Karthik Srikanta

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Research Interests

I am broadly interested in **Theoretical Computer Science**. In particular, I have spent the last few years proving **Hardness of Approximation** results for problems in **P** and understanding the Hardness of **Geometric** problems, such as **Clustering**, **Steiner Tree**, **Closest Pair**, and **Fixed Point** Computation.

Education

- **Ph.D.** in Computer Science — *September 2014 – June 2019*
  Weizmann Institute of Science, Rehovot, Israel — *Advisor*: Prof. Irit Dinur
  Ph.D. Thesis: New Arenas in Hardness of Approximation
- **M.S.** in Computer Science — *September 2012 – July 2014*
  École Normale Supérieure, Lyon, France — *Advisor*: Prof. Hervé Fournier
  Master Thesis: Lower bounds for Multilinear Branching Programs

Employment

- **Assistant Professor** — *September 2021 – ongoing*
  Rutgers University, New Brunswick, USA
- **Postdoctoral Fellow** — *September 2020 – August 2021*
  Host: Prof. Subhash Khot — **New York University**, New York, USA
- **Postdoctoral Fellow** — *September 2019 – August 2020*
  Host: Prof. Amir Shpilka — **Tel Aviv University**, Tel Aviv, Israel
- **Postdoctoral Fellow** — *July 2019 – September 2019*
  Host: Prof. Irit Dinur — **Weizmann Institute of Science**, Rehovot, Israel

Selected Academic Awards and Honors

- **National Science Foundation CAREER** Award ($649,200) — *2025–29*
  Title: CAREER: Price of Clustering in Geometric Spaces: Inapproximability, Conditional Lower Bounds, and More
- **National Science Foundation** Grant ($252,846) — *2024–27*
  Title: DIMACS Special Focus on Fine-Grained Complexity
- **National Science Foundation** Grant ($600,000) — *2023–26*
  Title: AF: Small: Hardness of Approximation Meets Parameterized Complexity
- Rutgers Research Council **Individual Fulcrum** Award ($2,000) — *2022-23*
- Rutgers University Libraries **Open and Affordable Textbooks** Award ($1,000) — *Spring 2023*
- **Simons** Foundation **Junior Faculty** Fellow — *2021-24*
- **Postdoctoral Matching** Scholarship at Tel Aviv University ($17,500) — *2019*
- **LIP** (Laboratoire de l'Informatique du Parallélisme) Fellowship at ENS Lyon ($12,000) — *2013*
- **INRIA – ENS Cachan** Fellowship (*regretfully declined*) — *2013*
- **Labex** (Laboratoires d'excellence) Scholarship at University of Nice-Sophia Antipolis ($7,000) — *2012*
- Innovation in Science Pursuit for Inspired Research (**INSPIRE**) Scholarship — *2010–12*
- **KPMG** Scholarship — *2009–12*
- National Board for Higher Mathematics (**NBHM**) Scholarship — *2008*

- Kishore Vaigyanik Protsahan Yojana (**KVPY**) fellowship *2007*
- Indian National Mathematical Olympiad (**INMO**) Awardee *2007*
- National Talent Search Examination (**NTSE**) scholarship *2006*

Mentoring

Ph.D. Students at Rutgers:

- Surya Teja Gavva *Graduated March 2023*
  Thesis: Computational Aspects of Some Geometric and Analytic Problems
  Surya joined City University of New York as Lecturer after graduation.
- Minhao Bai *2021 – ongoing*
- Adarsh Srinivasan *2022 – ongoing*
- Mursalin Habib *2023 – ongoing*

Master Students at Rutgers:

- Sharath Punna *Graduated April 2023*
  Thesis: On Clustering Data with Few Clusters **Outstanding Project Award**
  Sharath joined Ansys as R&D Engineer after graduation.

