

# Vincent Cohen-Addad

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**Research interests:** My work focuses on designing and analyzing algorithms for classic optimization problems, in particular for problems stemming from data analysis and machine learning applications.

I aim at understanding how fast and how well optimization problems can be solved algorithmically, together with coming up with new optimization models for capturing emerging data analysis questions

## Employment

**2020-** Research Scientist at Google Research.

**2017-** Researcher (Chargé de recherche) at Centre National de la Recherche Scientifique (CNRS), on leave since 2020, Sorbonne Université, Paris.

**2016-2017** Postdoctoral researcher supported by a Marie Skłodowska-Curie Individual Fellowship, University of Copenhagen, hosted by Prof. Mikkel Thorup.

**2013-2016** PhD student & teaching assistant, École normale supérieure and University Paris-Diderot, Paris.

## Education

**2016 Ph.D.** CS department of the École normale supérieure (Paris) under the supervision of Claire Mathieu.

**2013 M.Sc.** Master Parisien de Recherche en Informatique (MPRI), Paris-Diderot Univ. Summa cum laude.

**2011 Sc.B.** École normale supérieure of Lyon and Claude Bernard University.

## Awards and Grants

**2019** Best Paper Award at SoCG 2019 for “Almost Tight Lower Bounds for Hard Cutting Problems in Embedded Graphs” with Éric Colin de Verdière, Daniel Marx, and Arnaud de Mesmay.

**2018** P.I. of the grant ANR JCJC “FOCAL” on the foundations of clustering algorithms ( $\approx 170000$  €).

**2017** EATCS Distinguished Dissertation Award 2016.

**2017** Ph.D Award Charles Delorme.

**2017** Ph.D Award of the Programme Gaspard Monge pour l’Optimisation.

**2017** Marie Skłodowska-Curie Individual Fellowship.

### Selected Publications

- 2023** Private Estimation Algorithms for Stochastic Block Models and Mixture Models. **Spotlight** at Neurips'23. Hongjie Chen, Vincent Cohen-Addad, Tommaso d'Orsi, Alessandro Epasto, Jacob Imola, David Steurer, and Stefan Tiegel.
- 2021** Fitting Distances by Tree Metrics Minimizing the Total Error within a Constant Factor. FOCS'21 – Journal of the ACM. Vincent Cohen-Addad, Debarati Das, Evangelos Kipouridis, Nikos Parotsidis and Mikkel Thorup.
- 2021** Near-Linear Time Approximations Schemes for Clustering in Doubling Metrics. FOCS'19 – Journal of the ACM. Vincent Cohen-Addad, Andreas Emil Feldmann, David Saulpic.
- 2021** Correlation Clustering in Constant Many Parallel Rounds. **Long talk** at ICML 2021. Vincent Cohen-Addad, Silvio Lattanzi, Slobodan Mitrovic, Ashkan Norouzi-Fard, Nikos Parotsidis, Jakub Tarnawski.
- 2019** Hierarchical Clustering: Objective Functions and Algorithms. SODA'19 – Journal of the ACM. Vincent Cohen-Addad, Varun Kanade, Frederik Mallmann-Trenn, and Claire Mathieu.
- 2019** Almost Tight Lower Bounds for Hard Cutting Problems in Embedded Graphs. **Best paper** at the Symposium on Computational Geometry 2019 – Journal of the ACM. Vincent Cohen-Addad, Éric Colin de Verdière, Dániel Marx, Arnaud de Mesmay:

**Service** Program committee of ESA'17, FOCS'18, SODA'21, SOSA'21, HALG'21, ICALP'21, COLT'21, WG'21, IPEC'21, (co-chair) FOCS'21 and FOCS'22 workshops, ALT'22, ALT'23, WWW'23, FOCS'23, ICALP'23, ITCS'23, SODA'24.

