Charles Joseph COLBOURN

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School of Computing, Informatics, and Decision Systems Engineering
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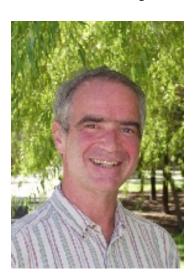U.S.A.

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Personal Information
Birthdate: 24 October 1953
Birthplace: Toronto, Ontario, Canada.
Citizenship: Canadian
Status: United States permanent resident

Education

Degree	Date	Institution	Department
Ph.D.	06/1980	University of Toronto	Computer Science
M.Math.	05/1978	University of Waterloo	Computer Science
B.Sc.	06/1976	University of Toronto	Computer Science

Awards
Euler Medal for Lifetime Research Achievement, Institute for Combinatorics and Its Applications, 2003.

A.J. Buckingham Scholar, Mathematics and Statistics, Miami University, Oxford OH, 2003.

University Scholar in Basic and Applied Sciences, University of Vermont, 1997-98.

Instructor of the Year, 1995–96, Faculty of Mathematics, University of Waterloo, awarded by MathSoc, the students' society.

Theses
C.J. Colbourn, "Graph generation", M.Math. Thesis, Department of Computer Science, University of Waterloo, 1977.

C.J. Colbourn, "The complexity of graph isomorphism and related problems", Ph.D. Thesis, Department of Computer Science, University of Toronto, 1980.

Academic Experience

	Regular appointments		
Position	Period	Institution	Department
Professor (tenured)	08/01- 08/01-	Arizona State University	Computer Science and Engineering
Dorothean Professor (tenured)	08/96-08/01 08/96-08/01	University of Vermont	Computer Science
Professor	07/89-08/98	University of Waterloo	Combinatorics and Optimization
Associate Professor	09/87-06/89	University of Waterloo	Combinatorics and Optimization
Associate Professor (tenured)	01/84-08/87 07/86-08/98	University of Waterloo	Computer Science
Associate Professor	07/82-12/83	University of Saskatchewan	Computational Science
Assistant Professor	07/80-06/82	University of Saskatchewan	Computational Science
	Visiting and cross appointments		
Position	Period	Institution	Department
Professor	08/96-08/01	University of Vermont	Mathematics and Statistics
Visiting Scientist	08/97	Defence Science and Technology Organization, Salisbury, Australia	Communications Division
University of Auckland Foundation Fellow	03/96-06/96	University of Auckland	Computer Science
Raybould Fellow	07/94-08/94	Univ. Queensland	Mathematics
Visiting Scientist	03/93-04/93	Rutgers University	Dimacs
Senior Research Fellow	08/90-12/90	Curtin University	Mathematics and Statistics
Professor	09/90-08/98	University of Waterloo	Computer Science
Research Professor	04/90-03/93	Carleton University	Computer Science
Senior Fellow	09/89-12/89	Simon Fraser University	Systems Science
Visiting Professor	01/89-03/89	Auburn University	Algebra, Combinatorics, Analysis
Senior Fellow	09/87-10/87	University of Minnesota	Mathematics and Applications
Associate Professor	09/87-08/90	University of Waterloo	Computer Science
Visiting Professor	01/86-05/86	University of Auckland	Computer Science
Visiting Assoc Prof	09/85-12/85	University of Toronto	Computer Science
Associate Professor	01/84-08/87	University of Waterloo	Combinatorics and Optimization

Teaching Experience

Term (F,W,S)	Course	Size	Topic
S17	CSE355	350	Intro Theory of Computation
S17	CSE555	10	Theory of Computation
F16	CSE355	366	Intro Theory of Computation
F16	CSE691	7	Interaction Testing Theory and Practice
S16	CSE355	275	Intro Theory of Computation
S16	CSE555	25	Theory of Computation
F15	CSE355	110	Intro Theory of Computation
F15	CSE551/591	135	Advanced Algorithms
S15	CSE555	49	Theory of Computation
F14	CSE355	132	Intro Theory of Computation
F14	CSE457/598	35	Formal Languages
F14	CSE550	45	Combinatorial Algorithms and Intractability
S14	CSE 555	46	Advanced Theory of Computation
S14	CSE591/MAT591	40	Combinatorial Design Theory
F13	CSE 355	82	Intro Theory of Computation
F13	CSE 552	32	Randomized and Approximation Algorithms
S13	CSE 555	30	Advanced Theory of Computation
S13	CSE 355	55	Intro Theory of Computation
F12	CSE 420/598	64	Computer Architecture I
F12	CSE 457/598	45	Theory of Formal Languages
S12	CSE355	100	Intro Theory of Computation
S12 (x3)	ASU 101	19	The ASU Experience
F11 (x2)	CSE301	55	Ethics in Computing
S11	CSE355	82	Intro Theory of Computation
S11	CSE591/MAT591	25	Combinatorial Design Theory
F10	CSE 355	43	Intro Theory of Computation
F10	CSE 552	18	Randomized and Approximation Algorithms
S10	CSE 457	8	Theory of Formal Languages
S10	CSE 591	4	Perfect Hashing
F09	CSE 424	20	Systems Capstone 2
S09	CSE 355	60	Intro Theory of Computation
S09	CSE 301	42	Ethics for Computer Science
S08	CSE 591	6	Software Interaction Testing
S08	CSE 420	35	Computer Architecture I
F07	CSE 420/598	68	Computer Architecture I
S07	IEE 598	26	Optimization II
S07	CSE 434	30	Computer Networks
F06	CSE 355	55	Intro Theory of Computation
S06	CSE 591	6	Interaction Testing
S06,F05	CSE 412/598	35	Database Management Systems
F05	CSE 534	19	Advanced Computer Networks
F04	CSE 591	8	Network Reliability
F04	CSE 434	28	Computer Networks
F03	CSE 591	14	Genomics: Sequencing and Mapping
F03	CSE 434/598	55	Computer Networks
F02	CSE 310	160	Data Structures