Undergraduate Students at Rutgers:

- Parth Patel *Summer 2022*
- Kashish Vaibhav *Summer 2022*
- Shakib Rahman *2022 – 2023*
  - ⋆ Received **Novielli Award**
- Keya Patel *2022 – 2023*
- Surya Mantha *2022 – 2023*
- Elijah Rubin *2022 – 2023*
- Enver Aman *2023 – 2024*
  - ⋆ Received **Henry Rutgers Scholar Award**
  - ⋆ Received **Magidson Award**

DIMACS REU Students:

- Henry Fleischmann (University of Michigan) *Summer 2022*
  - ⋆ Received **Honorable Mention for the CRA Outstanding Undergraduate Researcher Award 2023**
- Lakshay Patel (University of California Berkeley) *Summer 2022*
- Styopa Zharkov (Stanford University) *Summer 2023*
  - ⋆ Received **Honorable Mention for the CRA Outstanding Undergraduate Researcher Award 2024**
- Ashwin Padaki (Columbia University) *Summer 2023*
- Jakub Petr (Charles University) *Summer 2023*
- Guillermo Gamboa (Charles University) *Summer 2023, Summer 2024*
- Kyrylo Karlov (Charles University) *Summer 2023*
- Josef Matějka (Charles University) *Summer 2023*
- Patrik Zavoral (Charles University) *Summer 2024*
- Todor Antic (Charles University) *Summer 2024*
- Jelena Glisic (Charles University) *Summer 2024*

Visiting Students:

- Henry Fleischmann (University of Michigan) *Summer 2023*

Professional Service

Workshop/Seminar (Co)-Organizer:

- DIMACS Workshop on Hardness of Approximation in P — *2025*
  Center for Discrete Mathematics and Theoretical Computer Science
- DIMACS Tutorial on Fine-grained Complexity — *2024*
  Center for Discrete Mathematics and Theoretical Computer Science
- Old Questions and New Directions in Theory of Clustering — *2024*
  University of California San Diego EnCORE Workshop
- Parameterized Approximation: Algorithms and Hardness — *2023*
  Dagstuhl Seminar
- Theory Seminar — *2022–2024*
  Rutgers and DIMACS

Program Committee Member of Conferences:

- IEEE International Conference on Data Mining (**ICDM**) — *2024*
- ACM Symposium on Theory of Computing (**STOC**) — *2024*
- ACM-SIAM Symposium on Discrete Algorithms (**SODA**) — *2024*
- IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science (**FSTTCS**) — *2023*
- Conference on Uncertainty in Artificial Intelligence (**UAI**) — *2023*
- EATCS International Colloquium on Automata, Languages and Programming (**ICALP**) — *2023*
- International Workshop on Approximation and Online Algorithms (**WAOA**) — *2022*
- Innovations in Theoretical Computer Science Conference (**ITCS**) — *2022*
- Conference on Uncertainty in Artificial Intelligence (**UAI**) — *2022*
  - ⋆ Recognized as **Top Reviewer**
- Conference on Uncertainty in Artificial Intelligence (**UAI**) — *2021*
- International Symposium on Parameterized and Exact Computation (**IPEC**) — *2021*

External Reviewer for Journals:

- Journal of the ACM
- SIAM Journal on Computing
- Journal of Computational Complexity
- SIAM Journal on Discrete Mathematics
- Computer Science Review
- Information Processing Letters
- IEEE Transactions on Pattern Analysis and Machine Intelligence
- Games and Economic Behavior
- ACM Journal of Experimental Algorithmics
- Algorithmica

External Reviewer for Conferences:

- ACM Symposium on Theory of Computing (**STOC**) — *2019 – 23, 2025*
- IEEE Symposium on Foundations of Computer Science (**FOCS**) — *2018, 2020 – 21, 2023 – 24*
- ACM-SIAM Symposium on Discrete Algorithms (**SODA**) — *2020 – 23, 2025*
- Computational Complexity Conference (**CCC**) — *2019, 2021*
- International Conference on Machine Learning (**ICML**) — *2023*

