

I received my Ph.D. from The Ohio State University in December 2012. My dissertation "Some topics concerning graphs, signed graphs, and matroids" was supervised by Prof. Neil Robertson. (I was his last (22) Ph.D. student.)

Research Interests: Graph Theory (structural and algorithmic aspects, induced subgraphs, graph invariants, chi-boundedness), Signed Graphs, Matroid Theory

Particular topics of interest include well-quasi-ordering, graph invariants (particularly chromatic number, Hadwiger number, girth), minor-closed classes of graphs, induced subgraphs, signed graphs, matroids coming from graphs, signed-graphic matroids, and statistical properties of matroids.

Publications:

1. Two short proofs of the bounded case of S. B. Rao's degree sequence conjecture, *Discrete Math.* 313 (2013), no. 13, 1500-1501.
2. Bicircular signed-graphic matroids, *Discrete Math.* 328 (2014), 1-4.
3. A unified proof of Brooks' theorem and Catlin's theorem, *Discrete Math.* 338 (2015) no. 2, 272-273.
4. (with John Maharry, Neil Robertson, and Daniel Slilaty) Flexibility of projective-planar embeddings, *J. Combin. Theory Ser. B* 122 (2017), 241-300.
5. Some problems on induced subgraphs, *Discrete Applied Mathematics*, 236 (2018) 422-427.
6. (with Maria Chudnovsky) Odd holes in bull-free graphs, *SIAM J. Discrete Math.* 32 (2018), no. 2, 951-955.
7. (with Richard Behr, Thomas Zaslavsky) Mock threshold graphs, *Discrete Math.* 341 (2018) 2159-2178.
8. (with Maria Chudnovsky) Perfect divisibility and 2-divisibility, *J. Graph Theory* 90 (2019) 54-60.
9. (with Bart Litjens, Sven Polak) Sum-perfect graphs, appeared online in *Discrete Applied Mathematics*. (<https://doi.org/10.1016/j.dam.2018.12.015>)
10. (with Katie Cameron, Shenwei Huang, Irena Penev) The class of (P_7, C_4, C_5) -free graphs: decomposition, chi-boundedness, algorithms, submitted.
11. (with Daniel Slilaty) The graphs that have antivoltages using groups of small order, submitted.
12. (with Ringi Kim, O-joung Kwon, Sang-il Oum) Classes of graphs with no long cycle as a vertex-minor are polynomially χ -bounded, submitted.

Arxiv: http://arxiv.org/find/math/1/au:+Sivaraman_V/0/1/0/all/0/1

Current projects include understanding some hereditary classes of graphs, coloring perfect graphs, chi-boundedness, line graphs of directed graphs, antivoltages in graphs, and the ubiquitous Tutte polynomial.

In preparation:

1. Pseudo-line graphs.
2. (with Maria Chudnovsky, T. Karthick, Jenny Kaufmann) Perfect divisibility of some graph classes.
3. (with Bart Litjens, Sven Polak, Bart Sevenster) A characterization of graphs with Dilworth number at most 3.
4. Apex-threshold graphs.
5. (with Ravindra Bapat, Richard Behr, and Thomas Zaslavsky) Smock (special mock threshold) graphs.
6. (with Thomas Zaslavsky) The seven signed Heawood graphs.
7. (with Jan Goedgebeur, Pierre Hauweele) Towards the forbidden induced subgraph characterization for graphs that have a connected dominating set of size $4k$.
8. The symmetrization operator on hereditary graph classes.
9. A generalization of split graphs.
10. On the relationship between the cop number and the chromatic number of a graph.

Coauthors:

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