024 to present  
**Rutgers University**, Department of Computer Science
- ◇ **Assistant Professor** September 2019 to July 2024  
**Rutgers University**, Department of Computer Science
- ◇ **Postdoctoral Researcher** January 2019 to August 2019  
**Princeton University**, Department of Computer Science  
Supported by the Simons Collaboration on Algorithms and Geometry
- ◇ **Summer Intern** June 2017 to August 2017  
**Google Research (NYC)**, Algorithms & Optimization team
- EDUCATION ◇ **PhD in Computer and Information Science**, August 2013 to December 2018  
**University of Pennsylvania**, Department of Computer and Information Science
- Advisor: Sanjeev Khanna
  - Thesis: Combinatorial Optimization on Massive Datasets: Streaming, Distributed, and Massively Parallel Computation
    - \* *EATCS Distinguished Dissertation Award*
    - \* *ACM-EATCS Principles of Distributed Computing Doctoral Dissertation Award*
    - \* *Rubinfeld Dissertation Award from University of Pennsylvania*
- ◇ **B.Sc. in Computer Engineering**, September 2008 to July 2013  
**Sharif University of Technology**, Department of Computer Engineering
- Thesis: The Rectangle Escape Problem
  - Thesis supervisor: Hamid Zarrabi-Zadeh
- HONORS AND AWARDS ◇ **IEEE Senior Member**, 2024
- ◇ **Outstanding Performance Award** from University of Waterloo, 2023
- ◇ **Alfred P. Sloan Research Fellowship**, 2023
- ◇ **Faculty of Mathematics Research Chair**, University of Waterloo, 2023
- ◇ **Individual Fulcrum Award** from Rutgers Research Council, 2022
- ◇ **Google Research Scholar Program Award**, 2021
- ◇ National Science Foundation **Faculty Early Career Development (CAREER) Award**, 2020
- ◇ **Best Paper Award** at International Symposium on Distributed Computing, DISC 2020

- ◇ ACM-EATCS Principles of Distributed Computing **Doctoral Dissertation Award**, 2019
- ◇ **EATCS Distinguished Dissertation Award**, 2019
- ◇ **Rubinfoff Dissertation Award**, University of Pennsylvania, 2019
- ◇ **Best Paper Award** at Symposium on Discrete Algorithms, SODA 2019
- ◇ **Best Paper Award** at Symposium on Parallelism in Algorithms and Architectures, SPAA 2017
- ◇ **Best Student Paper Award** at Symposium on Principles of Database Systems, PODS 2017
- ◇ **Best Paper Award** at Conference on Web and Internet Economics, WINE 2015
- ◇ **Ranked 8<sup>th</sup>** in the Asia Regional ACM-ICPC Contest, Tehran, Iran, 2012
- ◇ **Gold Medal** in the Scientific Olympiad for University Students in Computer Science, Iran, 2012
- ◇ **Ranked 10<sup>th</sup>** in National Entrance Exam for M.Sc in Computer Science, Iran, 2010

# Research and Scholarship

## RESEARCH INTERESTS

My research interest is in theoretical computer science, primarily algorithm design and complexity theory for modern models of computation. Most of my work is on **sublinear algorithms and lower bounds** in various models for processing massive datasets such as streaming, distributed, massively parallel, and sublinear time algorithms. More broadly, I am also interested in algorithmic graph theory, communication complexity, online algorithms, and algorithmic game theory.

## SUMMARY OF PUBLICATIONS

**Metrics:** According to Google Scholar, as of August 2024, my papers have been cited over 2100 times and my h-index is 28.

**Primary publication venues:** Conferences: *STOC*, *FOCS*, *SODA*; Journals: *SICOMP*. In theoretical computer science, the most important venues of publications are conferences and not journals. *STOC* and *FOCS* are widely recognized as the most prestigious conferences in the field worldwide, followed by *SODA* which is the top conference dedicated to algorithm design.

**Lifetime summary of publications:** The table lists all my publications starting from 2012:

	Submitted	Published
Conference papers	6	76 <sup>†</sup>
Journal papers	2	12
Editorial notes, etc.	0	4
<b>Total</b>	<b>7</b>	<b>92</b>
Keynotes		1
Invited talks at Workshops		24
Seminars and Colloquia		25
Conference talks		17
<b>Total</b>		<b>66</b>

<sup>†</sup>Among these, 4 conference papers received a **best paper award**, 1 received a **best student paper award**, 12 were **invited to the special issue** of corresponding journals (SICOMP, TheoretiCS, TALG, TEAC, and Algorithmica), and 3 were invited to **Highlights of Algorithms (HALG)** conference as one of the top results in the area in that year.

## PUBLICATIONS

In the following, as is the convention in theoretical computer science (TCS), all authorships are in alphabetical order with a few exception that are outside TCS and are marked explicitly.

## Journals:

- [12] *Tight Bounds for Monotone Minimal Perfect Hashing.*  
S. Assadi, M. Farach-Colton, W. Kuzmaul  
ACM Transaction on Algorithms (TALG), 2024  
Invited paper in the **special issue** for SODA 2023 papers
- [11] *Rounds vs Communication Tradeoffs for Maximal Independent Sets*  
S. Assadi, G. Kol, Z. Zhang  
SIAM journal on Computing (SICOMP), 2024  
Invited paper in the **special issue** for FOCS 2022 papers
- [10] *Brooks' Theorem in Graph Streams: A Single-Pass Semi-Streaming Algorithm for  $\Delta$ -Coloring*  
S. Assadi, P. Kumar, P. Mittal  
TheoretiCS Journal, 2023
- [9] *Improved Truthful Mechanisms for Combinatorial Auctions with Submodular Bidders*  
S. Assadi, S. Singla  
SIAM journal on Computing (SICOMP), 2022  
Invited paper in the **special issue** for FOCS 2019 papers
- [8] *Separating the Communication Complexity of Truthful and Non-Truthful Combinatorial Auctions*  
S. Assadi, H. Khandeparkar, R. Saxena, M. Weinberg  
SIAM journal on Computing (SICOMP), 2022  
Invited paper in the **special issue** for STOC 2020 papers
- [7] *Tight Bounds for Single-Pass Streaming Complexity of the Set Cover Problem*  
S. Assadi, S. Khanna, Y. Li  
SIAM journal on Computing (SICOMP), 2021  
Invited paper in the **special issue** for STOC 2016 papers
- [6] *Combinatorial Auctions Do Need Modest Interaction*  
S. Assadi  
ACM Transactions on Economics and Computation (TEAC), 2020  
Invited paper in the **special issue** for EC 2017 papers
- [5] *The Stochastic Matching Problem with (Very) Few Queries*  
S. Assadi, S. Khanna, Y. Li  
ACM Transactions on Economics and Computation (TEAC), 2019  
Invited paper in the **special issue** for EC 2016 papers
- [4] *Fast Convergence in the Double Oral Auction*  
S. Assadi, S. Khanna, Y. Li, R. Vohra  
ACM Transactions on Economics and Computation (TEAC), 2018  
Invited paper in the **special issue** for WINE 2015 and EC 2016 papers
- [3] *On the Rectangle Escape Problem*  
A. Ahmadinejad, S. Assadi, E. Emamjomeh-Zadeh, S. Yazdanbod, H. Zarrabi-Zadeh  
Theoretical Computer Science (TCS), 2017
- [2] *A Compile-Time Optimization Method for WCET Reduction in Real-Time Embedded Systems through Block Formation*