Term (F,W,S)	Course	Size	Topic
S01	CS 103	30	Programming Languages
F00	CS 201	36	Operating Systems
W00	CS 222	33	Computer Architecture
W00, W99	CS 395	2	Combinatorial Algorithms
F99	CS 101	39	Computer Organization
F98	CS 266	24	Network Security and Cryptography
F98	CS 294	2	Medical Informatics
F97	CS 265	22	Computer Networks
W97	CS 395	10	Applied Cryptography
F96	CS 243	20	Theory of Computation
96(1st)	415(CS).701	15	Network Reliability
F95,F94,F92	C&O438/638	15	Combinatorial Computing
F94,F91	C&O434/634	14	Combinatorial Design
S94	E&CE203	90	Discrete Math for Engineers
W94,F92,S89(×2),W88	C&O230	50	Introduction to Combinatorics
W94,S88 (×2)	C&O351	40	Network Flows
F92,F91,S91,S88	C&O454	30	Scheduling Theory
F91	C&O750B/CS756	10	Topics on Network Reliability
S89	MATH 134b	100	Linear Algebra
W89	MH371A	24	Discrete Mathematics 1
W88	C&O380	12	Invention and Discovery in Mathematics
S87	CS766	14	Topics in Network Algorithms
S87,F86,S85	CS466/666	40	Analysis of Algorithms
F86	CS234	150	Programming Principles
F86	C&O739/CS756	15	Combinatorics of Network Reliability
F85	CSC2427F	8	Topics in Graph Theory
S85	CS756	17	Topological Design of Networks
S85,S84	CS450/650	35	Computer Architecture
W85	CS435	30	Computer Applications
F84	CS462/662	20	Formal Languages and Parsing
F84	CS354/554	60	Software Systems
S84	CS766	12	Network Reliability: Algorithms and Complexity
F83	CMPT 419.3	3	Computability and Complexity Theory
F83	CMPT 416.3	12	Combinatorial and Geometric Algorithms
F83,W83	CMPT 230.6	70	Software Design
F83,F82,F81,F80	CMPT 882.3	3	Topics in the Theory of Computing
W83	CMPT 361.3	20	Theory of Computation 2
W83	CMPT 424.3	45	Computer Communication Networks
F82,W82,W81	CMPT 313.3	90	Software Design
W82	CMPT 419B	1	Introduction to Combinatorics
W82	CMPT 326B	70	Theory of Computation 1
F81	CMPT 427A	12	Analysis of Algorithms
F81	CMPT 212A	70	Assembly Language Programming
W81	CMPT 419B	5	Recursive Function Theory and Computability
F80	CMPT 180A	240	Introduction to Computer Science
F80	CMPT 375A	75	Computing for Accounting
W80	CSC 208S	40	Assembly Language Programming
S79	CSC 258H	50	Computer Organization

Graduate Supervision

Ph.D. Theses Supervised

Theses completed

1. Kaushik Sarkar, Ph.D., "Covering Arrays: Algorithms and Asymptotics", Computer Science, Arizona State University, 2016.
2. Jonathan Lutz, Ph.D., "Scheduled Medium Access Control in Mobile Ad Hoc Networks", Computer Science, Arizona State University, 2013 (co-supervised with Violet R. Syrotiuk).
3. Maurice M. Carey, Ph.D., "The Classification of Domain Concepts in Object-Oriented Systems", Computer Science, Arizona State University, 2013 (co-supervised with James Collofello).
4. Peyman Nayeri, Ph.D., "Post-Optimization: Necessity analysis for combinatorial arrays", Computer Science, Arizona State University, 2011. (co-supervised with Goran Konjevod).
5. Toni R. Farley, Ph.D., "Network reliability and resilience", Computer Science, Arizona State University, 2009.
6. Dean S. Hoskins, Ph.D., "Covering Arrays and Optimal Designs", Computer Science, Arizona State University, 2006.
7. Renée C. Bryce (Turban), Ph.D. "Algorithms for Covering Arrays", Computer Science, Arizona State University, 2006.
8. Robert A. Walker II, Ph.D., "Covering Arrays and Perfect Hash Families", Computer Science, Arizona State University, 2005.
9. Robert P. Gallant, Ph.D., "Tight orthogonal main effect plans", Combinatorics and Optimization, University of Waterloo, 1997.
10. Alan C.H. Ling, Ph.D., "Pairwise balanced designs and related codes", Combinatorics and Optimization, University of Waterloo, 1996.
11. Yeow Meng Chee, Ph.D., "Turan-type problems in group testing, coding theory and cryptography", Computer Science, University of Waterloo, 1996.
12. Zhike Jiang, Ph.D., "Rotational Steiner triple systems", Combinatorics and Optimization, University of Waterloo, 1995.
13. Heidi J. Strayer, Ph.D., "Bounding flows, distances and reliability in probabilistic networks", Computer Science, University of Waterloo, 1995.
14. Doreen L. Erickson (Galli), Ph.D., "Conflict-free access to parallel memory modules", Computer Science, University of Waterloo, 1993.
15. Violet R. Syrotiuk, Ph.D., "Wang tilings and distributed orientation on torus networks", Computer Science, University of Waterloo, 1992 (co-supervised with J.K. Pachl).
16. Daryl D. Harms, Ph.D., "A symbolic algebra environment for research in network reliability", School of Computing Science, Simon Fraser University, 1992 (co-supervised with A.L. Liestman).
17. David C. Bigelow, Ph.D., "Enclosings of latin squares and triple systems", Pure Mathematics, University of Waterloo, 1990.
18. Anthony J. Gahlinger, Ph.D., "Coherence and satisfiability of waveform timing specifications", Computer Science, University of Waterloo, 1990.
19. Louis D. Nel, Ph.D., "Network reliability and facility location in unreliable networks", Computer Science, University of Waterloo, 1988.
20. Hosam M. F. AboElFotoh, Ph.D., "Reliability of radio broadcast networks: a graph theoretic approach", Computer Science, University of Waterloo, 1988.
21. Wendy J. Myrvold, Ph.D., "The ally and adversary reconstruction problems", Computer Science, University of Waterloo, 1988.
22. Ehab S. El Mallah, Ph.D., "Decomposition and embedding problems for restricted networks", Computer Science, University of Waterloo, 1987.
23. Aparna Ramanathan, Ph.D., "Improving bounds for all-terminal network reliability", Computer Science, University of Waterloo, 1986.