- 2021** Workshop organizer for STOC'21: *The Recent Past and Near Future of Clustering*.
- 2019** Co-Organizer of the ICERM Workshop on Data Science in Low-Dimensional Space – Brown University.
- 2019** Hiring committee of Université Paris-Dauphine, Université Paris-Diderot.
- 2018** SIAM Journal of Computing Special Issue on FOCS'18 Editor.

### Invited Talks at Conferences

- 2022** Invited plenary talk at APPROX22
- 2021** Invited speaker at the Mathematical Summer in Paris 2021.
- 2021** Invited speaker at the IGAFIT-Colloquium.
- 2020** Invited survey speaker at Highlight of Algorithms (HALG20)
- 2016** Invited speaker at the China Theory Week.

## Teaching Activities and Student Supervision

Ph.D. co-supervisor of David Saulpic (Sorbonne Université), now CNRS researcher.

**2023** Thesis defense reviewer for Tommaso d’Orsi (ETH Zürich) and Guillaume Aubian (ENS Paris).

**2023** Invited Lecturer at Ph.D. Open, University of Warsaw, Poland

**2023** Invited Lecturer at XVIII Summer School in Discrete Mathematics, Center for Mathematical Modeling, Universidad de Chile.

**2023** Invited Lecturer at 23rd Max Planck Advanced Course on the Foundations of Computer Science, Max Planck Institute for Informatics.

**2021** Thesis defense reviewer for Aida Mousavifar (EPFL) and Kirill Simonov (Bergen).

**Fall 2018** Organizer and lecturer for a research school at Ecole normale supérieure of Lyon on data science and machine learning algorithms <http://www.ens-lyon.fr/DI/er-registration>. Other participants: Emilie Kaufmann, Varun Kanade, and Silvio Lattanzi.

**Fall 2018** Lecturer for Algorithms for Embedded Graphs, M2-level course, MPRI (Parisian master for TCS research, involving the following institutions Université Paris Diderot, Ecole normale supérieure of Paris, and University Paris Saclay).

**Fall 2016** Lecturer for Topics in Algorithms at University of Copenhagen.

**2015** TA and Lecturer for a Massively Open Online Course on Approximation Algorithms with Claire Mathieu, Frederik Mallmann-Trenn and Víctor Verdugo. Coursera link: <https://www.coursera.org/learn/approximation-algorithms>.

**2013- 2015** TA at Université Paris-Diderot.

## Popular Science, Broader Outreach, and Press Coverage

- The French newspapers [Europe1](#), [L’Express](#), and [SudOuest](#) wrote about our article on Mitigating COVID-19 Outbreaks in Workplaces and Schools by Hybrid Telecommuting.
- The French popular science journal “Pour la Science” wrote an article on our paper about the resolution of the Steinberg conjecture <http://www.pourlascience.fr/ewb-pages/a/actu-peut-on-colorier-une-carte-avec-trois-couleurs-la-conjecture-de-steinberg-invalidee-37006.php>
- Interview for the national radio “France Culture” <https://www.franceculture.fr/emissions/la-methode-scientifique/la-methode-scientifique-jeudi-30-novembre-2017>
- I wrote a popular science article for the blog of the french computer science society on the website of the Le Monde newspaper <http://binaire.blog.lemonde.fr/2017/01/19/enquete-dune-bonne-crepe/>.

**All Refereed Publications** Author list is in alphabetical order as is customary in theoretical computer science – except for the publications preceded by \*.

**2024** A PTAS for  $\ell_0$ -Low Rank Approximation: Solving Dense CSPs over Reals. Proceedings of the 33rd Annual ACM-SIAM Symposium on Discrete Algorithms (SODA). Vincent Cohen-Addad, Chenglin Fan, Suprovat Ghoshal, Euiwoong Lee, Arnaud de Mesmay, Alantha Newman, and Tony Chang Wang.