M. Mohajjel, M. Taram, S. Assadi, A. Ejlali (\* in contribution order)  
ACM Transactions on Architecture and Code Optimization (TACO), 2016

- [1] *The Minimum Vulnerability Problem*  
S. Assadi, E. Emamjomeh-Zadeh, A. Norouzi-Fard, S. Yazdanbod, H. Zarrabi-Zadeh  
Algorithmica, 2014  
Invited paper in the **special issue** for ISAAC 2012 papers

## Conferences:

- [76] *Polynomial Pass Semi-Streaming Lower Bounds for  $K$ -Cores and Degeneracy*  
S. Assadi, P. Ghosh, B. Loff, P. Mittal, S. Mukhopadhyay  
39th Computational Complexity Conference, **CCC 2024**
- [75] *The Best Arm Evades: Near-optimal Multi-pass Streaming Lower Bounds for Pure Exploration in Multi-armed Bandits*  
S. Assadi, C. Wang  
37th Annual Conference on Learning Theory, **COLT 2024**
- [74]  *$\mathcal{O}(\log \log n)$  Passes is Optimal for Semi-Streaming Maximal Independent Set*  
S. Assadi, C. Konrad, K. Naidu, J. Sundaresan  
56th ACM Symposium on Theory of Computing, **STOC 2024**  
Invited to **SICOMP** for STOC 2024 papers
- [73] *Optimal Multi-Pass Lower Bounds for MST in Dynamic Streams*  
S. Assadi, G. Kol, Z. Zhang  
56th ACM Symposium on Theory of Computing, **STOC 2024**
- [72] *A Simple  $(1 - \epsilon)$ -Approximation Semi-Streaming Algorithm for Maximum (Weighted) Matching*  
S. Assadi  
SIAM Symposium on Simplicity in Algorithms, **SOSA 2023**  
Invited to **TheoretiCS journal** for SOSA 2024 papers
- [71] *Streaming Algorithms and Lower Bounds for Estimating Correlation Clustering Cost*  
S. Assadi, V. Shah, C. Wang  
37th Conference on Neural Information Processing Systems, **NeurIPS 2023**
- [70] *Hidden Permutations to the Rescue: Multi-Pass Semi-Streaming Lower Bounds for Approximate Matchings*  
S. Assadi, J. Sundaresan  
64th IEEE Symposium on Foundations of Computer Science, **FOCS 2023**  
University of Waterloo Faculty of Mathematics **Graduate Research Excellence Award**
- [69] *Evaluating Stability in Massive Social Networks: Efficient Streaming Algorithms for Structural Balance*  
V. Ashvinkumar, S. Assadi, C. Deng, J. Gao, C. Wang  
Approximation, Randomization, and Combinatorial Optimization, **RANDOM 2023**
- [68] *On Constructing Spanners from Random Gaussian Projections*  
S. Assadi, M. Kapralov, H. Yu  
Approximation, Randomization, and Combinatorial Optimization, **RANDOM 2023**

- [67] *Fine-Grained Buy-Many Mechanisms Are Not Much Better Than Bundling*  
S. Assadi, V. Kher, G. Li, A. Schwartzman  
24th ACM Conference on Economics and Computation, **EC 2023**
- [66] *Coloring in Graph Streams via Deterministic and Adversarially Robust Algorithms*  
S. Assadi, A. Chakrabarti, P. Ghosh, M. Stoeckl  
Symposium on Principles of Database Systems, **PODS 2023**
- [65] *(Noisy) Gap Cycle Counting Strikes Back: Random Order Streaming Lower Bounds for Connected Components and Beyond*  
S. Assadi, J. Sundaresan  
55th ACM Symposium on Theory of Computing, **STOC 2023**
- [64] *On Regularity Lemma and Barriers in Streaming and Dynamic Matching*  
S. Assadi, S. Behnezhad, S. Khanna, H. Li  
55th ACM Symposium on Theory of Computing, **STOC 2023**
- [63] *All-Norm Load Balancing in Graph Streams via the Multiplicative Weights Update Method*  
S. Assadi, A. Bernstein, Z. Langley  
14th Innovations in Theoretical Computer Science, **ITCS 2023**
- [62] *Tight Bounds for Monotone Minimal Perfect Hashing*  
S. Assadi, M. Farach-Colton, W. Kuzmaul  
The 34th Annual ACM-SIAM Symposium on Discrete Algorithms, **SODA 2023**  
Invited to **TALG special issue** for SODA 2023 papers
- [61] *Tight Bounds for Vertex Connectivity in Dynamic Streams*  
S. Assadi, V. Shah  
The SIAM Symposium on Simplicity in Algorithms, **SOSA 2023**
- [60] *Generalizing Greenwald-Khanna Streaming Quantile Summaries for Weighted Inputs*  
S. Assadi, N. Joshi, M. Prabh, V. Shah  
26th International Conference on Database Theory, **ICDT 2023**
- [59] *Single-pass Streaming Lower Bounds for Multi-armed Bandits Exploration with Instance-sensitive Sample Complexity*  
S. Assadi, C. Wang  
36th Conference on Neural Information Processing Systems, **NeurIPS 2022**
- [58] *Rounds vs Communication Tradeoffs for Maximal Independent Sets*  
S. Assadi, G. Kol, Z. Zhang  
The 63rd IEEE Symposium on Foundations of Computer Science, **FOCS 2022**  
Invited to **SICOMP special issue** for FOCS 2022 papers
- [57] *Asymptotically Optimal Bounds for Estimating H-Index in Sublinear Time with Applications to Subgraph Counting*  
S. Assadi, H. Nguyen  
Approximation, Randomization, and Combinatorial Optimization, **APPROX 2022**
- [56] *Hierarchical Clustering in Graph Streams: Single-Pass Algorithms and Space Lower Bounds*  
S. Assadi, V. Chatziafratis, J. Lacki, V. Mirrokni, C. Wang  
35th Annual Conference on Learning Theory, **COLT 2022**