Masters Supervised

Theses supervised

1. Rushang Karia, "Covering Arrays: Generation and Post-Optimization", Computer Science and Engineering, Arizona State University, 2015.
2. Devon J. O'Brien, M.S. (CS), "The Design and Analysis of Hash Families for Use in Broadcast Encryption", Computer Science and Engineering, Arizona State University, 2012.
3. Kumaraguru Paramasivam, M.S. (CS), "Correlation Based Tools for Analysis of Dynamic Networks", Computer Science and Engineering, Arizona State University, 2011.
4. Deepa R. Iyer, M.S. (CS), "Identification of Network Communities using Cocitation Analysis and Bibliographic Coupling", Computer Science and Engineering, Arizona State University, 2008.
5. Jamieson French, M.S. (CS), "A Parallel Approach for k-Nearest Neighbor Search in Metric Space", Computer Science and Engineering, Arizona State University, 2008.
6. Akhila Avirneni, M.S. (CS), "Feasibility of interaction testing for web-based forms", Computer Science and Engineering, Arizona State University, 2007.
7. Andreas H. Ronneseth, M.S. (CS), "The Building Block Algorithm: A New Method for Constructing Covering Arrays", Computer Science and Engineering, Arizona State University, 2006.
8. Kylan N. Johnson, M.S.(CS), "Selecting reliable connections in mobile ad hoc networks", Computer Science and Engineering, Arizona State University, 2005.
9. Sandhya Durvasula, M.S.(CS), "Lower bounds for multiple sequence alignment", Computer Science and Engineering, Arizona State University, 2004.
10. Kaushik Srinivasan, M.S.(CS), "Disk recovery in double erasure RAID disk arrays", Computer Science and Engineering, Arizona State University, 2004.
11. Xunshan Ma, M.S.(CS), "Computational method to construct erasure-resilient codes", Computer Science, University of Vermont, 1999.
12. Shanon D. Place, M.S.(CS), "Application of bipartite graph matching algorithms for physical therapy student internship assignments", Computer Science, University of Vermont, 1999.
13. Myra B. Cohen, M.S.(CS), "Performance analysis of triple erasure codes in large disk arrays", Computer Science, University of Vermont, 1999.
14. Lise Arseneau, M.Math., "Optimal testing strategies for s,t-series parallel systems", Combinatorics and Optimization, University of Waterloo, 1996.
15. Alan C.H. Ling, M.Math., "Pairwise balanced designs with consecutive block sizes", Combinatorics and Optimization, University of Waterloo, 1995.
16. Doreen L. Erickson (Galli), M.Math., "Threshold schemes", Computer Science, University of Waterloo, 1990.
17. Yeow Meng Chee, M.Math., "The basis reduction algorithm and the existence of combinatorial designs", Computer Science, University of Waterloo, 1989.
18. H.M. Kenneth Warkentyne, M.Math., "Δ-Y-Δ reducible graphs", Computer Science, University of Waterloo, 1988.
19. Peter B. Channen, M.Math., "A performance evaluation of distributed discrete event simulation", Computer Science, University of Waterloo, 1988 (co-supervised with Jan K. Pachl).
20. Brent N. Clark, M.Math. "Unit disk graphs", Computer Science, University of Waterloo, 1985.
21. Timothy B. Brecht, M.Math. "Lower bounds for two-terminal network reliability", Computer Science, University of Waterloo, 1985.
22. Ehab S. El-Mallah, M.Sc. "Recursive graph structure and the optimum communication spanning tree problem", Computational Science, University of Saskatchewan, 1983.
23. Daryl D. Harms, M.Sc. "An investigation into bounds on network reliability", Computational Science, University of Saskatchewan, 1983.

24. Eric M. Neufeld, M.Sc. "Construction of reliable series-parallel networks: a combinatorial approach", Computational Science, University of Saskatchewan, 1983.
25. Judith B. Peachey, M.Sc. "The Bradford-Zipf distribution and program behaviour", Computational Science, University of Saskatchewan, 1981 (co-supervised with R.B. Bunt).

Essays Supervised
1. Adithya Raghavendra, MCS, "Interaction Testing of Web Services", Computer Science and Engineering, Arizona State University, 2006.
2. Robin L. Wilcox, MCS, "In Parameter Order Test Generation Strategies", Computer Science and Engineering, Arizona State University, 2006.
3. Ron Castelletto, M.Math., "A comparison and implementation of Monte Carlo methods for estimating the probability of s, t connectedness", Computer Science, University of Waterloo, 1991.
4. F. David Fracchia, M.Math., "F-factors and single processor scheduling", Computer Science, University of Waterloo, 1987.
5. Bradley M. Debroni, M.Math., "Monte Carlo algorithms for estimating the coefficients of the network reliability polynomial", Computer Science, University of Waterloo, 1987.
6. Katherine E. Stewart, M.Math., "Computing the all-terminal reliability exactly", Computer Science, University of Waterloo, 1987.
7. Andrea R. Chappell, M.Math. "The terminal layout problem", Computer Science, University of Waterloo, 1986.
8. Louis D. Nel, M.Math. "The design and complexity of VideoTex cycles", Computer Science, University of Waterloo, 1985.
9. Eddy H. Carrasco, M.Math., "An implementation of a first order and second order method for network reliability", Computer Science, University of Waterloo, 1984.

Current Research Interests

My research concentrates on areas in which combinatorics and computer science interact in an elegant way. Two main directions are:

- combinatorial design theory
    - applications in computer science: erasure correction, error correction, combinatorial cryptography, computational biology.
    - triple systems, block designs, pairwise balanced designs, group-divisible designs, transversal designs, latin squares, orthogonal arrays.
    - algorithms and computational methods; combinatorial search techniques.
    - applications of designs to lotteries.

- network algorithms and network design
    - network reliability: efficiently computable bounds, combinatorial structure from matroids, polyhedral and shellable complexes; exact algorithms; most probable state methods.
    - network design and analysis: graph algorithms, heuristics, search techniques.
    - network diagnosis and testing.

Research Publications

Refereed Journal Papers

1. Darryn Bryant, Charles J. Colbourn, Daniel Horsley, and Ian M. Wanless, Steiner triple systems with high chromatic index, *SIAM Journal on Discrete Mathematics*, to appear (acc Jul17).

2. Charles J. Colbourn, Erin Lanus, and Kaushik Sarkar, Asymptotic and constructive methods for covering perfect hash families and covering arrays, *Designs, Codes and Cryptography*, to appear (acc May17).

3. Kaushik Sarkar, Charles J. Colbourn, Annalisa De Bonis, and Ugo Vaccaro, Partial Covering Arrays: Algorithms and Asymptotics, *Theory of Computing Systems*, to appear (acc May17).

4. Jonathan Lutz, Charles J. Colbourn, and Violet R. Syrotiuk, Variable-Weight Topology-Transparent Scheduling, *Computer Networks* 122 (2017), 16-28.

5. Darryn Bryant, Charles J. Colbourn, Daniel Horsley, and Padraig Ó Catháin, Compressed sensing with combinatorial designs: theory and simulations, *IEEE Transactions on Information Theory* 63 (2017), 4850-4859.

6. Kaushik Sarkar and Charles J. Colbourn, Upper bounds on the size of covering arrays, *SIAM Journal on Discrete Mathematics* 31 (2017), 1277-1293.

7. Charles J. Colbourn, Bingli Fan, and Daniel Horsley, Disjoint Spread Systems and Fault Location, *SIAM Journal on Discrete Mathematics* 30 (2016), 2011-2016.

8. Charles J. Colbourn and Bingli Fan, Locating One Pairwise Interaction: Three Recursive Constructions, *Journal of Algebra Combinatorics Discrete Structures and Applications* 3 (2016) 125-134.

9. Charles J. Colbourn, Melissa S. Keranen, and Donald L. Kreher, The 3-GDDS of type g^3u^2, *Journal of Algebra Combinatorics Discrete Structures and Applications* 3 (2016), 135-144.

10. Maria de Lourdes Merlini Giuliani, Giliard Souza dos Anjos, and Charles J. Colbourn, Steiner loops satisfying the statement of Moufang's theorem, *Quasigroups Related Systems* 24 (2016) 103-108.

11. Hengjia Wei, Gennian Ge, and Charles J. Colbourn, The existence of well balanced triple systems, *Journal of Combinatorial Designs* 24 (2016), 53-100.

12. Shi-Wei Gao, Jiang-Hun Lv, Bing-Lei Du, Charles J. Colbourn, and Shi-Long Ma, Balancing Frequencies and Fault Detection in the In-Parameter-Order Algorithm, *Journal of Computer Science and Technology* 12 (2015), 957-968.

13. C.J. Colbourn, M. De Lourdes Merlini Giuliani, A. Rosa, and I. Stuhl, Steiner Loops Satisfying Moufang's Theorem, *Australasian Journal of Combinatorics* 61 (2015), 161-171.