- International Symposium on Computational Geometry (**SoCG**) *2021 – 22*
- ACM Symposium on Parallelism in Algorithms and Architectures (**SPAA**) *2017, 2021*
- EATCS International Colloquium on Automata, Languages and Programming (**ICALP**) *2018 – 22, 2024*
- Innovations in Theoretical Computer Science Conference (**ITCS**) *2020, 2024 – 25*
- SIAM Symposium on Simplicity in Algorithms (**SOSA**) *2024 – 25*
- European Symposium on Algorithms (**ESA**) *2019, 2021 – 23*
- International Conference and Workshops on Algorithms and Computation (**WALCOM**) *2022*
- International Symposium on Algorithms and Computation (**ISAAC**) *2019*
- International Conference on Approximation Algorithms for Combinatorial Optimization Problems (**APPROX**) *2019, 2023*
- International Conference on Current Trends in Theory and Practice of Computer Science (**SOFSEM**) *2024*
- International Computer Science Symposium in Russia (**CSR**) *2018*
- ACM Symposium on Principles of Distributed Computing (**PODC**) *2018*
- International Conference on Randomization and Computation (**RANDOM**) *2018*
- Symposium on Theoretical Aspects of Computer Science (**STACS**) *2018, 2025*

External Reviewer for Grant Proposals:

- French National Research Agency (**ANR**)
- Israel Science Foundation (**ISF**)

Committee Services at Rutgers:

- Faculty Hiring committee *2024*
  Rutgers University
- PhD Admissions committee *2022 – 25*
  Rutgers University
- Masters Admissions committee *2025*
  Rutgers University
- School of Arts and Sciences Honors Program Faculty Mentor *2022 – 24*
  Rutgers University

Research Visits

- **INSAIT, Sofia, Bulgaria** *September–November 2024*
  Host: Prof. Amir Abboud and Prof. Bernhard Haeupler
- **Paris Cité University, Paris, France** *April 2024, November 2024*
  Host: Dr. David Saulpic
- **University of California, San Deigo, USA** *February–March 2024*
  Host: Prof. Barna Saha
- **Indian Institute of Science, Bangalore, India** *February – March 2022, December – January 2023*
  Host: Prof. Rahul Saladi *November 2023, April 2024, August 2024, December 2024*
- **Indian Institute of Technology Bombay, Mumbai, India** *August 2023*
  Host: Prof. Akash Kumar
- **Weizmann Institute of Science, Israel** *August 2022, October 2022, May 2023*
  Host: Prof. Amir Abboud and Prof. Merav Parter
- **University of Birmingham, UK** *June 2023*
  Host: Prof. Rajesh Chitnis
- **Carnegie Melon University, USA** *May 2022*
  Host: Prof. Boris Bukh

- **Google Research, Mountain View, USA** — *November 2019*
  Host: Dr. Pasin Manurangsi
- **Eötvös Loránd University, Budapest, Hungary** — *September 2019*
  Host: Prof. Dömötör Pálvölgyi
- **Microsoft Research India** — *July – August 2019*
  Host: Dr. Prateek Jain
- **Shanghai University of Finance and Economics, China** — *June 2019*
  Host: Prof. Bundit Laekhanukit
- **University of California, Santa Barbara, USA** — *May 2019*
  Host: Prof. Daniel Lokshtanov
- **Sorbonne University, Paris, France** — *April 2019, December 2019*
  Host: Dr. Vincent Cohen-Addad
- **University of California, Berkeley, USA** — *July 2018, August 2018*
  Host: Pasin Manurangsi
- **INRIA Sophia Antipolis, France** — *September 2013, June 2014, January 2017*
  Host: Prof. Jean-Daniel Boissonnat