- [55] *Decremental Matching in General Graphs*  
S. Assadi, A. Bernstein, A. Dudeja  
49th International Colloquium on Automata, Languages and Programming, **ICALP 2022**
- [54] *Deterministic Graph Coloring in the Streaming Model*  
S. Assadi, A. Chen, G. Sun  
54th ACM Symposium on Theory of Computing, **STOC 2022**
- [53] *Brooks' Theorem in Graph Streams: A Single-Pass Semi-Streaming Algorithm for  $\Delta$ -Coloring*  
S. Assadi, P. Kumar, P. Mittal  
54th ACM Symposium on Theory of Computing, **STOC 2022**
- [52] *SPINE: Scaling up Programming-by-Negative-Example for String Filtering and Transformation*  
C. Zuo, S. Assadi, D. Deng (\* in contribution order)  
ACM International Conference on Management of Data, **SIGMOD 2022**
- [51] *An Asymptotically Optimal Algorithm for Maximum Matching in Dynamic Streams*  
S. Assadi, V. Shah  
The 13th Innovations in Theoretical Computer Science, **ITCS 2022**
- [50] *Sublinear Time and Space Algorithms for Correlation Clustering via Sparse-Dense Decompositions*  
S. Assadi, C. Wang  
The 13th Innovations in Theoretical Computer Science, **ITCS 2022**
- [49] *A Two-Pass (Conditional) Lower Bound for Semi-Streaming Maximum Matching*  
S. Assadi  
The 33rd Annual ACM-SIAM Symposium on Discrete Algorithms, **SODA 2022**
- [48] *Semi-Streaming Bipartite Matching in Fewer Passes and Optimal Space*  
S. Assadi, A. Jambulapati, Y. Jin, A. Sidford, K. Tian  
The 33rd Annual ACM-SIAM Symposium on Discrete Algorithms, **SODA 2022**
- [47] *Ruling Sets in Random Order and Adversarial Streams*  
S. Assadi, A. Dudeja  
International Symposium on Distributed Computing, **DISC 2021**
- [46] *On the Robust Communication Complexity of Bipartite Matching*  
S. Assadi, S. Behnezhad  
Approximation, Randomization, and Combinatorial Optimization, **RANDOM 2021**
- [45] *Graph Connectivity and Single Element Recovery via Linear and OR Queries*  
S. Assadi, D. Chakrabarty, S. Khanna  
European Symposium on Algorithms, **ESA 2021**
- [44] *Fully Dynamic Set Cover via Hypergraph Maximal Matching: An Optimal Approximation Through a Local Approach*  
S. Assadi, S. Solomon  
European Symposium on Algorithms, **ESA 2021**
- [43] *Beating Two-Thirds for Random-Order Streaming Matching*  
S. Assadi, S. Behnezhad  
48th International Colloquium on Automata, Languages and Programming, **ICALP 2021**

- [42] *Graph Streaming Lower Bounds for Parameter Estimation and Property Testing via a Streaming XOR Lemma*  
S. Assadi, V. N  
53rd ACM Symposium on Theory of Computing, **STOC 2021**
- [41] *Improved Truthful Mechanisms for Subadditive Combinatorial Auctions: Breaking the Logarithmic Barrier*  
S. Assadi, T. Kesselheim, S. Singla  
The 32nd Annual ACM-SIAM Symposium on Discrete Algorithms, **SODA 2021**
- [40] *A Simple Semi-Streaming Algorithm for Global Minimum Cuts*  
S. Assadi, A. Dudeja  
The SIAM Symposium on Simplicity in Algorithms, **SOSA 2021**
- [39] *An Auction Algorithm for Bipartite Matching in Streaming and Massively Parallel Computation Models*  
S. Assadi, C. Liu, R. Tarjan  
The SIAM Symposium on Simplicity in Algorithms, **SOSA 2021**
- [38] *Near-Quadratic Lower Bounds for Two-Pass Graph Streaming Algorithms*  
S. Assadi, R. Raz  
The 61st IEEE Symposium on Foundations of Computer Science, **FOCS 2020**
- [37] *Multi-Pass Graph Streaming Lower Bounds for Cycle Counting, MAX-CUT, Matching Size, and Other Problems*  
S. Assadi, G. Kol, R. Saxena, H. Yu  
The 61st IEEE Symposium on Foundations of Computer Science, **FOCS 2020**
- [36] *Improved Bounds for Distributed Load Balancing*  
S. Assadi, A. Bernstein, Z. Langley  
International Symposium on Distributed Computing, **DISC 2020**  
**Best Paper Award**
- [35] *Palette Sparsification Beyond  $(\Delta + 1)$  Vertex Coloring*  
N. Alon, S. Assadi  
Approximation, Randomization, and Combinatorial Optimization, **RANDOM 2020**
- [34] *Lower Bounds for Distributed Sketching of Maximal Matchings and Maximal Independent Sets*  
S. Assadi, G. Kol, R. Oshman  
ACM Symposium on Principles of Distributed Computing, **PODC 2020**
- [33] *Exploration with Limited Memory: Streaming Algorithms for Coin Tossing, Noisy Comparisons, and Multi-Armed Bandits*  
S. Assadi, C. Wang  
52nd ACM Symposium on Theory of Computing, **STOC 2020**
- [32] *Separating the Communication Complexity of Truthful and Non-Truthful Combinatorial Auctions*  
S. Assadi, H. Khandeparkar, R. Saxena, M. Weinberg  
52nd ACM Symposium on Theory of Computing, **STOC 2020**  
Invited to **SICOMP special issue** for STOC 2020 papers
- [31] *Improved Truthful Mechanisms for Combinatorial Auctions with Submodular Bidders*  
S. Assadi, S. Singla

60th Annual IEEE Symposium on Foundations of Computer Science, **FOCS 2019**  
 Invited to **SICOMP special issue** for FOCS 2019 papers  
 Invited to **Highlights Beyond EC** in EC'20  
 Invited research article in **SIGecom Exchanges**