14. Y.M. Chee, C.J. Colbourn, A.C.H. Ling, H. Zhang, and X. Zhang, Optimal Low-Power Coding for Error Correction and Crosstalk Avoidance in On-Chip Data Buses, *Designs Codes Cryptography* 77 (2015), 479-491.

15. C. Nie, H. Wu, X. Niu, F.-C. Kuo, H. Leung, and C.J. Colbourn, Combinatorial testing, random testing, and adaptive random testing for detecting interaction triggered failures, *Information and Software Technology* 62 (2015), 198–213.

16. C.J. Colbourn, Augmentation of Covering Arrays of Strength Two, *Graphs and Combinatorics* 31 (2015), 2137-2147.

17. A.N. Aldaco, C.J. Colbourn, and V.R. Syrotiuk, Locating Arrays for Screening Engineered Systems, *Operating Systems Review* 49,1 (2015), 31–40.

18. H. Wu, C. Nie, F.-C. Kuo, H. Leung, and C.J. Colbourn, A Discrete Particle Swarm Optimization for Covering Array Generation, *IEEE Transactions on Evolutionary Computation*, to appear (acc Sep14).

19. C.J. Colbourn, Covering Arrays, Augmentation, and Quilting Arrays, *Discrete Mathematics, Algorithms and Applications* 6 (2014), #1450034.

20. J. Lutz, C.J. Colbourn, and V.R. Syrotiuk, ATLAS: Adaptive Topology- and Load-Aware Scheduling, *IEEE Transactions on Mobile Computing* 13,10 (2014), 2255-2268.

21. C.J. Colbourn, M.S. Keranen, and D.L. Kreher, F-Vectors of Pure Complexes and Pure Multicomplexes of Rank Three, *Discrete Mathematics* 420 (2014), 26–39.

22. C.J. Colbourn and J. Torres-Jimenez, Profiles of Covering Arrays of Strength Two, *Journal of Algorithms and Computation* 44 (2013), 31–59.

23. Y.M. Chee, C.J. Colbourn, D. Horsley, and J. Zhou, Sequence covering arrays, *SIAM Journal on Discrete Mathematics* 27 (2013), 1844–1861.

24. Y.M. Chee, C.J. Colbourn, A.C.H. Ling, and R.M. Wilson, Covering and packing for pairs, *Journal of Combinatorial Theory (A)* 120 (2013), 1440–1449.

25. C.J. Colbourn, Conditional expectation algorithms for covering arrays, *Journal of Combinatorial Mathematics and Combinatorial Computing* 86 (2013), 87–110.

26. R.C. Bryce and C.J. Colbourn, Expected time to detection of interaction faults, *Journal of Combinatorial Mathematics and Combinatorial Computing* 90 (2014), 97–115.

27. R.J.R. Abel, N. Chan, C.J. Colbourn, E.R. Lamken, C. Wang, and J. Wang, Doubly resolvable nearly Kirkman triple systems, *Journal of Combinatorial Designs* 21 (2013), 342–358.

28. C. J. Colbourn, Resolvable covering arrays, *Journal of Statistical Theory and Practice* 7 (2013), 630–649.

29. T. Farley, J. Kiefer, P. Lee, D. Von Hoff, J. M. Trent, C. Colbourn, and S. Mousses, The BioIntelligence Framework: a new computational platform for biomedical knowledge computing, *Journal of the American Medical Informatics Association* 20 (2013), 128-133.

30. J. Lutz, C.J. Colbourn, and V.R. Syrotiuk, Topological Persistence for Medium Access Control, *IEEE Transactions on Mobile Computing* 12 (2013), 1598–1612.

31. C. Wang and C.J. Colbourn, The Existence of $(K_2 \times K_6)$-Designs, *Graphs and Combinatorics* 29 (2013), 1557–1567.

32. C.J. Colbourn, D. Horsley, and V.R. Syrotiuk, Strengthening Hash Families and Compressive Sensing, *Journal of Discrete Algorithms* 16 (2012), 170–186.

33. J.R. Lobb, C.J. Colbourn, P. Danziger, B. Stevens, and J. Torres-Jimenez, Cover starters for covering arrays of strength two, *Discrete Mathematics* 312 (2012) 943–956.

34. C.J. Colbourn, Constructing heterogeneous hash families by puncturing linear transversal designs, *Journal of Geometry* 101 (2011) 99–113.

35. C.J. Colbourn, D. Horsley, and C. Wang, Colouring triples in every way: A conjecture, *Quaderni di Matematica* 28 (2012), 257–286.

36. C.J. Colbourn, C. Shi, C. Wang, and J. Yan, Mixed covering arrays of strength three with few factors, *Journal of Statistical Planning and Inference* 141 (2011), 3640-3647.

37. C.J. Colbourn, D. Horsley, and C. Wang, Trails of triples in partial triple systems, *Designs, Codes and Cryptography* 65 (2012), 199–212.

38. P. Nayeri, C.J. Colbourn, and G. Konjevod, Randomized post-optimization of covering arrays, *European Journal of Combinatorics* 34 (2013), 91–103.

39. C.J. Colbourn, A.C.H. Ling, G. Quattrocchi, and V.R. Syrotiuk, Grooming traffic to minimize load, *Discrete Mathematics* 312 (2012), 536-544.

40. C.J. Colbourn, D. Horsley, and C. McLean, Compressive sensing matrices and hash families, *IEEE Transactions on Communications* 59 (2011), 1840-1845.

41. C.J. Colbourn, P. Kaski, P.R.J. Östergård, D.A. Pike, and O. Pottonen, Nearly Kirkman Triple Systems of Order 18 and Hanani Triple Systems of Order 19, *Discrete Mathematics* 311 (2011), 827–834.

42. C.J. Colbourn and J. Zhou, Improving Two Recursive Constructions for Covering Arrays, *Journal of Statistical Theory and Practice* 6 (2012) 30–47.

43. C.J. Colbourn, G. Quattrocchi, and V.R. Syrotiuk, Grooming traffic to maximize throughput in SONET rings, *Journal of Optical Communications and Networking* 3 (2011), 10–16.

44. C.J. Colbourn, G. Ge, and A.C.H. Ling, Optical grooming with grooming ratio nine, *Discrete Mathematics* 311 (2011), 8–15.

45. Y. Tang, C.J. Colbourn, and J. Yin, Optimality and constructions of locating arrays, *Journal of Statistical Theory and Practice* 6 (2012) 20–29.

46. C.J. Colbourn, A.D. Forbes, M.J. Grannell, T.S. Griggs, P. Kaski, P.R.J. Östergård, D.A. Pike, and O. Pottonen, Properties of the Steiner triple systems of order 19, *Electronic J. Combinatorics* 17 (2010), #R98.

47. C.J. Colbourn, G. Kéri, P.P. Rivas Soriano, and J.-C. Schlage-Puchta, Covering and Radius-covering Arrays: Constructions and Classification, *Discrete Applied Mathematics* 158 (2010), 1158–1190.