Internships

- **Sensitivity Conjecture** — *July-August 2015*
  Mentor: Dr. Satyanarayana Lokam — **Microsoft Research**, Bangalore
- **Content Coordinator** — *July-August 2014*
  Company: **Function Space** — Bangalore
- **A τ conjecture for Newton Polygons** — *May-July 2013*
  Mentors: Prof. Pascal Koiran and Prof. Stéphan Thomassé — **ENS**, Lyon
- **Spectral Clustering for Convex sets** — *May-July 2012*
  Mentor: Dr. David Cohen-Steiner — **INRIA**, Sophia Antipolis
- **Parser for differential-algebraic equations** — *May-August 2011*
  Mentors: Prof. Kannan Moudgalya and Prof. John Pye — **Google Summer of Code**
- **Hash function for dictionary based on lexicographic properties** — *May-June 2010*
  Mentor: Prof. Deepak Phatak — **IIT Bombay**, Mumbai

Publications[1]

The publications below are reverse chronologically ordered. As is customary in theoretical computer science research, **all** of the publications are listed in the alphabetical author order.

- **On Steiner Trees of the Regular Simplex**
  Henry Fleischmann, Guillermo A. Gamboa Q., Karthik C. S., Josef Matějka, and Jakub Petr.
  To appear in *Journal of Computational Geometry* (**JoCG**).
- **Inapproximability of Maximum Diameter Clustering for Few Clusters**
  Henry Fleischmann, Kyrylo Karlov, Karthik C. S., Ashwin Padaki, and Stepan Zharkov.
  In the Proceedings of the ACM-SIAM Symposium on Discrete Algorithms (**SODA**), 2025.
- **Maximum Span Hypothesis: A Weaker Assumption than Gap-ETH for Parameterized Complexity**
  Karthik C. S. and Subhash Khot.
  In the Proceedings of the ACM-SIAM Symposium on Discrete Algorithms (**SODA**), 2025.
- **On Equivalence of Parameterized Inapproximability of k-Median, k-Max-Coverage, and 2-CSP**
  Karthik C. S., Euiwoong Lee and Pasin Manurangsi.
  In Proceedings of the International Symposium on Parameterized and Exact Computation (**IPEC**), 2024.
  Invited to Algorithmica journal Special Issue for IPEC 2024.

[1] In all the publications that I have coauthored, my name appears as "Karthik C. S.".