- [30] *Secretary Ranking with Minimal Inversions*  
 S. Assadi, E. Balkanski, R. Paes Leme  
 33rd Conference on Neural Information Processing Systems, **NeurIPS 2019**
- [29] *Massively Parallel Algorithms for Finding Well-Connected Components*  
 S. Assadi, X. Sun, O. Weinstein  
 ACM Symposium on Principles of Distributed Computing, **PODC 2019**
- [28] *Distributed Weighted Matching via Randomized Composable Coresets*  
 S. Assadi, M. Bateni, V. Mirrokni  
 36th International Conference on Machine Learning, **ICML 2019**
- [27] *When Algorithms for Maximal Independent Set and Maximal Matching Run in Sublinear Time*  
 S. Assadi, S. Solomon.  
 46th International Colloquium on Automata, Languages and Programming, **ICALP 2019**
- [26] *Distributed and Streaming Linear Programming in Low Dimensions*  
 S. Assadi, N. Karpov, Q. Zhang.  
 38th Annual ACM Symposium on Principles of Database Systems, **PODS 2019**  
 Invited to **TODS special issue** for PODS 2019 papers
- [25] *Polynomial Pass Lower Bounds for Graph Streaming Algorithms*  
 S. Assadi, Y. Chen, S. Khanna.  
 51st ACM Symposium on Theory of Computing, **STOC 2019**
- [24] *A Simple Sublinear-Time Algorithm for Counting Arbitrary Subgraphs via Edge Sampling*  
 S. Assadi, M. Kapralov, S. Khanna.  
 10th Innovations in Theoretical Computer Science, **ITCS 2019**  
 Invited Talk at **TCS+**
- [23] *Sublinear Algorithms for  $(\Delta + 1)$  Vertex Coloring*  
 S. Assadi, Y. Chen, S. Khanna.  
 30th Annual ACM-SIAM Symposium on Discrete Algorithms, **SODA 2019**  
**Best Paper Award**  
 Invited to Highlights of Algorithms, **HALG 2020**
- [22] *Coresets Meet EDCS: Algorithms for Matching and Vertex Cover on Massive Graphs*  
 S. Assadi, M. Bateni, A. Bernstein, V. Mirrokni, C. Stein  
 30th Annual ACM-SIAM Symposium on Discrete Algorithms, **SODA 2019**
- [21] *Fully Dynamic Maximal Independent Set with Sublinear in  $n$  Update Time*  
 S. Assadi, K. Onak, B. Schieber, S. Solomon.  
 30th Annual ACM-SIAM Symposium on Discrete Algorithms, **SODA 2019**
- [20] *Stochastic Submodular Cover with Limited Adaptivity*  
 A. Agarwal, S. Assadi, S. Khanna.  
 30th Annual ACM-SIAM Symposium on Discrete Algorithms, **SODA 2019**



- [19] *Towards a Unified Theory of Sparsification for Matching Problems*  
S. Assadi, A. Bernstein.  
2nd Symposium on Simplicity in Algorithms, **SOSA 2019**
- [18] *Fully Dynamic Maximal Independent Set with Sublinear Update Time*  
S. Assadi, K. Onak, B. Schieber, S. Solomon.  
50th Annual ACM Symposium on the Theory of Computing, **STOC 2018**
- [17] *Tight Bounds on the Round Complexity of the Distributed Maximum Coverage Problem*  
S. Assadi, S. Khanna.  
29th Annual ACM-SIAM Symposium on Discrete Algorithms, **SODA 2018**
- [16] *Randomized Composable Coreset for Matching and Vertex Cover*  
S. Assadi, S. Khanna  
29th Annual ACM Symposium on Parallelism in Algorithms and Architectures, **SPAA 2017**  
**Best Paper Award (co-winner)**  
Invited to Highlights of Algorithms, **HALG 2018**
- [15] *Learning with Limited Rounds of Adaptivity: Coin Tossing, Multi-Armed Bandits, and Ranking from Pairwise Comparisons*  
A. Agarwal, S. Agarwal, S. Assadi, S. Khanna  
30th Annual Conference on Learning Theory, **COLT 2017**
- [14] *Combinatorial Auctions Do Need Modest Interaction*  
S. Assadi  
18th ACM Conference on Economics and Computation, **EC 2017**  
Invited to **TEAC special issue** for EC 2017 papers
- [13] *The Stochastic Matching Problem: Beating Half with a Non-Adaptive Algorithm*  
S. Assadi, S. Khanna, Y. Li  
18th ACM Conference on Economics and Computation, **EC 2017**
- [12] *Tight Space-Approximation Tradeoff for the Multi-Pass Streaming Set Cover Problem*  
S. Assadi  
36th Annual ACM Symposium on Principles of Database Systems, **PODS 2017**  
**Best Student Paper Award**
- [11] *On Estimating Maximum Matching Size in Graph Streams*  
S. Assadi, S. Khanna, Y. Li  
28th Annual ACM-SIAM Symposium on Discrete Algorithms, **SODA 2017**  
Invited to Highlights of Algorithms, **HALG 2017**
- [10] *Tight Bounds for Single-Pass Streaming Complexity of the Set Cover Problem*  
S. Assadi, S. Khanna, Y. Li  
48th Annual Symposium on the Theory of Computing, **STOC 2016**  
Invited to **SICOMP special issue** for STOC 2016 papers
- [9] *The Stochastic Matching Problem With (Very) Few Queries*  
S. Assadi, S. Khanna, Y. Li  
17th ACM Conference on Economics and Computation, **EC 2016**  
Invited to **TEAC special issue** for EC 2016 papers
- [8] *Algorithms for Provisioning Queries and Analytics*  
S. Assadi, S. Khanna, Y. Li, V. Tannen

- [7] *Maximum Matchings in Dynamic Graph Streams and the Simultaneous Communication Model*  
S. Assadi, S. Khanna, Y. Li, G. Yaroslavtsev  
27th Annual ACM-SIAM Symposium on Discrete Algorithms, **SODA 2016**
- [6] *Dynamic Sketching for Graph Optimization Problems with Applications to Cut-Preserving Sketches*  
S. Assadi, S. Khanna, Y. Li, V. Tannen  
35th IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science, **FSTTCS 2015**
- [5] *Fast Convergence in the Double Oral Auction*  
S. Assadi, S. Khanna, Y. Li, R. Vohra  
11th Conference on Web and Internet Economics, **WINE 2015**  
**Best Paper Award**  
Invited to **TEAC special issue** for WINE 2015 and EC 2016 papers
- [4] *Online Assignment of Heterogeneous Tasks in Crowdsourcing Markets*  
S. Assadi, J. Hsu, S. Jabbari  
3rd AAAI Conference on Human Computation & Crowdsourcing, **HCOMP 2015**
- [3] *Complexity of the Minimum Input Selection Problem for Structural Controllability*  
S. Assadi, S. Khanna, Y. Li, V. Preciado  
5th IFAC Workshop on Distributed Estimation and Control in Networked Systems, **NecSys 2015**
- [2] *On The Rectangle Escape Problem*  
S. Assadi, E. Emamjomeh-Zadeh, S. Yazdanbod, H. Zarrabi-Zadeh  
25th Canadian Conference on Computational Geometry, **CCCG 2013**
- [1] *The Minimum Vulnerability Problem*  
S. Assadi, E. Emamjomeh-Zadeh, A. Norouzi-Fard, S. Yazdanbod, H. Zarrabi-Zadeh  
23rd International Symposium on Algorithms and Computation, **ISAAC 2012**  
Invited to **Algorithmica special issue** for ISAAC 2012 papers