- 2023** Handling Correlated Rounding Error via Preclustering: A  $1.73$ -approximation for Correlation Clustering.  
 Proceedings of the 64th Annual IEEE Symposium on Foundations of Computer Science (FOCS).  
 Vincent Cohen-Addad, Euiwoong Lee, Shi Li, and Alantha Newman.
- 2023** Planar and Minor-Free Metrics Embed into Metrics of Polylogarithmic Treewidth with Expected Multiplicative Distortion Arbitrarily Close to 1.  
 Proceedings of the 64th Annual IEEE Symposium on Foundations of Computer Science (FOCS).  
 Vincent Cohen-Addad, Hung Le, Marcin Pilipczuk, and Michal Pilipczuk.
- 2023** Streaming Euclidean  $k$ -Median and  $k$ -Means with  $o(\log n)$  Space.  
 Proceedings of the 64th Annual IEEE Symposium on Foundations of Computer Science (FOCS).  
 Vincent Cohen-Addad, David Woodruff and Samson Zhou.
- 2023** Deterministic Clustering in High Dimensional Spaces: Sketches and Approximation.  
 Proceedings of the 64th Annual IEEE Symposium on Foundations of Computer Science (FOCS).  
 Vincent Cohen-Addad, David Saulpic and Chris Schwiegelshohn.
- 2023** Private Estimation Algorithms for Stochastic Block Models and Mixture Models.  
 Advances in Neural Information Processing Systems 34 (NeurIPS).  
 Vincent Cohen-Addad, Hongjie Chen, Tommaso d’Orsi, Alessandro Epasto, Jacob Imola, David Steurer, and Stefan Tiegel
- 2023** Multi-Swap  $k$ -Means++.  
 Advances in Neural Information Processing Systems 34 (NeurIPS).  
 Vincent Cohen-Addad, Lorenzo Beretta, Silvio Lattanzi, and Nikos Parotsidis.
- 2023** Streaming Euclidean MST to a Constant Factor.  
 Proceedings of the 54th ACM Symposium on Theory of Computing (STOC).  
 Xi Chen, Vincent Cohen-Addad, Rajesh Jayaram, Amit Levi, and Erik Waingarten.
- 2023** \* Differentially Private Hierarchical Clustering with Provable Approximation Guarantees.  
 Proceedings of the 39th International Conference on Machine Learning (ICML).  
 Jacob Imola, Alessandro Epasto, Mohammad Mahdian, Vincent Cohen-Addad, Vahab Mirrokni.
- 2023** On Complexity of 1-Center in Various Metrics.  
 Proceedings of the 26th workshop on Approximation, Randomization, and Combinatorial Optimization. Algorithms and Techniques (APPROX).  
 Amir Abboud, MohammadHossein Bateni, Vincent Cohen-Addad, Karthik C. S., and Saeed Seddighin.
- 2023** Graph Searching with Predictions.  
 Proceedings of the 14th Innovations in Theoretical Computer Science Conference (ITCS).  
 Siddhartha Banerjee, Vincent Cohen-Addad, Anupam Gupta, and Zhouzi Li.
- 2023** \*Classification of Red Cell Dynamics with Convolutional and Recurrent Neural Networks: A Sickle Cell Disease Case Study.  
 In Scientific Reports.  
 Maxime Darrin, Ashwin Samudre, Maxime Sahun, Scott Atwell, Catherine Badens, Anne Charrier, Emmanuèle Helfer, Annie Viallat, Vincent Cohen-Addad, Sophie Giffard-Roisin.
- 2023** On the Fine-Grained Complexity of Approximating  $k$ -Center in Sparse Graphs.  
 Proceedings of the 6th Symposium on Simplicity in Algorithms (SOSA).  
 Amir Abboud, Vincent Cohen-Addad, Euiwoong Lee, and Pasin Manurangsi.