48. Y. Fujiwara and C.J. Colbourn, A Combinatorial Approach to X-Tolerant Compaction Circuits, *IEEE Transactions on Information Theory* 56 (2010), 3196–3206.

49. J.-C. Bermond, C.J. Colbourn, L. Gionfriddo, G. Quattrocchi, and I. Sau, Drop Cost and Wavelength Optimal Two-Period Grooming with Ratio 4, *SIAM Journal on Discrete Mathematics* 24 (2010), 400–418.

50. C.J. Colbourn, Covering arrays from cyclotomy, *Designs Codes and Cryptography* 55 (2010), 201–219.

51. C.J. Colbourn and A.C.H. Ling, A recursive construction for perfect hash families, *Journal of Mathematical Cryptology* 3 (2009), 291–306.

52. D.S. Hoskins, C.J. Colbourn, and D.C. Montgomery, D-Optimal designs with interaction coverage, *Journal of Statistical Theory and Practice* 3 (2009), 817–830.

53. J.I. Brown, C.J. Colbourn, and R.J. Nowakowski, Chip Firing and All-Terminal Network Reliability Bounds, *Discrete Optimization* 6 (2009), 436–445.

54. T.R. Farley and C.J. Colbourn, Multiterminal network connectedness on series-parallel networks, *Discrete Mathematics, Algorithms, and Applications* 1 (2009), 253–265.

55. C.J. Colbourn, G. Ge, and A.C.H. Ling, Optical Grooming with Grooming Ratio Eight, *Discrete Applied Mathematics* 157 (2009), 2763–2772.

56. C.J. Colbourn and A.C.H. Ling, Linear Hash Families and Forbidden Configurations, *Designs, Codes and Cryptography* 59 (2009), 25–55.

57. C.J. Colbourn, Distributing Hash Families and Covering Arrays, *Journal of Combinatorics, Information, and System Sciences* 34 (2009), 113–126.

58. C.J. Colbourn, H.-L. Fu, G. Ge, A.C.H. Ling, and H.-C. Lu, Minimizing SONET ADMs in Unidirectional WDM Rings with Grooming Ratio 7, *SIAM J. Discrete Mathematics* 23 (2008), 109-122.

59. R.C. Bryce and C.J. Colbourn, A density-based greedy algorithm for higher strength covering arrays, *Software Testing, Verification, and Reliability* 19 (2009), 37-53.

60. C.J. Colbourn and Y. Fujiwara, Small stopping sets in Steiner triple systems, *Cryptography and Communications* 1 (2009), 31–46.

61. M.P. McGarry, M. Reisslein, C.J. Colbourn, M. Maier, F. Aurzada, and M. Scheutzow, Just-in-Time Scheduling for Multichannel EPONs, *IEEE/OSA Journal of Lightwave Technology* 26,10 (2008), 1204–1216.

62. C.J. Colbourn, The Configuration Polytope of ℓ-Line Configurations in Steiner Triple Systems, *Mathematica Slovaca* 59 (2009), 77–108.

63. C.J. Colbourn, G. Quattrocchi, and V.R. Syrotiuk, Lower Bounds for Two-Period Grooming Via Linear Programming Duality, *Networks* 58 (2008), 299–306.

64. C.J. Colbourn, G. Quattrocchi, and V.R. Syrotiuk, Grooming for Two-Period Optical Networks, *Networks* 58 (2008), 307–324.

65. A. H. Ronneseth and C. J. Colbourn, Merging Covering Arrays and Compressing Multiple Sequence Alignments, *Discrete Applied Mathematics* 157 (2009), 2117–2190.

66. C.J. Colbourn, G. Ge, and A.C.H. Ling, Graph designs for the eight-edge five-vertex graphs, *Discrete Mathematics* 309 (2009), 6440–6445.

67. C. J. Colbourn and S. Kumar, Lower bounds on multiple sequence alignment using exact 3-way alignment, *BMC Bioinformatics* 8:140 (2007).

68. R.A. Walker II and C.J. Colbourn, Tabu search for covering arrays using permutation vectors, *Journal of Statistical Planning and Inference* 139 (2009), 69-80.

69. C.J. Colbourn and D.W. McClary, Locating and detecting arrays for interaction faults, *Journal of Combinatorial Optimization* 15 (2008), 17-48.

70. P.J. Dukes, V.R. Syrotiuk, and C.J. Colbourn, Ternary schedules for energy-limited sensor networks, *IEEE Transactions on Information Theory* 53 (2007), 2791–2798.

71. D.S. Hoskins, C.J. Colbourn, and M. Kulahci, Truncated D-Optimal Designs for Screening Experiments, *American Journal of Mathematical and Management Sciences* 28 (2008), 359–383.

72. A.C.H. Ling, C.J. Colbourn, and G. Quattrocchi, Minimum embeddings of Steiner triple systems into (K4-e)-designs II, *Discrete Mathematics* 309 (2009), 400-411.

73. V.R. Syrotiuk, C.J. Colbourn, and S. Yellamraju, Rateless Forward Error Correction for Topology-Transparent Scheduling, *IEEE/ACM Transactions on Networking* 16,2 (2008), 464-472.

74. C.J. Colbourn, M. Cui, E.L. Lloyd, and V.R. Syrotiuk, A Carrier Sense Multiple Access Protocol with Power Backoff (CSMA/PB), *Ad Hoc Networks* 5 (2007), 1233–1250.

75. T.R. Farley and C.J. Colbourn, Multiterminal Resilience for Series-Parallel Networks, *Networks* 50 (2007), 164–172.

76. R.C. Bryce and C.J. Colbourn, The density algorithm for pairwise interaction testing, *Software Testing, Verification, and Reliability* 17 (2007), 159–182.

77. R.A. Walker II and C.J. Colbourn, Perfect hash families: Construction and Existence, *Journal of Mathematical Cryptography* 1 (2007), 125–150.

78. V.R. Syrotiuk, Z. Zhang, and C.J. Colbourn, Transport schemes for topology-transparent scheduling, *Journal of Combinatorial Optimization* 14 (2007), 229–248.

79. R.C. Bryce and C.J. Colbourn, Prioritized Interaction Testing for Pairwise Coverage with Seeding and Constraints, *Journal of Information Science and Technology* 48 (2006), 960–970.

80. C.J. Colbourn, S.S. Martirosyan, Tran Van Trung, and R.A. Walker II, Roux-type Constructions for Covering Arrays of Strengths Three and Four, *Designs, Codes and Cryptography* 41 (2006), 33–57.

81. C.J. Colbourn, Strength two covering arrays: existence tables and projection, *Discrete Mathematics* 308 (2008), 772–786.

82. W. Chu, C.J. Colbourn, and P. Dukes, On constant composition codes, *Discrete Applied Math.* 154 (2006), 912-929.

83. P.J. Dukes, C.J. Colbourn, and V.R. Syrotiuk, Directed Complete Bipartite Graph Decompositions: Indirect Constructions, *Discrete Mathematics* 308 (2008), 367–374.