## Editorial Notes:

- [4] *Recent Advances in Multi-Pass Graph Streaming Lower Bounds*  
S. Assadi  
ACM SIGACT NewsVolume 54Issue 3, **SIGACT 2023**
- [3] *Introduction to the Special Issue on ACM-SIAM Symposium on Discrete Algorithms (SODA) 2020*  
G. Kamath, S. Assadi, A. Driemel, J. Kulkarni  
ACM Transaction on Algorithms, **TALG 2022**
- [2] *Improved truthful mechanisms for combinatorial auctions with submodular bidders*  
S. Assadi, S. Singla  
ACM SIGecom Exchanges, **SIGecom 2020**
- [1] *SPAA 2017 Review*  
S. Assadi  
SIGACT News 48(4), **SIGACT 2017**

## Keynotes:

- [1] 36th International Symposium on Distributed Computing (DISC 2022) October 2022  
*Keynote: Graph Coloring, Palette Sparsification, and Beyond*

## Workshops and Other Events:

- [24] RR-Fest (in celebration of Ronitt Rubinfeld's 60th Birthday) August 2023  
*Simple Sublinear Algorithms for Vertex Coloring*
- [23] Workshop on Local Algorithms (WOLA) August 2023  
 *$\mathcal{O}(\log \log n)$  Passes is Optimal for Semi-Streaming Maximal Independent Set*
- [22] Simons Institute workshop on Sublinear Graph Simplification July 2023  
*Improved Bounds for Fully Dynamic Matching via Ordered Ruzsa-Szemerédi Graphs*
- [21] Simons Institute workshop on Extroverted Sublinear Algorithms June 2023  
*Sublinear Insights: A Faster (Classical) Algorithm for Edge Coloring*
- [20] Simons Institute workshop on Sublinear Algorithms Boot Camp May 2023  
*New Advances in Multi-Pass Graph Streaming Lower Bounds*
- [19] Simons Institute workshop on Sublinear Algorithms Boot Camp May 2023  
*Graph Coloring Through the Sublinear Lens*
- [18] FOCS'23 Workshop: Exploring the Frontiers of Adaptive Robustness November 2023  
*Coloring in Graph Streams via Deterministic and Adversarially Robust Algorithms*
- [17] Simons Institute workshop on Sketching and Algorithm Design October 2023  
*A Simple  $(1-\epsilon)$ -Approximation Adaptive Sketching Algorithm for Maximum (Weight) Matching*
- [16] DIMACS Workshop on Modern Techniques in Graph Algorithms June 2023  
*Tutorial: Ruzsa-Szemerédi Graphs and their Applications*
- [15] Highlights of Algorithms Conference June 2023  
*Survey: Lower Bound Techniques for Multi-Pass Streaming Algorithms*
- [14] Sublinear Workshop at EPFL Bernoulli Center December 2022  
*A (Slightly) Sublinear Space Streaming Algorithm for Matchings*
- [13] Workshop on Advances in Distributed Graph Algorithms (ADGA) October 2022  
*Lower Bounds for Distributed Sketching*
- [12] Simons-DIMACS Workshop on Lower Bounds and Frontiers in Data Structures August 2022  
*Tight Bounds for Monotone Minimal Perfect Hashing*
- [11] FODSI Workshop on Sublinear Algorithms August 2022  
*A (Slightly) Sublinear Space Streaming Algorithm for Matchings*

- [10] Banff Workshop on Communication Complexity and Applications III July 2022  
*Recent Advances in Multi-Pass Graph Streaming Lower Bounds*
- [9] Workshop on Algorithms and Foundations for Data Science June 2022  
*Brooks' Theorem in Graph Streams*
- [8] Workshop on Algorithms for Large Data (Online), WALDO 2021 August 2021  
*Multi-Pass Graph Streaming Lower Bounds for Parameter Estimation and Property Testing Problems*
- [7] INFORMS Session on Bandits Meet Optimization November 2020  
*Exploration with Limited Memory: Streaming Algorithms for Multi-Armed Bandits*
- [6] Highlights of Algorithms Conference August 2020  
*Sublinear Algorithms for  $(\Delta + 1)$  Vertex Coloring*
- [5] New York Area Theory Day May 2019  
*Sublinear Algorithms for  $(\Delta + 1)$  Vertex Coloring*
- [4] TCS+ Online Seminar February 2019  
*A Simple Sublinear-Time Algorithm for Counting Arbitrary Subgraphs via Edge Sampling*
- [3] Simons Institute meeting on Algorithms and Geometry Collaboration February 2019  
*Sublinear Algorithms for  $(\Delta + 1)$  Vertex Coloring*
- [2] Simons Institute workshop on Sublinear Algorithms and Nearest-Neighbor Search November 2018  
*Sublinear Algorithms for  $(\Delta + 1)$  Vertex Coloring*
- [1] Linear Sketching as a Tool for Everything workshop at FOCS'17 October 2017  
*Lower Bounds for Linear Sketches of Approximate Matchings and Matrix Rank*

## Seminars and Colloquia:

- [25] University of Toronto Theory Seminar March 2024  
 *$\mathcal{O}(\log \log n)$  Passes is Optimal for Semi-Streaming Maximal Independent Set*
- [24] UWaterloo Combinatorial Optimization Reading Group November 2023  
*Multiplicative Weight Update (MWU) Method for Solving Packing/Covering LPs*
- [23] UWaterloo William Tutte Colloquium October 2023  
*A Simple Sparsification Algorithm for Maximum Matching with Applications to Graph Streams*
- [22] UWaterloo Algorithms & Complexity Seminar September 2023  
*Hidden Permutations to the Rescue:  
Multi-Pass Semi-Streaming Lower Bounds for Approximate Matchings*
- [21] UPenn CS Theory Seminar March 2023  
*An Asymptotically Optimal Algorithm for Maximum Matching in Dynamic Streams*

