

## CURRICULUM VITAE

### **Stephen W. Suen**

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### **Education background**

- 1980-1985 School of Mathematics, University of Bristol, UK  
PhD with dissertation title: Flows, cliques and paths in random graphs  
Advisor: Professor G. R. Grimmett
- 1977-1980 School of Mathematics, University of Bristol, UK  
BSc (First Class Honours) in Mathematics and Statistics
- 1974-1976 Kettering Technical College, England, UK  
GCE Advanced levels  
Four A's and two distinctions

### **Teaching Experience**

- 1993-present Assistant/Associate Professor  
Department of Mathematics, University of South Florida
- 1990-1993 Richard Duffin Assistant Professor  
Department of Mathematics, Carnegie Mellon University, USA
- 1985-1990 Lecturer/Senior Lecturer  
Department of Applied Mathematics, City University of Hong Kong  
Formerly known as the City Polytechnic of Hong Kong.

### **Research**

Research interests are in the areas of combinatorics, probabilistic methods and algorithms. My specialty is in applying probabilistic methods in solving problems in combinatorics and algorithms. Please refer to the separate information sheets for a list of publications.

### **Previous awards and recommendations**

- 1978, 1979 Recommendations from the Dean of Faculty of Science for outstanding exam results.
- 1979 Undergraduate scholarship from the University of Bristol, UK.
- 1980-1983 Postgraduate scholarship from the University of Bristol leading to a doctoral degree. The postgraduate scholarship was awarded on the basis of academic achievements.

## List of refereed publications

1. Graph Products and Integer Domination, *Discrete Mathematics*, 313, 21-224, 2013. (with N. John.)
2. Graph Products and Integer Domination, II, *Congressus Numerantium*, 214, 131-141, 2012. (with N. John).
3. An Improved Inequality Related to Vizing's Conjecture, *Electronic Journal of Combinatorics*, 19, #P8, 2012. (with J. Tarr.)
4. The enumeration of sequences with restrictions to their partial sums, *Electronic Journal of Combinatorics*, 16, R160, 2010.
5. Some results for the acceptance urn, *SIAM J. Disc. Math.*, 24(3), 876-891, 2010. (with K. Wagner).
6. Reducing the Power Consumption of Ethernet with Adaptive Link Rate (ALR), *IEEE Transactions on Computers*, 57(4), 448-461, 2008. (with Chamara Gunaratne, Ken Christensen, and Bruce Nordman).
7. Ethernet Adaptive Link Rate (ALR): Analysis of a Buffer Threshold Policy, *IEEE Globecom 2006*. (with G.Gunaratne, K Christensen).
8. A note on moment generating functions, *Statistics & Probability Letters*, 76(11), 1185-1189, 2006. (with A. Mukherjea and M. Rao).
9. Application of upper and lower bounds for the domination number to Vizing's Conjecture, *Ars Combinatoria*, 69, 97-108, 2003. (with E Clark and M Ismail).
10. Tight upper bounds for the domination numbers of graphs with given order and minimum degree, II, *Electronic Journal of Combinatorics*, 7, R58, 2000. (with E Clark and L.A. Dunning).
11. An inequality related to Vizing's Conjecture, *Electronic Journal of Combinatorics*, N4, 2000. (with W.E. Clark).
12. On the probability that a  $t$ -subset of a finite vector space contains an  $r$ -subspace – with applications to short, light codewords in a BCH code, *Congressus Numerantium*, 137, 139-159, 1999 (with E Clark).
13. Optimal Construction of edge-disjoint paths in Random Graphs, *SIAM J. Comput.*, 28, 541-573, 1998 (with A Broder, A Frieze and E Upfal).
14. Upper bounds for the domination number of a graph, *Congressus Numerantium*, 132, 99-123, 1998 (with E Clark, B Shekhtman and D Fisher).
15. An efficient algorithm for the vertex-disjoint paths problems in random graphs, *Proceedings of The Seventh ACM-SIAM Symposium on Discrete Algorithms*, 261-268, 1996 (with A Broder, A Frieze and E Upfal).
16. Analysis of two simple heuristics on a random instance of  $k$ -SAT, *Journal of Algorithms*, Vol 20, 312-355, 1996 (with A Frieze)
17. On the size of a random maximal graph, *Random Structures and Algorithms*, Vol 6, 309-318, 1995 (With Peter Winkler and Paul Erdos).
18. Monocyclic decomposition of graphs and the road coloring problem, *Congressus Numerantium*, Vol 110, 201-209, 1995 (with Natasha Jonoska).
19. Ordering clone libraries in computational biology, *Journal of Computational Biology*, Vol 2, 207-218, 1995 (with Alan Frieze and Martin Dyer).

20. Randomized Greedy Matching II, *Random Structures and Algorithms*, Vol 6, 55-73, 1995 (with Jonathan Aronson, Alan Frieze, Martin Dyer).
21. Analysis of a simple greedy matching algorithm on random cubic graphs, *Combinatorics, probability and Computing*, Vol 4 47-66, 1995 (with Alan Frieze, Jamie Radcliffe).
22. The Probability of Unique Solutions of Sequencing by Hybridization *Journal of Computational Biology*, Vol 1, 105-110, 1994. (With A. Frieze and M. Dyer).
23. Optimal construction of edge-disjoint paths in random graphs, *Proceedings of the Fifth Annual ACM-SIAM Symposium on Discrete Algorithms*, 603-612, 1994 (with A. Broder, A. Frieze and E. Upfal).
24. On the greedy heuristic for matchings, *Proceedings of the Fifth Annual ACM-SIAM Symposium on Discrete Algorithms*, 141-149, 1994 (with J. Aronson, M. Dyer and A. Frieze).
25. On the Independence Number of Random Cubic Graphs, *Random Structures and Algorithms*, Vol 5, 649-663, 1994. (With A. Frieze).
26. On depth first search trees in random m-out digraphs, *Combinatorica*, Vol 13, 209-229, 1993.
27. Analysis of a simple greedy matching algorithm on random cubic graphs, *Proceedings of the Fourth Annual ACM-SIAM Symposium on Discrete Algorithms*, 341-351, 1992, (with A.M. Frieze and A.J. Radcliffe).
28. Counting the number of Hamilton cycles in random digraphs, *Random Structures and Algorithms*, Vol 3, 235-241, 1992, (with A.M. Frieze).
29. On large induced trees and long induced paths in sparse random graphs, *Journal of Combinatorial Theory, Series B*, Vol 56, 250-262, 1992.
30. On the largest strong components in m-out digraphs, *Discrete Mathematics*, Vol 94, 45-52, 1991.
31. A correlation inequality and a Poisson limit theorem for nonoverlapping balanced subgraphs of a random graph, *Random Structures and Algorithms*, 1:231-242, 1990.
32. Telephone network optimization for developing countries, *Proceedings of the IREE conference*, 1989, (with K T Ko and K K Cheng).
33. An improbable game of darts, *Math Gazette*, pp. 97, 1987. (with T. Crilly).
34. Flows through complete graphs, *Annals of Discrete Mathematics*, 27, 263-304, 1985.
35. The maximal flows through a directed graph with random capacities, *Stochastics*, Vol 8, 153-159, 1982, (with G.R. Grimmett).

### Other publications

1. A continuity theorem using bilateral Laplace transforms, research report AM-88-08, Department of Applied Mathematics, City Polytechnic of Hong Kong, 1988.
2. Flows, cliques and paths in random graphs, PhD dissertation, 1985.
3. Small complete subgraphs of random graphs, research report, S-84-03, School of Mathematics, University of Bristol, 1984.