- 2023** Breaching the 2 Lagrangian Multiplier Preserving Approximation Barrier for Facility Location with Applications to  $k$ -Median.  
 Proceedings of the 33rd Annual ACM-SIAM Symposium on Discrete Algorithms (SODA).  
 Vincent Cohen-Addad, Fabrizio Grandoni, Euiwoong Lee, and Chris Schwiegelshohn.
- 2022** Improved Coresets for Euclidean  $k$ -Means.  
 Advances in Neural Information Processing Systems 33 (NeurIPS).  
 Vincent Cohen-Addad, Kasper Green Larsen, David Saulpic, Chris Schwiegelshohn, and Omar Ali Sheikh-Omar.
- 2022** Near-Optimal Correlation Clustering with Privacy.  
 Advances in Neural Information Processing Systems 33 (NeurIPS).  
 Vincent Cohen-Addad, Chenglin Fan, Silvio Lattanzi, Slobodan Mitrovic, Ashkan Norouzi-Fard, Nikos Parotsidis, and Jakub Tarnawski.
- 2022** Near-Optimal Private and Scalable  $k$ -Clustering.  
 Advances in Neural Information Processing Systems 33 (NeurIPS).  
 Vincent Cohen-Addad, Alessandro Epasto, Vahab Mirrokni, Shyam Narayanan, and Peilin Zhong.
- 2022** Correlation Clustering with Sherali-Adams.  
 Proceedings of the 63rd Annual IEEE Symposium on Foundations of Computer Science (FOCS).  
 Vincent Cohen-Addad, Euiwoong Lee and Alantha Newman.
- 2022** Fitting Metrics and Ultrametrics with Minimum Disagreements.  
 Proceedings of the 63rd Annual IEEE Symposium on Foundations of Computer Science (FOCS).  
 Vincent Cohen-Addad, Chenglin Fan, Euiwoong Lee and Arnaud de Mesmay.
- 2022** The Power of Uniform Sampling for Coresets.  
 Proceedings of the 63rd Annual IEEE Symposium on Foundations of Computer Science (FOCS).  
 Vladimir Braverman, Vincent Cohen-Addad, Shaofeng Jiang, Robert Krauthgamer, Chris Schwiegelshohn, Mads Bech Tofttrup and Xuan Wu.
- 2022** Scalable Differentially Private Clustering via Hierarchically Separated Trees.  
 Proceedings of the 28th SIGKDD conference (KDD).  
 Vincent Cohen-Addad, Alessandro Epasto, Silvio Lattanzi, Vahab Mirrokni, Andres Munoz, David Saulpic, Chris Schwiegelshohn and Sergei Vassilvitskii.
- 2022** Massively Parallel  $k$ -Means Clustering for Perturbation Resilient Instances.  
 Proceedings of the 39th International Conference on Machine Learning (ICML).  
 Vincent Cohen-Addad, Vahab Mirrokni and Peilin Zhong.
- 2022** Online and Consistent Correlation Clustering.  
 Proceedings of the 39th International Conference on Machine Learning (ICML).  
 Vincent Cohen-Addad, Silvio Lattanzi, Andreas Maggiori and Nikos Parotsidis.
- 2022** Community Recovery in the Degree-Heterogeneous Stochastic Block Model.  
 Proceedings of the 35th Conference on Learning Theory (COLT) 2022.  
 Vincent Cohen-Addad, Frederik Mallmann-Trenn and David Saulpic.
- 2022** A Massively Parallel Modularity-Maximizing Algorithm With Provable Guarantees.  
 Proceedings of the 40th ACM Symposium on Principles of Distributed Computing (PODC).  
 Vincent Cohen-Addad, Frederik Mallmann-Trenn and David Saulpic.
- 2022** Improved Approximation Algorithms and Lower Bounds for Search-Diversification Problems.  
 Proceedings of the 49th International Colloquium on Automata, Languages, and Programming (ICALP).  
 Amir Abboud, Vincent Cohen-Addad, Euiwoong Lee and Pasin Manurangsi.