- [20] Harvard Theory of Computation Seminar March 2023  
*A (Slightly) Sublinear Space Streaming Algorithm for Matchings*
- [19] NYU Theory Seminar September 2022  
*Deterministic Graph Coloring in the Streaming Model*
- [18] MIT Algorithms and Complexity Seminar March 2022  
*Deterministic Graph Coloring in the Streaming Model*
- [17] Rutgers Discrete Math Seminar October 2021  
*Palette Sparsification for Vertex Coloring*
- [16] University of Washington Theory Seminar March 2021  
*Multi-Pass Graph Streaming Lower Bounds for Parameter Estimation and Property Testing*
- [15] Rutgers/DIMACS Theory Seminar September 2019  
*Improved Truthful Mechanisms for Combinatorial Auctions with Submodular Bidders*
- [14] MIT Theory of Computation Colloquium May 2019  
*Sublinear Algorithms for  $(\Delta + 1)$  Vertex Coloring*
- [13] Cornell CS Theory Seminar May 2019  
*Sublinear Algorithms for  $(\Delta + 1)$  Vertex Coloring*
- [12] Google NYC Research Seminar April 2019  
*Sublinear Algorithms for  $(\Delta + 1)$  Vertex Coloring*
- [11] Princeton Theory Seminar April 2019  
*Polynomial Pass Lower Bounds in Graph Streams*
- [10] Rutgers/DIMACS Theory Seminar March 2019  
*Polynomial Pass Lower Bounds in Graph Streams*
- [9] Indiana Theory Seminar November 2017  
*Tight Bounds on the Round Complexity of the Distributed Maximum Coverage Problem*
- [8] Columbia Theory Seminar October 2017  
*Tight Bounds on the Round Complexity of the Distributed Maximum Coverage Problem*
- [7] IBM Watson Research Seminar September 2017  
*Randomized Composable Coreset for Matching and Vertex Cover*
- [6] Google NYC Research Seminar July 2017  
*Learning with Limited Rounds of Adaptivity*
- [5] Upenn Theory Seminar April 2017  
*Combinatorial Auctions Do Need Modest Interaction*
- [4] Johns Hopkins Algorithms and Complexity Seminar April 2017  
*Matching Size and Matrix Rank Estimation in Data Streams*

- [3] Google NYC Research Seminar November 2016  
*Tight Bounds for Single-Pass Streaming Complexity of the Set Cover Problem*
- [2] Columbia Theory Seminar January 2016  
*Tight Bounds for Linear Sketches of Approximate Matchings*
- [1] Upenn Theory Seminar January 2016  
*Tight Bounds for Linear Sketches of Approximate Matchings*

## Conference Talks:

- [17] SIAM Symposium on Simplicity in Algorithms (SOSA'24) January 2024  
*A Simple  $(1 - \epsilon)$ -Approximation Semi-Streaming Algorithm for Maximum (Weighted) Matching*
- [16] ACM-SIAM Symposium on Discrete Algorithms (SODA'22) January 2022  
*A Two-Pass (Conditional) Lower Bound for Semi-Streaming Maximum Matching*
- [15] RANDOM: The Conference (RANDOM'21) August 2021  
*On the Robust Communication Complexity of Bipartite Matching*
- [14] RANDOM: The Conference (RANDOM'20) August 2020  
*Palette Sparsification Beyond  $(\Delta + 1)$  Vertex Coloring*
- [13] ACM Symposium on Principles of Distributed Computing (PODC'20) August 2020  
*Lower Bounds for Distributed Sketching of Maximal Matchings and Maximal Independent Sets*
- [12] Innovations in Theoretical Computer Science (ITCS'19) January 2019  
*A Simple Sublinear-Time Algorithm for Counting Arbitrary Subgraphs via Edge Sampling*
- [11] ACM-SIAM Symposium on Discrete Algorithms (SODA'19) January 2019  
*Sublinear Algorithms for  $(\Delta + 1)$  Vertex Coloring*
- [10] ACM-SIAM Symposium on Discrete Algorithms (SODA'19) January 2019  
*Coresets Meet EDCS: Algorithms for Matching and Vertex Cover on Massive Graphs*
- [9] SIAM Symposium on Simplicity in Algorithms (SOSA'19) January 2019  
*Towards a Unified Theory of Sparsification for Matching Problems*
- [8] ACM Symposium on the Theory of Computing (STOC'18) June 2018  
*Fully Dynamic Maximal Independent Set with Sublinear Update Time*
- [7] ACM-SIAM Symposium on Discrete Algorithms (SODA'18) January 2018  
*Tight Bounds on the Round Complexity of the Distributed Maximum Coverage Problem*
- [6] ACM Symposium on Parallelism in Algorithms and Architectures (SPAA'17) July 2017  
*Randomized Composable Coreset for Matching and Vertex Cover*
- [5] ACM Conference on Economics and Computation (EC'17) July 2017  
*Combinatorial Auctions Do Need Modest Interaction*

- [4] ACM Conference on Economics and Computation (EC'17)  
*The Stochastic Matching Problem: Beating Half with a Non-Adaptive Algorithm*

July 2017
- [3] ACM Symposium on Principles of Database Systems (PODS'17)  
*Tight Space-Approximation Tradeoff for the Multi-Pass Streaming Set Cover Problem*

May 2017
- [2] ACM Symposium on the Theory of Computing (STOC'16)  
*Tight Bounds for Single-Pass Streaming Complexity of the Set Cover Problem*

June 2016
- [1] ACM-SIAM Symposium on Discrete Algorithms (SODA'16)  
*Maximum Matchings in Dynamic Graph Streams and the Simultaneous Communication Model*

January 2016

## RESEARCH FUNDING

- ◇ NSERC Discovery grant RGPIN-2024-04290: \$345,000 CAD, April 2024
- ◇ NSERC Discovery Grant Early Career Researcher (ECR) supplement: \$12,500 CAD, April 2024
- ◇ Alfred P. Sloan Research Fellowship: \$75,000 USD, September 2023
- ◇ UWaterloo Faculty of Mathematics Research Chair research grant: \$250,000 CAD, July 2023
- ◇ UWaterloo startup grant: \$150,000 CAD, August 2022
- ◇ Rutgers Individual Fulcrum Award: \$5,000 USD, August 2022
- ◇ Google Research Scholar Program Award: \$60,000 USD, March 2021
- ◇ National Science Foundation (NSF) CAREER award CCF-2047061: \$558,159 USD, February 2021
- ◇ Rutgers startup grant: \$90,000 USD, September 2019

## Teaching Activities

## TEACHING

The curriculum for all these courses, including the undergraduate ones, have been designed and developed by myself. I have also received the “*Open and Affordable Textbook Program Award*” from the Rutgers University Libraries for curriculum development in my undergraduate course including preparation of detailed lecture notes tailored to the backgrounds of students at Rutgers.