84. K. Srinivasan and C.J. Colbourn, Failed disk recovery in double erasure RAID arrays, *Journal of Discrete Algorithms* 5 (2007), 115–128.

85. R.C. Bryce, Y. Chen, and C.J. Colbourn, Biased Covering Arrays for Progressive Ranking and Composition of Web Services, *International Journal Simulation and Process Modelling* 3 (2007), 80-87.

86. W. Chu, C.J. Colbourn, and V.R. Syrotiuk, The Effects of Synchronization on Topology-Transparent Scheduling, *Wireless Networks* 12 (2006), 681-690.

87. G.B. Sherwood, S.S. Martirosyan, and C.J. Colbourn, Covering Arrays of Higher Strength From Permutation Vectors, *Journal of Combinatorial Designs* 14 (2006), 202–213.

88. C.J. Colbourn and V.R. Syrotiuk, Cover-free families and topology-transparent communication, *Bayreuther Mathematische Schriften* 74 (2005) 79–99.

89. C.J. Colbourn, A.C.H. Ling, and G. Quattrocchi, Embedding path designs into kite systems, *Discrete Mathematics* 297 (2005), 38–48.

90. S.S. Martirosyan and C.J. Colbourn, Recursive Constructions for Covering Arrays, *Bayreuther Mathematische Schriften* 74 (2005) 266–275.

91. C.J. Colbourn and C. Huybrechts, Fully gated graphs: recognition and convex operations, *Discrete Mathematics* 308 (2008), 5184-5195.

92. C.J. Colbourn, A.C.H. Ling, and G. Quattrocchi, Minimum embeddings of Steiner triple systems into (K4-e)-designs I, *Discrete Mathematics* 308 (2008), 5308-5311.

93. C.J. Colbourn, S.S. Martirosyan, G.L. Mullen, D.E. Shasha, G.B. Sherwood, and J.L. Yucas, Products of Mixed Covering Arrays of Strength Two, *Journal of Combinatorial Designs* 14 (2006), 124–138.

94. J.-C. Bermond, C.J. Colbourn, D. Coudert, G. Ge, A.C.H. Ling, and X. Muñoz, Traffic grooming in unidirectional WDM rings with grooming ratio C=6, *SIAM Journal on Discrete Mathematics* 19 (2005), 523–542.

95. C.J. Colbourn, Combinatorial aspects of covering arrays, *Le Matematiche (Catania)* 58 (2004), 121–167.

96. W. Chu and C.J. Colbourn, Optimal Frequency Hopping Sequences via Cyclotomy, *IEEE Transactions on Information Theory* 51 (2005), 1139-1141.

97. W. Chu, C.J. Colbourn, and P. Dukes, Tables for constant composition codes, *J. Combinatorial Mathematics and Combinatorial Computing* 54 (2005), 57–65.

98. W. Chu and C.J. Colbourn, Sequence designs for ultra-wideband impulse radio with optimal correlation properties, *IEEE Transactions on Information Theory* 50 (2004), 2402–2407.

99. V.R. Syrotiuk, M. Cui, S. Ramkumar, and C.J. Colbourn, Dynamic spectrum utilization in ad hoc networks, *Computer Networks* 46 (2004), 665–678.

100. W. Chu, C.J. Colbourn, and V.R. Syrotiuk, Slot Synchronized Topology-Transparent Scheduling for Sensor Networks, *Computer Communications* 29 (2006), 421–428.

101. W. Chu, C.J. Colbourn, and S.W. Golomb, A recursive construction for regular difference triangle sets, *SIAM J. Discrete Mathematics* 18 (2005), 741-748.

102. C.J. Colbourn, D.A. Drake, and W.J. Myrvold, Ovals and hyperovals in nets, *Discrete Mathematics* 294 (2005), 53–74.

103. C.J. Colbourn, T. Kløve, and A.C.H. Ling, Permutation arrays for powerline communication and mutually orthogonal Latin squares, *IEEE Transactions on Information Theory* 50 (2004), 1289-1291.

104. C.J. Colbourn, A.C.H. Ling, and V.R. Syrotiuk, Cover-free families and topology-transparent scheduling in MANETs, *Designs, Codes, and Cryptography* 32 (2004), 65-95.

105. W. Chu, C.J. Colbourn, and P. Dukes, Constructions for Permutation Codes in Powerline Communications, *Designs, Codes, and Cryptography* 32 (2004), 51-64.

106. M.B. Cohen, C.J. Colbourn, and A.C.H. Ling, Constructing Strength Three Covering Arrays with Augmented Annealing, *Discrete Mathematics* 308 (2008), 2709-2722.

107. W. Chu and C.J. Colbourn, Recursive Constructions for Optimal $(n, 4, 2)$-OOCs, *Journal of Combinatorial Designs* 12 (2004), 333–345.

108. R.J.R. Abel, C.J. Colbourn, and M. Wojtas, Concerning seven and eight mutually orthogonal latin squares, *Journal of Combinatorial Designs* 12 (2004), 123-131.

109. W. Chu and C.J. Colbourn, Optimal (n,4,2)-OOC of small orders, *Discrete Mathematics* 279 (2004), 163-172.

110. J.-C. Bermond, C.J. Colbourn, A.C.H. Ling, and M.L. Yu, Grooming in unidirectional rings: $K_4 - e$ designs, *Discrete Mathematics* 284 (2004), 57–62.

111. C.J. Colbourn, A.C.H. Ling, and G. Quattrocchi, Minimum embedding of P_3-designs into $(K_4 - e)$-designs, *Journal of Combinatorial Designs* 11 (2003), 352-366.

112. M.B. Cohen and C.J. Colbourn, Ladder orderings of pairs and RAID performance, *Discrete Applied Mathematics* 138 (2004), 35-46.

113. C.J. Colbourn, G. Quattrocchi, and A. Rosa, Resolving $P(v, 3, \lambda)$ designs into regular P_3-configurations, *Australasian Journal of Combinatorics* 27 (2003), 205-212.

114. C.J. Colbourn and A. Rosa, Specialized block-colourings of Steiner triple systems and the upper chromatic index, *Graphs and Combinatorics* 19 (2003), 335-345.

115. F. Sagols, L. Riccio, and C.J. Colbourn, Dominated error-correcting codes with distance two, *Journal of Combinatorial Designs* 10 (2002), 294-302.

116. C.J. Colbourn and A.C.H. Ling, Wavelength add-drop multiplexing for minimizing SONET ADMs, *Discrete Mathematics* 261 (2003) 141-156.

117. C.J. Colbourn, A.C.H. Ling, and M. Tompa, Construction of optimal quality control for oligo arrays, *Bioinformatics* 18 (2002), 529–535.

118. C.J. Colbourn, E.R. Lamken, A.C.H. Ling, and W.H. Mills, The existence of Kirkman squares – doubly resolvable (v,3,1)-BIBDs, *Designs, Codes and Cryptography* 26 (2002), 169-196.

119. C.J. Colbourn, Projective planes and congestion-free networks, *Discrete Applied Math.* 122 (2002), 117-126.

120. N. Alon, C.J. Colbourn, A.C.H. Ling, and M. Tompa, Equireplicate balanced binary codes for oligo arrays, *SIAM Journal on Discrete Mathematics* 14 (2001), 481-497.