- 2022** Bypassing the Surface Embedding: Approximation Schemes for Network Design in Minor-Free Graphs.  
 Proceedings of the 54th ACM Symposium on Theory of Computing (STOC).  
 Vincent Cohen-Addad.
- 2022** Improved Approximations for Euclidean  $k$ -means and  $k$ -median, via Nested Quasi-Independent Sets.  
 Proceedings of the 54th ACM Symposium on Theory of Computing (STOC).  
 Vincent Cohen-Addad, Hossein Esfandiari, Vahab Mirrokni, and Shyam Narayanan.
- 2022** Towards Optimal Lower Bounds for  $k$ -median and  $k$ -means Coresets.  
 Proceedings of the 54th ACM Symposium on Theory of Computing (STOC).  
 Vincent Cohen-Addad, Kasper Green Larsen, David Saulpic, and Chris Schwiegelshohn.
- 2022** On Facility Location Problem in the Local Differential Privacy Model.  
 Proceedings of the International Conference on Artificial Intelligence and Statistics (AISTATS).  
 Vincent Cohen-Addad, Yunus Esencayi, Chenglin Fan, Marco Gaboradi, Shi Li and Di Wang.
- 2022** A 2-Approximation for the Bounded Treewidth Sparsest Cut Problem in FPT Time.  
 Proceedings of the 27th Conference on Integer Programming and Combinatorial Optimization (IPCO).  
 Vincent Cohen-Addad, Tobias Mömke and Victor Verdugo.
- 2022** An Improved Local Search Algorithm for  $k$ -Median.  
 Proceedings of the 32nd Annual ACM-SIAM Symposium on Discrete Algorithms (SODA).  
 Vincent Cohen-Addad, Anupam Gupta, Lunjia Hu, Hoon Oh, David Saulpic.
- 2022** Johnson Coverage Hypothesis: Inapproximability of  $k$ -Means and  $k$ -Median in  $L_p$ -metrics.  
 Proceedings of the 32nd Annual ACM-SIAM Symposium on Discrete Algorithms (SODA).  
 Vincent Cohen-Addad, Karthik C. S., Euiwoong Lee.
- 2021** Improved Coresets and Sublinear Algorithms for Power Means in Euclidean Spaces.  
 Advances in Neural Information Processing Systems 32 (NeurIPS).  
 Vincent Cohen-Addad, David Saulpic, Chris Schwiegelshohn.
- 2021** Parallel and Efficient Hierarchical  $k$ -Median Clustering.  
 Advances in Neural Information Processing Systems 32 (NeurIPS).  
 Vincent Cohen-Addad, Silvio Lattanzi, Ashkan Norouzi-Fard, Christian Sohler, Ola Svensson.
- 2021** Fitting Distances by Tree Metrics Minimizing the Total Error within a Constant Factor.  
 Proceedings of the 62nd Annual IEEE Symposium on Foundations of Computer Science (FOCS) –  
 Journal of the ACM.  
 Vincent Cohen-Addad, Debarati Das, Evangelos Kipouridis, Nikos Parotsidis and Mikkel Thorup.
- 2021** A New Coreset Framework for Clustering.  
 Proceedings of the 53rd ACM Symposium on Theory of Computing (STOC).  
 Vincent Cohen-Addad, David Saulpic, Chris Schwiegelshohn.
- 2021** A Quasipolynomial  $(2 + \epsilon)$ -Approximation for Planar Sparsest Cut.  
 Proceedings of the 53rd ACM Symposium on Theory of Computing (STOC).  
 Vincent Cohen-Addad, Anupam Gupta, Philip N. Klein, Jason Li.
- 2021** Improving Ultrametrics Embeddings Through Coresets.  
 Proceedings of the 38th International Conference on Machine Learning (ICML).  
 Vincent Cohen-Addad, Rémi de Joannis de Verclos, Guillaume Lagarde.