- ◇ **Seminar: Modern Topics in Graph Algorithms** (both undergraduate (elective) and graduate, 16 students)
  - CS 860 (01) – University of Waterloo (Winter 2024)
  - Course website: <https://sepehr.assadi.info/courses/cs860-w24/>
- ◇ **Seminar: Algorithmic Gems** (both undergraduate (elective) and graduate, 12 students)
  - CS 860 (02) – University of Waterloo (Winter 2024)
  - Course website: <https://sepehr.assadi.info/courses/cs860-02-w24/>
- ◇ **Algorithm Design and Analysis – Advanced Algorithms** (both undergraduate (elective) and graduate, 40 students)
  - CS 466/666 – University of Waterloo (Fall 2023, Fall 2024)
  - Course website: [https://sepehr.assadi.info/courses/cs466\(6\)-f24/](https://sepehr.assadi.info/courses/cs466(6)-f24/)
- ◇ **Design and Analysis of Computer Algorithms** (undergraduate, 150 to 200 students)
  - CS 344 – Rutgers University (Fall 2019, Spring 2021, Spring 2022, Spring 2023)
  - Course website: <https://sepehr.assadi.info/courses/cs344-s23/>
- ◇ **Linear Programming** (graduate, 40 students)
  - CS 521 – Rutgers University (Fall 2022)

- Course website: <https://sepehr.assadi.info/courses/cs521-f22/>
- ◊ **Design and Analysis Of Data Structures and Algorithms II** (graduate, 20 students)
  - CS 514 – Rutgers University (Spring 2020, Fall 2021)
  - Course website: <https://sepehr.assadi.info/courses/cs514-f21/>
- ◊ **Seminar: Graph Streaming Algorithms and Lower Bounds** (graduate, 10 students)
  - CS 671 – Rutgers University (Fall 2020)
  - Course website: <https://sepehr.assadi.info/courses/cs671-f20.html>

## SUPERVISION

**Lifetime summary of supervision:** The table includes the list of all graduate students (Masters and PhD), postdoctoral research fellows (PDF), and undergraduate research assistant (RAs) that I have (co-)supervised:

	Supervised	Co-Supervised
Current Masters	0	0
Graduated Masters	2	0
Current PhD	3	0
Graduated PhD	1	0
Current PDF	0	0
Completed PDF	1	3
RAs	15	0

### ◊ Postdocs:

- Ariel Schwartzman Cohenca (DIMACS postdoc, 2020 to 2022; now at Google Research)
- Nicole Wein (DIMACS postdoc, 2021; now an Assistant Professor at University of Michigan)
- Zihan Tan (DIMACS postdoc, 2022 to 2024; now an Assistant Professor at Rutgers University)
- Prantar Ghosh (DIMACS postdocs, 2022 to 2023; now an Assistant Professor at Tennessee Tech University)

### ◊ PhD Students:

- Chen Wang (Rutgers, 2019 – 2024; now a postdoc at Rice and Texas A&M Universities)
- Vihan Shah (Waterloo, 2020 – present; expected graduation Spring 2025)
- Janani Sundaresan (Waterloo, 2021 – present; expected graduation Winter 2026)
- Parth Mittal (Waterloo, 2021 – present; expected graduation Spring 2026)

### ◊ Master Students:

- Chaitanya Nalam (Rutgers, 2020 – 2021, now a PhD student at University of Michigan)

### ◊ Undergraduate Thesis Advisor:

- Hoai-an Nguyen (2021 – 2023, now a PhD student at CMU);
  - Hoai-an's undergraduate thesis was a winner of *Henry Rutgers Scholar Award* for “out-standing independent research projects leading to a thesis in their major field”.
- Sanjana Pendharkar (2020 – 2021)

### ◊ Undergraduate Research Assistants:

- Polina Kochetova (Rutgers, 2020, next position: PhD student at Simon Fraser University)



- Vihan Shah (Rutgers, 2020, next position: PhD student at UWaterloo)
- Manel Bermad (Rutgers, 2020)
- Jakob Degen (Rutgers, 2020)
- Arwa El-Hawwat (Rutgers, 2019, next position: MSc student at Rutgers)

◇ **DIMACS REU Students:**

- Alexandro (Alex) Garces (2023, MIT)
- Liubov (Luba) Samborska (2022, Yale, now a PhD student at University of Michigan)
- Glenn Sun (2021, UCLA, now a PhD student at University of Washington)
- Andrew Chen (2020, CMU, now a PhD student at Cornell)
- Parth Mittal (2020, Charles University Prague, now a PhD student at UWaterloo)
- Pankaj Kumar (2020, Charles University Prague, now a PhD student at Charles University)

◇ **Visiting Undergraduate Students:**

- Nirmal Joshi (2020, VJTI Mumbai, now a PhD student at Northwestern)
- Milind Prabhu (2020, IIT Guwhati, now a PhD student at University of Michigan)

◇ **Visiting Graduate Students:**

- Gary Hoppenworth (Fall 2024, PhD student at University of Michigan)

THESIS AND  
OTHER  
COMMITTEES

◇ **PhD Thesis Committees:**

- Ronen Wdowinski (Summer 2024, UWaterloo, advisor: Penny Haxell)
- Manuel Stoeckl (Spring 2024, Dartmouth, advisor: Amit Chakrabarti)
- Zach Langley (Spring 2024, Rutgers, advisor: Aaron Bernstein)
- Chen Wang (Winter 2024, Rutgers, advisor: Sepehr Assadi)
- Harsha Srimath Tirumala (Summer 2023, Rutgers, advisor: Eric Allender)
- Guido Tagliavini (Summer 2023, Rutgers, advisor: Martin Farach-Colton)
- Aditi Dudeja (Spring 2023, Rutgers, advisor: Aaron Bernstein)
- Vishwas Bhargava (Spring 2022, Rutgers, advisor: Shubhangi Saraf)
- Vishvajeet N. (Spring 2021, Rutgers, advisor: Swastik Kopparty)
- Sixue (Cliff) Liu (Spring 2021, Princeton, advisor: Robert Tarjan)
- Yikai Zhang (Fall 2020, Rutgers, advisor: Bahman Kalantari)