121. C.J. Colbourn and A.C.H. Ling, Kirkman triple systems of orders 27, 33, and 39, *Journal of Combinatorial Mathematics and Combinatorial Computing* 43 (2002), 3-8.

122. M.B. Cohen, C.J. Colbourn, L.A. Ives, and A.C.H. Ling, Kirkman triple systems of order 21 with nontrivial automorphism group, *Mathematics of Computation* 71 (2002), 873-881.

123. C.J. Colbourn and P.-J. Wan, Minimizing drop cost for SONET/WDM Networks with 1/8 wavelength requirements, *Networks* 37 (2001), 107-116.

124. M.B. Cohen and C.J. Colbourn, Optimal and pessimal orderings of Steiner triple systems in disk arrays, *Theoretical Computer Science* 297 (2003), 103-117.

125. C.J. Colbourn and F. Sagols, Triangulations and a generalization of Bose's method, *Discrete Mathematics* 237 (2001), 97-107.

126. C.J. Colbourn and A.C.H. Ling, Quorums from difference covers, *Information Processing Letters* 75 (2000), 9-12.

127. A.C.H. Ling and C.J. Colbourn, (M,S)-optimal designs with block size three, *Australasian Journal of Combinatorics* 23 (2001), 171-179.

128. F. Sagols and C.J. Colbourn, NS1D0 sequences and anti-Pasch Steiner triple systems, *Ars Combinatoria* 62 (2002), 17-31.

129. C.J. Colbourn, J.H. Dinitz, and D.R. Stinson, Quorum systems constructed from combinatorial designs, *Information and Computation* 169 (2001), 160-173.

130. A.A. Bruen and C.J. Colbourn, Transversal designs in classical planes and spaces, *J. Combinatorial Theory (A)* 92 (2000), 88-94.

131. A.C.H. Ling and C.J. Colbourn, Modified group divisible designs with block size four, *Discrete Mathematics* 219 (2000), 207-219.

132. D.S. Archdeacon, C.J. Colbourn, I. Gitler, and J.S. Provan, Four-terminal reducibility and projective-planar wye-delta-wye reducible graphs, *J. Graph Theory* 37 (2000), 83-93.

133. C.J. Colbourn and A.C.H. Ling, Balanced sampling plans with block size four excluding contiguous units, *Australasian J. Combinatorics* 20 (1999), 37-46.

134. C.J. Colbourn, D.L. Kreher, J.P. McSorley, and D.R. Stinson, Orthogonal arrays of strength three from regular 3–wise balanced designs, *J. Statistical Planning Inference* 100 (2002), 191-195.

135. C.J. Colbourn, J.H. Dinitz, and A. Rosa, Bicoloring Steiner triple systems, *Electronic J. Combinatorics* 6 (1999), #R25.

136. Y.M. Chee, C.J. Colbourn, and A.C.H. Ling, Asymptotically optimal erasure-resilient codes for large disk arrays, *Discrete Applied Mathematics* 102 (2000), 3-36.

137. A.C.H. Ling, C.J. Colbourn, M.J. Grannell, and T.S. Griggs, Construction techniques for anti-Pasch Steiner triple systems, *J. London Mathematical Society* (2) 61 (2000), 641-657.

138. C.J. Colbourn and J.H. Dinitz, Mutually orthogonal latin squares: a brief survey of constructions, *J. Statistical Planning Inference* 95 (2001), 9–48.

139. C.J. Colbourn and S. Zhao, Maximum Kirkman signal sets for synchronous uni-polar multi-user communication systems, *Designs Codes Cryptography* 20 (2000), 219-227.

140. C.J. Colbourn, M.A. Oravas, and R.S. Rees, Steiner triple systems with disjoint or intersecting subsystems, *J. Combinatorial Designs* 8 (2000), 58-77.

141. C.J. Colbourn, Group testing for consecutive positives, *Annals of Combinatorics* 3 (1999), 37–41.

142. M.A. Chateauneuf, C.J. Colbourn, D.L. Kreher, E.R. Lamken, and D.C. Torney, Pooling, lattice square, and union jack designs, *Annals of Combinatorics* 3 (1999), 27–35.

143. C.J. Colbourn and J.H. Dinitz, Generating sets in Steiner triple systems, *Math. Slovaca* 50 (2000), 259–269.

144. C.J. Colbourn, Weakly union-free maximum packings, *Annals of Combinatorics* 3 (1999), 43–52.

145. C.J. Colbourn and A.C.H. Ling, Kirkman school project designs, *Discrete Mathematics* 203 (1999), 49–60.

146. L. Riccio and C.J. Colbourn, Sharper bounds in adaptive group testing, *Taiwanese J. Mathematics* 4 (2000), 669-673.

147. M.A. Chateauneuf, C.J. Colbourn, and D.L. Kreher, Covering arrays of strength three, *Designs Codes Cryptography* 16 (1999), 235–242.

148. C.J. Colbourn, A Steiner 2–design with an automorphism fixing exactly $r + 2$ points, *J. Combinatorial Designs* 7 (1999), 375–380.

149. C.J. Colbourn, Minimum weights of point codes of Steiner triple systems, *J. Statistical Planning Inference* 95 (2001), 161–166.

150. M.K. Chari and C.J. Colbourn, Reliability polynomials: A survey, *J. Combinatorics, Information and System Sciences* 22 (1997), 177-193.

151. C.J. Colbourn and A.C.H. Ling, A class of partial triple systems with applications in survey sampling, *Communications in Statistics: Theory and Methods* 27 (1998), 1009–1018.

152. C.J. Colbourn and A.C.H. Ling, Point code minimum Steiner triple systems, *Designs Codes Cryptography* 14 (1998), 141–146.

153. C.J. Colbourn and J.H. Dinitz, Complete arcs in Steiner triple systems, *J. Combinatorial Theory (A)* 80 (1997), 320–333.

154. Y.M. Chee, C.J. Colbourn, and A.C.H. Ling, Weakly union-free twofold triple systems, *Annals of Combinatorics* 1 (1997), 215–225.

155. C.J. Colbourn and G. Xue, A linear time algorithm for computing the most reliable source on a series-parallel graph with unreliable edges, *Theoretical Computer Science* 209 (1998), 331–345.

156. R.P. Gallant and C.J. Colbourn, On uncollapsing three factor orthogonal main effect plans, *Utilitas Math.* 54 (1998), 75–83.

157. Z. Jiang and C.J. Colbourn, Completing the spectrum of rotational Mendelsohn triple systems, *Discrete Mathematics* 183 (1998), 153–160.

158. R.P. Gallant and C.J. Colbourn, Asymptotic existence of tight orthogonal main effect plans, *Canadian Math. Bull.* 41 (1998), 33–40.

159. C.J. Colbourn, L. Haddad, and V. Linek, Balanced Steiner triple systems, *J. Combinatorial Theory (A)* 78 (1997), 292–302.