- 2021** Correlation Clustering in Constant Many Parallel Rounds.  
 Proceedings of the 38th International Conference on Machine Learning (ICML) – Long Talk.  
 Vincent Cohen-Addad, Silvio Lattanzi, Slobodan Mitrovic, Ashkan Norouzi-Fard, Nikos Parotsidis, Jakub Tarnawski.
- 2021** On the Computational Tractability of a Geographic Clustering Problem Arising in Redistricting.  
 Proceedings of the 2nd Symposium on Foundations of Responsible Computing (FORC).  
 Vincent Cohen-Addad, Philip N. Klein, Dániel Marx, Archer Wheeler, Christopher Wolfram.
- 2021** Online  $k$ -Means Clustering.  
 Proceedings of the 24th International Conference on Artificial Intelligence and Statistics (AISTATS)  
 Vincent Cohen-Addad, Benjamin Guedj, Varun Kanade, Guy Rom.
- 2021** \*Mitigating COVID-19 Outbreaks in Workplaces and Schools by Hybrid Telecommuting.  
 In PLoS Computational Biology 17(8).  
 Simon Mauras, Vincent Cohen-Addad, Guillaume Duboc, Max Dupré la Tour, Paolo Frasca, Claire Mathieu, Lulla Opatowski, Laurent Viennot.
- 2021** On Approximability of Clustering Problems Without Candidate Centers.  
 Proceedings of the 31st Annual ACM-SIAM Symposium on Discrete Algorithms (SODA).  
 Vincent Cohen-Addad, Karthik C. S., Euiwoong Lee.
- 2020** On the Power of Louvain in the Stochastic Block Model.  
 Advances in Neural Information Processing Systems 31 (NeurIPS).  
 Vincent Cohen-Addad, Adrian Kosowski, Frederik Mallmann-Trenn, David Saulpic.
- 2020** Fast and Accurate  $k$ -means++ via Rejection Sampling.  
 Advances in Neural Information Processing Systems 31 (NeurIPS).  
 Vincent Cohen-Addad, Silvio Lattanzi, Ashkan Norouzi-Fard, Christian Sohler, Ola Svensson.
- 2020** On Light Spanners, Low-treewidth Embeddings and Efficient Traversing in Minor-free Graphs.  
 Proceedings of the 61st Annual IEEE Symposium on Foundations of Computer Science (FOCS).  
 Vincent Cohen-Addad, Arnold Filtser, Philip N. Klein, Hung Le.
- 2020** On Efficient Low Distortion Ultrametric Embedding.  
 Proceedings of the 37th International Conference on Machine Learning (ICML).  
 Vincent Cohen-Addad, Karthik C. S., Guillaume Lagarde.
- 2020** New Hardness Results for Planar Graph Problems in P and an Algorithm for Sparsest Cut.  
 Proceedings of the 52nd ACM Symposium on Theory of Computing (STOC).  
 Amir Abboud, Vincent Cohen-Addad, Philip N. Klein.
- 2020** Approximation Schemes for Capacitated Clustering in Doubling Metrics.  
 Proceedings of the 30th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA).  
 Vincent Cohen-Addad.
- 2020** Instance-Optimality in the Noisy Value-and Comparison-Model.  
 Proceedings of the 30th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA).  
 Vincent Cohen-Addad, Frederik Mallmann-Trenn and Claire Mathieu.
- 2019** Subquadratic High-Dimensional Hierarchical Clustering.  
 Advances in Neural Information Processing Systems 30 (NeurIPS).  
 Amir Abboud, Vincent Cohen-Addad and Hussein Houdrouge.
- 2019** Fully Dynamic Consistent Facility Location.  
 Advances in Neural Information Processing Systems 30 (NeurIPS).  
 Vincent Cohen-Addad, Niklas Hjuler, Nikos Parotsidis, David Saulpic and Chris Schwiegelshohn.