◇ **MS Thesis Committees:**

- Yun Li (University of Sydney, Summer 2024, advisor: Clement Canonne)
- Ian DeHaan (UWaterloo, Summer 2024, advisor: Kanstantsin Pashkovich)
- Newsha Seyedi (UWaterloo, Fall 2023, advisor: Ian Munro)
- Chaitanya Nalam (Rutgers, Summer 2021, advisor: Sepehr Assadi)

◇ **Qualification Exam Committees at UWaterloo:**

- Robert Wang (Spring 2024)
- Cameron Seth (Fall 2023)
- Renato Fereirra (Fall 2023)

◇ **Qualification Exam Committees at Rutgers:**

- Zhenting Wang (Summer 2023)

- Kaidong Hu (Spring 2023)
- Janani Sundaresan (Spring 2023)
- Shiyang Lu (Winter 2022)
- Vihan Shah (Winter 2022)
- Hanna Komlos (Summer 2022)
- Zachary Langley (Summer 2022)
- Chun Lau (Summer 2022)
- Harsha Tirumala (Spring 2021)
- Guido Tagliavini (Winter 2020)
- Rui Wang (Winter 2020)
- Aditi Dudeja (Fall 2020)

## Service and Professional Activities

### SERVICE AND PROFESSIONAL ACTIVITIES ◇ **Program Committees:**

- ACM Symposium on Theory of Computing (STOC 2025)
- Innovations in Theoretical Computer Science (ITCS 2025)
- ACM Symposium on Principles of Distributed Computing (PODC 2024)
- Annual Conference on Learning Theory (COLT 2024)
- ACM Symposium on Principles of Distributed Computing (PODC 2024)
- European Symposia on Algorithms (ESA 2023 – Track S)
- IEEE Symposium on Foundations of Computer Science (FOCS 2023)
- International Colloquium on Automata, Languages, and Programming (ICALP 2023)
- ACM SIAM Symposium on Discrete Algorithms (SODA 2023)
- International Conference on Database Theory (ICDT 2023)
- International Conference on Randomization and Computation (RANDOM 2022)
- European Symposia on Algorithms (ESA 2022)
- ACM Symposium on Theory of Computing (STOC 2022)
- ACM SIAM Symposium on Discrete Algorithms (SODA 2022)
- SIAM Symposium on Simplicity in Algorithms (SOSA 2022)
- ACM Symposium on Principles of Distributed Computing (PODC 2021)
- ACM Symposium on Principles of Database Systems (PODS 2021)
- International Colloquium on Automata, Languages, and Programming (ICALP 2020)
- ACM SIAM Symposium on Discrete Algorithms (SODA 2020)

### ◇ **Junior Program Committees:**

- ACM Conference on Economics and Computation (EC 2021, EC 2022)
- Conference on Learning Theory (COLT 2023, COLT 2021, COLT 2020)

### ◇ **Guest Editorships:**

- Co-editor for SIAM Journal on Computing (SICOMP) special issue for STOC, 2022
- Co-editor for ACM Transactions on Algorithms (TALG) special issue for SODA, 2020

### ◇ **External Reviewer:**

- Journals:
  - Journal of the ACM (JACM)
  - SIAM Journal on Computing (SICOMP)
  - Random Structures and Algorithms (RSA)
  - ACM Transactions on Computation Theory (TOCT)
  - ACM Transactions on Algorithms (TALG)
  - Journal of Machine Learning Research (JMLR)
  - IEEE Transactions on Parallel and Distributed Systems (TPDS)
  - Discrete Mathematics (DM)
  - Theoretical Computer Science (TCS)
- Conferences:
  - Symposium on Theory of Computing (STOC): 2015, 2018, 2019, 2020, 2021, 2022, 2023, 2024
  - Symposium on Foundations of Computer Science (FOCS): 2018, 2019, 2020, 2021, 2022, 2024
  - Symposium on Discrete Algorithms (SODA): 2017, 2018, 2019, 2021, 2023, 2024, 2025
  - Computational Complexity Conference (CCC): 2020, 2021
  - International Colloquium on Automata, Languages, and Programming (ICALP): 2016, 2017, 2018, 2019, 2021, 2024
  - European Symposium on Algorithms (ESA): 2016, 2019, 2020, 2021
  - Innovations in Theoretical Computer Science (ITCS): 2016, 2019, 2020, 2021, 2022, 2023, 2024
  - Symposium on Principles of Distributed Computing (PODC): 2019, 2022, 2023
  - International Symposium on Distributed Computing (DISC): 2020, 2021
  - International Symposium on Theoretical Aspects of Computer Science (STACS): 2018, 2020, 2021
  - Approximation, Randomization, and Combinatorial Optimization (APPROX-RANDOM): 2017, 2018, 2019, 2021, 2023
  - Integer Programming and Combinatorial Optimization (IPCO): 2023
- ◊ National Science Foundation Panel Service for AF – Algorithmic Foundations (2020, 2021, 2024)
- ◊ External Reviewer for the Icelandic Research Fund (2021, 2024)
- ◊ Guest Reviewer for SIGACT News, 2017 (review of SPAA 2017)
- ◊ Contributed article for SIGecom Exchanges, 2020
- ◊ Contributed column for ACM SIGACT News, 2023
- ◊ Organizer of UWaterloo Algorithms & Complexity seminar: Fall 2024
- ◊ Organizer of Rutgers/DIMACS theory seminar: 2019 to 2023
- ◊ **Simons Institute Long-term Participant:**
  - Sublinear Algorithms (Summer 2024)
- ◊ **Department Committees, University of Waterloo:**
  - EDI committee: 2023 – 2024
  - Graduate committee: 2023
- ◊ **Department Committees, Rutgers:**
  - Faculty hiring committee: 2020, 2021
  - Graduate committee: 2019 to 2023

- PhD student admissions committee: 2019, 2020
- M.Sc student admissions committee: 2021, 2022, 2023

- OUTREACH
- ◇ Annual lectures on “Algorithmic Thinking” given to high-school students at PACT, a summer program in Algorithmic and Combinatorial Thinking for high-school students, run by Prof. Rajiv Gandhi at Princeton (2018 to 2022)
  - ◇ Mentoring undergraduate research as part of DIMACS REU program (5 students) and undergraduate independent studies and summer interns (8 students)
  - ◇ Recipient of “Open and Affordable Textbook Program” award from Rutgers for developing affordable course materials for Algorithm Design course