- **On connections between k-coloring and Euclidean k-means**
  Eˆver Aman, Karthik C. S., and Sharath Punna.
  In the Proceedings of the European Symposium on Algorithms (**ESA**), 2024.
- **On Inapproximability of Reconfiguration Problems: PSPACE-Hardness and some Tight NP-Hardness Results**
  Karthik C. S. and Pasin Manurangsi.
  Manuscript: `https://eccc.weizmann.ac.il/report/2024/007/`
- **Explicit Good Codes Approaching Distance 1 in Ulam Metric**
  Elazar Goldenberg, Mursalin Habib, Karthik C. S.
  In the Proceedings of the International Symposium on Information Theory (**ISIT**), 2024.
- **On Approximability of Steiner Tree in ℓ_p-metrics**
  Henry Fleischmann, Surya Teja Gavva, and Karthik C. S..
  In the Proceedings of the ACM-SIAM Symposium on Discrete Algorithms (**SODA**), 2024.
  To appear in **TheoretiCS**.
- **Conditional lower bounds for sparse parameterized 2-CSP: A streamlined proof**
  Karthik C. S., Daniel Marx, Marcin Pilipczuk, and Uéverton Souza.
  In the Proceedings of the SIAM Symposium on Simplicity in Algorithms (**SOSA**), 2024.
- **Fairness of Linear Regression in Decision Making**
  Vincent Cohen-Addad, Surya Teja Gavva, Karthik C. S., Claire Mathieu, and Namrata.
  In **International Journal of Data Science and Analytics**, 18(3): 337-347, 2024.
- **Clustering Categorical Data: Soft Rounding k-modes**
  Surya Teja Gavva, Karthik C. S., and Sharath Punna.
  In **Information and Computation**, 296(1): 105–115, 2024.
- **On Complexity of 1-Center in Various Metrics**
  Amir Abboud, MohammadHossein Bateni, Vincent Cohen-Addad, Karthik C. S., and Saeed Seddighin.
  In the Proceedings of the International Conference on Approximation Algorithms for Combinatorial Optimization Problems (**APPROX**), 2023.
- **Can You Solve Closest String Faster than Exhaustive Search?**
  Amir Abboud, Nick Fischer, Elazar Goldenberg, Karthik C. S., and Ron Safier.
  In the Proceedings of the European Symposium on Algorithms (**ESA**), 2023.
- **Obtaining Approximately Optimal and Diverse Solutions via Dispersion**
  Jie Gao, Mayank Goswami, Karthik C. S., Meng-Tsung Tsai, Shih-Yu Tsai, and Hao-Tsung Yang.
  In the Proceedings of the Latin American Theoretical Informatics Symposium (**LATIN**), 2022.
- **Almost Polynomial Factor Inapproximability for Parameterized k-Clique**
  Karthik C. S. and Subhash Khot.
  In the Proceedings of the Computational Complexity Conference (**CCC**), 2022.
  Invited to Theory of Computing journal Special Issue for CCC 2022.
- **Johnson Coverage Hypothesis: Inapproximability of k-means and k-median in ℓ_p-metrics**
  Vincent Cohen-Addad, Karthik C. S., and Euiwoong Lee.
  In the Proceedings of the ACM-SIAM Symposium on Discrete Algorithms (**SODA**), 2022.
- **Applications of Random Algebraic Constructions to Hardness of Approximation**
  Boris Bukh, Karthik C. S., and Bhargav Narayanan.
  In the Proceedings of the Symposium on Foundations of Computer Science (**FOCS**), 2021.
  To appear in **Israel Journal of Mathematics**.
- **On Approximability of Clustering Problems Without Candidate Centers**
  Vincent Cohen-Addad, Karthik C. S., and Euiwoong Lee.
  In the Proceedings of the ACM-SIAM Symposium on Discrete Algorithms (**SODA**), 2021.
- **Deterministic Replacement Path Covering**
  Karthik C. S. and Merav Parter.
  In the Proceedings of the ACM-SIAM Symposium on Discrete Algorithms (**SODA**), 2021.
  In *ACM Transactions on Algorithms* (**TALG**), 20(4): 34:1-34:35, 2024.