- 2019** Inapproximability of Clustering in  $\ell_p$ -metrics.  
 Proceedings of the 60th Annual IEEE Symposium on Foundations of Computer Science (FOCS).  
 Vincent Cohen-Addad and Karthik C. S..
- 2019** Near-Linear-Time Approximation Schemes for Clustering in Doubling Metrics.  
 Journal of the A.C.M. – Proceedings of the 60th Annual IEEE Symposium on Foundations of  
 Computer Science (FOCS).  
 Vincent Cohen-Addad, Andreas Emil Feldmann and David Saulpic.
- 2019** A Polynomial-Time Approximation Scheme for Facility Location on Planar Graphs.  
 Proceedings of the 60th Annual IEEE Symposium on Foundations of Computer Science (FOCS).  
 Vincent Cohen-Addad, Marcin Pilipczuk and Michał Pilipczuk.
- 2019** Efficient Approximation Schemes for Uniform-cost Clustering Problems in Planar Graphs.  
 Proceedings of the 27th Annual European Symposium on Algorithms (ESA).  
 Vincent Cohen-Addad, Marcin Pilipczuk and Michał Pilipczuk.
- 2019** On the Fixed-Parameter Tractability of Capacitated Clustering.  
 Proceedings of the 46th International Colloquium on Automata, Languages, and Programming  
 (ICALP).  
 Vincent Cohen-Addad and Jason Li.
- 2019** Tight FPT Approximations for k-Median and k-Means.  
 Proceedings of the 46th International Colloquium on Automata, Languages, and Programming  
 (ICALP).  
 Vincent Cohen-Addad, Anupam Gupta, Amit Kumar, Euiwoong Lee, and Jason Li.
- 2019** Almost Tight Lower Bounds for Hard Cutting Problems in Embedded Graphs.  
 Journal of the A.C.M. – Proceedings of the 35th International Symposium on Computational  
 Geometry (SoCG) 2019. Best Paper Award.  
 Vincent Cohen-Addad, Éric Colin de Verdière, Daniel Marx, and Arnaud de Mesmay.
- 2019** Oblivious Dimension Reduction for k-Means – Beyond Subspaces and the Johnson-Lindenstrauss  
 Lemma.  
 Proceedings of the 51st ACM Symposium on Theory of Computing (STOC).  
 Luca Becchetti, Marc Bury, Vincent Cohen-Addad, Fabrizio Grandoni, and Chris Schwiegelshohn
- 2019** Lower Bounds for Text Indexing with Mismatches and Differences.  
 Proceedings of the 30th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA).  
 Vincent Cohen-Addad, Laurent Feuilloley and Tatiana Starikovskaya.
- 2018** Clustering Redemption – Beyond the Impossibility of Kleinberg’s Axioms.  
 Advances in Neural Information Processing Systems 29 (Neurips).  
 Vincent Cohen-Addad, Varun Kanade and Frederik Mallmann-Trenn.
- 2018** Balanced Centroidal Power Diagrams for Redistricting.  
 Proceedings of the 26th International Conference on Advances in Geographic Information Systems  
 (SIGSPATIAL).  
 Vincent Cohen-Addad, Philip Klein and Neal Young.
- 2018** Fast Fencing.  
 Proceedings of the 50th ACM Symposium on Theory of Computing (STOC).  
 Mikkel Abrahamsen, Anna Adamaszek, Karl Bringmann, Vincent Cohen-Addad, Mehran Mehr, Eva  
 Rotenberg, Alan Roytman, and Mikkel Thorup.



