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Research Interests

- Parameterized Algorithms
- Approximation Algorithms
- Structural and Algorithmic Graph Theory

Brief Summary of Research

Krithika Ramaswamy is an assistant professor in the Department of Computer Science and Engineering of Indian Institute of Technology Palakkad. Previously, she was a post doctoral researcher at the Theoretical Computer Science group of the Institute of Mathematical Sciences. She obtained her PhD at the Indian Institute of Technology Madras and her thesis focussed on designing parameterized and approximation algorithms for finding various hitting sets in graphs. Her primary research interest is in the area of design and analysis of efficient algorithms for computationally hard problems. Specifically, her focus is in designing fixed-parameter tractable algorithms and approximation algorithms for various hard combinatorial optimization problems on graphs.

Recent Publications (Full list of publications: <https://sites.google.com/site/rkrithiks/>)

- Quadratic Vertex Kernel for Split Vertex Deletion: A. Agrawal, S. Gupta, P. Jain and R. Krithika. In International Conference on Algorithms and Complexity (CIAC), Vol 11485, LNCS, pp. 1--12, Springer, 2019.
- Vertex Deletion on Split Graphs: Beyond 4-Hitting Set: P. Choudhary, P. Jain, R. Krithika and V. Sahlot. In International Conference on Algorithms and Complexity (CIAC), Vol 11485, LNCS, pp. 161--173, Springer, 2019.
- The Parameterized Complexity of Cycle Packing: Indifference is Not an Issue: R. Krithika, A. Sahu, S. Saurabh and M. Zehavi. In Latin American Symposium on Theoretical Informatics (LATIN), Vol 10807, LNCS, pp. 712--726, Springer, 2018.
- Revisiting Connected Vertex Cover: FPT Algorithms and Lossy Kernels: R. Krithika, D. Majumdar and V. Raman. Theory of Computing Systems, 2018.
- Dynamic Parameterized Problems: R. Krithika, A. Sahu and P. Tale. Algorithmica, 2018.
- Approximability of Clique Transversal in Perfect Graphs: S. Fiorini, R. Krithika, N. S. Narayanaswamy and V. Raman. Algorithmica, 2018.
- An FPT Algorithm for Contraction to Cactus: R. Krithika, P. Misra and P. Tale. In Computing and Combinatorics (COCOON), Vol 10976, LNCS, pp. 341--352, Springer, 2018.
- On the Parameterized Complexity of Simultaneous Deletion Problems: A. Agrawal, R. Krithika, D. Lokshantov, A. E. Mouawad and M. S. Ramanujan. In Foundations of Software Technology and Theoretical Computer Science (FSTTCS), Vol 93, LIPIcs, pp. 9:1--9:14, Schloss Dagstuhl-Leibniz-Zentrum fuer Informatik, 2018.