- **On Hardness of Approximation of Parameterized Set Cover and Label Cover: Threshold Graphs from Error Correcting Codes**
  Karthik C. S. and Inbal Livni Navon.
  In the Proceedings of the SIAM Symposium on Simplicity in Algorithms (**SOSA**), 2021.
- **On Communication Complexity of Fixed Point Computation**
  Anat Ganor, Karthik C. S., and Dömötör Pálvölgyi.
  In *ACM Transactions on Economics and Computation* (**TEAC**), 9(4): 25:1–25:27, 2021.
- **On Efficient Low Distortion Ultrametric Embedding**
  Vincent Cohen-Addad, Karthik C. S., and Guillaume Lagarde.
  In the Proceedings of the International Conference on Machine Learning (**ICML**), 2020.
- **A Survey on Approximation in Parameterized Complexity: Hardness and Algorithms**
  Andreas Emil Feldmann, Karthik C. S., Euiwoong Lee, and Pasin Manurangsi.
  In **Algorithms**, 13(6), 146, 2020 (*by invitation* to special issue titled 'New Frontiers in Parameterized Complexity and Algorithms').
- **Hardness Amplification of Optimization Problems**
  Elazar Goldenberg and Karthik C. S.
  In the Proceedings of the Innovations in Theoretical Computer Science (**ITCS**), 2020.
- **Inapproximability of Clustering in ℓ_p-metrics**
  Vincent Cohen-Addad and Karthik C. S.
  In the Proceedings of the Symposium on Foundations of Computer Science (**FOCS**), 2019.
- **On Closest Pair in Euclidean Metric: Monochromatic is as Hard as Bichromatic**
  Karthik C. S. and Pasin Manurangsi.
  In the Proceedings of the Innovations in Theoretical Computer Science (**ITCS**), 2019.
  In **Combinatorica**, 40(4): 539–573, 2020.
- **Parameterized Intractability of Even Set and Shortest Vector Problem**
  Arnab Bhattacharyya, Édouard Bonnet, László Egri, Suprovat Ghoshal, Karthik C. S., Bingkai Lin, Pasin Manurangsi, and Dániel Marx.
  In *Journal of the ACM* (**JACM**), 68(3): 16:1–16:40, 2021.
  An earlier version by Arnab Bhattacharyya, Suprovat Ghoshal, Karthik C. S., and Pasin Manurangsi, titled *Parameterized Intractability of Even Set and Shortest Vector Problem from Gap-ETH* appeared in Proceedings of International Colloquium on Automata, Languages, and Programming (**ICALP**), 2018.
- **Towards a General Direct Product Testing Theorem**
  Elazar Goldenberg and Karthik C. S.
  In the Proceedings of the IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science (**FSTTCS**), 2018.
  In *ACM Transactions on Computation Theory* (**TOCT**), 12(1): 7:1–7:18, 2020.
- **On the Parameterized Complexity of Approximating Dominating Set**
  Karthik C. S., Bundit Laekhanukit, and Pasin Manurangsi.
  In the Proceedings of the Symposium on Theory of Computing (**STOC**), 2018.
  In *Journal of the ACM* (**JACM**), 66(5): 33:1–33:38, 2019.
  Invited to SIAM Journal on Computing Special Issue for STOC 2018 (*regretfully declined*).
  Invited to Highlights of Algorithms (**HALG**) 2019.
- **On The Complexity of Closest Pair via Polar-Pair of Point-Sets**
  Roee David, Karthik C. S., and Bundit Laekhanukit.
  In the Proceedings of the Symposium on Computational Geometry (**SoCG**), 2018.
  In *SIAM Journal on Discrete Mathematics* (**SIDMA**), 33(1): 509–527, 2019.
- **Communication Complexity of Correlated Equilibrium with Small Support**
  Anat Ganor and Karthik C. S.
  In the Proceedings of the International Conference on Approximation Algorithms for Combinatorial Optimization Problems (**APPROX**), 2018.
- **Ham Sandwich is Equivalent to Borsuk-Ulam**
  Karthik C. S. and Arpan Saha.

In the Proceedings of the Symposium on Computational Geometry (**SoCG**), 2017.

- **An Efficient Representation for Filtrations of Simplicial Complexes**
  Jean-Daniel Boissonnat and Karthik C. S.
  In the Proceedings of the ACM-SIAM Symposium on Discrete Algorithms (**SODA**), 2017.
  In *ACM Transactions on Algorithms* (**TALG**), 14(4): 44:1–44:21, 2018.

- **Did the Train Reach its Destination: The Complexity of Finding a Witness**
  Karthik C. S.
  In *Information Processing Letters* (**IPL**), 121(5): 17–21, 2017.

- **On the Sensitivity Conjecture for Disjunctive Normal Forms**
  Karthik C. S. and Sébastien Tavenas.
  In the Proceedings of the IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science (**FSTTCS**), 2016.

- **Building Efficient and Compact Data Structures for Simplicial Complexes**
  Jean-Daniel Boissonnat, Karthik C. S., and Sébastien Tavenas.
  In the Proceedings of the Symposium on Computational Geometry (**SoCG**), 2015.
  In **Algorithmica**, 79(2): 530–567, 2017.