- 2018** A Fast Approximation Scheme for Low-Dimensional  $k$ -Means.  
 Proceedings of the 29th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA).  
 Vincent Cohen-Addad.
- 2018** A near-linear approximation scheme for multicuts of embedded graphs with a fixed number of terminals.  
 SIAM Journal of Computing – Proceedings of the 29th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA).  
 Vincent Cohen-Addad, Éric Colin de Verdière, and Arnaud de Mesmay.
- 2018** Hierarchical Clustering: Objective Functions and Algorithms.  
 Proceedings of the 29th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA) – Journal of the ACM.  
 Vincent Cohen-Addad, Varun Kanade, Frederik Mallmann-Trenn, and Claire Mathieu.
- 2018** The Bane of Low-Dimensionality Clustering.  
 Proceedings of the 29th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA).  
 Vincent Cohen-Addad, Arnaud de Mesmay, Eva Rotenberg, and Alan Roytman.
- 2017** Hierarchical Clustering Beyond the Worst-Case.  
 Advances in Neural Information Processing Systems 28 (NIPS).  
 Vincent Cohen-Addad, Varun Kanade, and Frederik Mallmann-Trenn.
- 2017** Fast and Compact Exact Distance Oracle for Planar Graphs.  
 Proceedings of the 58th Annual IEEE Symposium on Foundations of Computer Science (FOCS).  
 Vincent Cohen-Addad, Søren Dahlgaard, and Christian Wulff-Nilsen
- 2017** On the Local Structure of Stable Clustering Instances.  
 Proceedings of the 58th Annual IEEE Symposium on Foundations of Computer Science (FOCS).  
 Vincent Cohen-Addad and Chris Schwiegelshohn.
- 2017** Online Optimization of Smoothed Piecewise Constant Functions.  
 Proceedings of the 20th International Conference on Artificial Intelligence and Statistics (AISTATS).  
 Vincent Cohen-Addad and Varun Kanade.
- 2017** Steinberg’s Conjecture is False.  
 Journal of Combinatorial Theory, Serie B (JCTB).  
 Vincent Cohen-Addad , Michael Hebdige, Dan Kral, Zhentao Li, and Esteban Salgado.
- 2016** Local Search Yields Approximation Schemes for  $k$ -Means and  $k$ -Median in Euclidean and Minor-free Metrics.  
 SIAM Journal of Computing – Special issue on FOCS’16. Preliminary version in the proceedings of the 57th Annual IEEE Symposium on Foundations of Computer Science (FOCS).  
 Vincent Cohen-Addad, Philip N. Klein, and Claire Mathieu.
- 2016** The Invisible Hand of Dynamic Market Pricing.  
 Proceedings of the 17th Conference on Economics and Computations (EC).  
 Vincent Cohen-Addad, Alon Eden, Michal Feldman, and Amos Fiat.
- 2016** Diameter and  $k$ -Center Clustering in Sliding Windows.  
 Proceedings of the 43rd International Colloquium on Automata, Languages, and Programming (ICALP).  
 Vincent Cohen-Addad, Chris Schwiegelshohn, and Christian Sohler.

- 2016** Approximating Connectivity Domination in Weighted Bounded-Genus Graphs.  
Proceedings of the 48th ACN Symposium on the Theory of Computing (STOC).  
Vincent Cohen-Addad, Éric Colin de Verdière, Philip N. Klein, Claire Mathieu, and David Meierfrankenfeld.
- 2016** Algorithmic Aspects of Switch Cographs.  
Discrete Applied Mathematics, vol. 200.  
Vincent Cohen-Addad, Michel Habib, and Fabien de Montgolfier.
- 2015** A Fixed Parameter Tractable Approximation Scheme for the Optimal Cut Graph of a Surface.  
Proceedings of the 23rd European Symposium on Algorithms (ESA).  
Vincent Cohen-Addad, Arnaud de Mesmay.
- 2015** Effectiveness of Local Search for Geometric Optimization.  
Proceedings of the 31st Annual Symposium on Computational Geometry (SoCG).  
Vincent Cohen-Addad and Claire Mathieu.
- 2014** Energy-efficient Algorithms for Non-preemptive Speed-scaling.  
Proceedings of the 12th Workshop on Approximation and Online Algorithms (WAOA).  
Vincent Cohen-Addad, Zhentao Li, Claire Mathieu, and Ioannis Millis.