Invited Talks[2]

- **Inapproximability of k-means and k-median: A Unified Framework**
  Frontiers of Geometric Algorithms workshop — December 2024

- **Hardness of Approximation of Diameter Clustering**
  Queens College CUNY Computer Science Colloquium — October 2023
  Bangalore Theory Seminar — November 2023

- **Hardness of Approximating Steiner Tree in ℓ_p-metrics**
  Bangalore Theory Seminar — January 2023
  NYU Theory Seminar — March 2023
  Weizmann Institute of Science — May 2023

- **Hardness of Approximation for Metric Clustering**
  STOC workshop: The Recent Past and Near Future of Clustering (virtual talk) — June 2021
  Recent Trends in Algorithms, India (virtual talk) — March 2022
  Indian Institute of Technology Bombay Theory Seminar, India — August 2023

- **Recent Hardness of Approximation results in Parameterized Complexity**
  Workshop at Hausdorff Center for Mathematics (virtual talk) — December 2021

- **Reversing Color Coding**
  University of Michigan and Purdue University Joint Theory Seminar (virtual talk) — September 2021
  Rutgers University Theory Seminar (virtual talk) — September 2021
  Cornell University Theory Seminar (virtual talk) — September 2021

- **Fairness in Decision Making: Is Linear Regression Fair?**
  New York University Scholar Speaker Series (virtual talk) — November 2020

- **Towards a Unified Framework for Hardness of Approximation in P**
  TAU Theory Fest, Tel Aviv — January 2020
  Frontiers of Parameterized Complexity (virtual talk) — August 2020
  Parameterized Complexity Workshop (virtual talk) — December 2020
  Combinatorics Seminar, Tel Aviv University (virtual talk) — March 2021

- **Ultrametrics meet Fine-Grained Complexity**
  Weizmann Institute of Science (virtual talk) — July 2020
  Yahoo Research Seminar (virtual talk) — January 2021

- **Clustering: How hard is it to classify data?**
  Google, Mountain View — November 2019

[2] These do not include talks given at conferences.

Columbia University November 2019
Weizmann Institute of Science December 2019
Hebrew University of Jerusalem December 2019

- **Inapproximability of Clustering in ℓ_p-metrics**
  Fine-Grained Approximation Algorithms & Complexity Workshop, Bertinoro May 2019
  Shanghai University of Finance & Economics June 2019
  Tel Aviv University June 2019
  Microsoft Research India August 2019
  Indian Institute of Science August 2019
  Eötvös Loránd University, Budapest September 2019

- **New Arenas in Hardness Amplification**
  Ben-Gurion University March 2019
  Hebrew University of Jerusalem April 2019
  Sorbonne University April 2019

- **On Complexity of Closest Pair Problem**
  Indian Institute of Science August 2018
  FILOFOCS Workshop, Institut Henri Poincaré, Paris October 2018
  Tel Aviv University October 2018
  Technion – Israel Institute of Technology January 2019
  Hebrew University of Jerusalem April 2019
  National Institute of Science Education and Research, Bhubaneswar August 2019

- **A Framework for Parameterized Hardness of Approximation**
  Hebrew University of Jerusalem January 2018
  Tel Aviv University March 2018
  Stanford University July 2018
  Simons Institute for Theory of Computing, Berkeley August 2018

- **An Efficient Representation for Filtrations of Simplicial Complexes**
  Topology for Data Analysis Winter School, INRIA Sophia Antipolis January 2017

- **Building Efficient and Compact Data Structures for Simplicial Complexes**
  Ben-Gurion University December 2015

- **In and Around the Sensitivity Conjecture**
  Microsoft Research, India September 2015

Teaching Experience

- **Linear Programming and its Application to Approximation Algorithms** (CS 521) *Instructor*
  Rutgers University Fall 2023

- **Undergraduate Computability and Complexity Theory** (CS 452) *Instructor*
  Rutgers University Fall 2023, Spring 2025

- **Introduction to Discrete Structures I** (CS 205) *Instructor*
  Rutgers University Spring 2023

- **Complexity of Computation** (CS 538) *Instructor*
  Rutgers University Fall 2022

- **Seminar on Interplay of Geometry and Computation** (CS 671) *Instructor*
  Rutgers University Fall 2021

- **A Theorist's Toolkit** *Teaching Assistant*
  Weizmann Institute of Science Spring 2018

- **Computer Programming and Utilization** (CS 101) *Teaching Assistant*
  Indian Institute of Technology Bombay Fall 2011, Spring 2012
  Awarded Certificate for **outstanding services** in both semesters