160. H.J. Strayer and C.J. Colbourn, Bounding flow performance in probabilistic weighted networks, *IEEE Trans. Reliability* R-46 (1997), 3–10.

161. Y.M. Chee and C.J. Colbourn, Constructions for difference triangle sets, *IEEE Trans. Information Theory* IT-43 (1997), 1346–1349.

162. C.J. Colbourn and P.B. Gibbons, Uniform orthogonal group divisible designs with block size three, *New Zealand J. Math.* 27 (1998), 15–33.

163. J.X. Yin, A.C.H. Ling, C.J. Colbourn, and R.J.R. Abel, The existence of uniform 5–GDDs, *J. Combinatorial Designs* 5 (1997), 275–299.

164. C.J. Colbourn and A.C.H. Ling Pairwise balanced designs with block sizes 8, 9 and 10, *J. Combinatorial Theory (A)* 77 (1997), 228–245.

165. F.E. Bennett, C.J. Colbourn, and R.C. Mullin, Quintessential pairwise balanced designs, *J. Statistical Planning Inference* 72 (1998), 15–66.

166. A.C.H. Ling, X.J. Zhu, C.J. Colbourn, and R.C. Mullin, Pairwise balanced designs with consecutive block sizes, *Designs Codes Cryptography* 10 (1997), 203–222.

167. R.J.R. Abel, C.J. Colbourn, J.X. Yin, and H. Zhang, Existence of incomplete transversal designs with block size five and any index λ, *Designs Codes Cryptography* 10 (1997), 275–307.

168. A.C.H. Ling and C.J. Colbourn, Deleting lines in projective planes, *Ars Combinatoria* 50 (1998), 129–138.

169. R.P. Gallant and C.J. Colbourn, Tight 4–factor orthogonal main effect plans, *Discrete Mathematics* 184 (1998), 101–110.

170. V.R. Syrotiuk, C.J. Colbourn, and J. Pachl, Wang tilings and distributed verification on anonymous torus networks, *Theory of Computing Systems* 30 (1997), 145–163.

171. C.J. Colbourn and Z. Jiang, The spectrum for rotational Steiner triple systems, *J. Combinatorial Designs* 4 (1996), 205–217.

172. C.J. Colbourn, D.R. Stinson, and L. Zhu, More frames with block size four, *J. Combin. Math. Combin. Computing* 23 (1997), 3–20.

173. Y.M. Chee, C.J. Colbourn, R.P. Gallant, and A.C.H. Ling, On a problem of Hartman and Heinrich concerning pairwise balanced designs with holes, *J. Combin. Math. Combin. Computing* 23 (1997), 121–128.

174. C.J. Colbourn, J.H. Dinitz, and D.R. Stinson, More thwarts in transversal designs, *Finite Fields and their Applications* 2 (1996), 293–303.

175. C.J. Colbourn and A. Rosa, Orthogonal resolutions of triple systems, *Australasian J. Combinatorics* 12 (1995), 259–269.

176. J.I. Brown, C.J. Colbourn, and D.G. Wagner, Cohen-Macaulay rings in network reliability, *SIAM J. Discrete Mathematics* 9 (1996), 377–392.

177. F.E. Bennett, C.J. Colbourn, and L. Zhu, Existence of certain types of three HMOLS, *Discrete Mathematics* 160 (1996), 49–65.

178. C.J. Colbourn and D.L. Kreher, Concerning difference matrices, *Designs Codes Cryptography* 9 (1996), 61–70.

179. C.J. Colbourn, Transversal designs with block size eight and nine, *European J. Combinatorics* 17 (1996), 1–14.

180. C.J. Colbourn and J.X. Yin, On directed incomplete transversal designs with block size five, *Ars Combinatoria* 50 (1998), 215–224.

181. C.J. Colbourn, W.J. Myrvold, and E. Neufeld, Two algorithms for unranking arborescences, *J. Algorithms* 20 (1996), 268–281.

182. C.J. Colbourn and L. Zhu, Existence of six incomplete MOLS, *Australasian J. Combinatorics* 12 (1995), 175–191.

183. C.J. Colbourn, J.X. Yin, and L. Zhu, Six MOLS of order 76, *J. Combin. Math. Combin. Computing* 19 (1995), 207–208.

184. C.J. Colbourn, L. Haddad, and V. Linek, Equitable embeddings of Steiner triple systems, *J. Combinatorial Theory (A)* 73 (1996), 229–247.

185. J.I. Brown and C.J. Colbourn, Non-Stanley bounds for network reliability, *J. Algebraic Combinatorics* 5 (1996), 13–36.

186. C.J. Colbourn, J.S. Provan, and D. Vertigan, A new approach to solving three combinatorial enumeration problems on planar graphs, *Discrete Applied Mathematics* 60 (1995), 119–129.

187. C.J. Colbourn and G. Nonay, A golf design of order 11, *J. Statistical Planning Inference* 58 (1997), 29–31.

188. C.J. Colbourn, J.H. Dinitz, and M. Wojtas, Thwarts in transversal designs, *Designs Codes Cryptography* 5 (1995), 189–197.

189. C.J. Colbourn, Some direct constructions for incomplete transversal designs, *J. Statistical Planning Inference* 56 (1996), 93–104.

190. C.J. Colbourn, E. Mendelsohn, A. Rosa, and J. Širáň, The spectrum of anti-mitre Steiner triple systems, *Graphs and Combinatorics* 10 (1994), 215–224.

191. D.D. Harms and C.J. Colbourn, Evaluating performability: most probable states and bounds, *Telecommunications Systems* 2 (1994), 275–300.

192. C.J. Colbourn, C.A. Cusack, and D.L. Kreher, Partial Steiner triple systems with equal-sized holes, *J. Combinatorial Theory (A)* 70 (1995), 56–65.

193. C.J. Colbourn, J.S. Provan, and D. Vertigan, The complexity of computing the Tutte polynomial on transversal matroids, *Combinatorica* 15 (1995), 1–10.

194. H.J. Strayer and C.J. Colbourn, Consecutive cuts and paths, and bounds on k-terminal reliability, *Networks* 25 (1995), 165–175.

195. C.J. Colbourn, Four MOLS of order 26, *J. Combin. Math. Combin. Computing*   17 (1995), 147–148.

196. M. Kraetzl and C.J. Colbourn, Threshold channel graphs, *Combinatorics, Probability and Computing* 2 (1993), 337–349.

197. C.J. Colbourn, Small group divisible designs with block size three, *J. Combin. Math. Combin. Computing* 14 (1993), 153–171.

198. P.L. Check and C.J. Colbourn, A note concerning difference families with block size four, *Discrete Mathematics* 133 (1994), 285–289.

199. C.J. Colbourn, P.B. Gibbons, R.A. Mathon, R.C. Mullin, and A. Rosa, The spectrum of orthogonal Steiner triple systems, *Canadian J. Mathematics* 46 (1994), 239–252.

200. C.J. Colbourn, J.S. Devitt, D.D. Harms, and M. Kraetzl, Assessing reliability of multistage interconnection networks, *IEEE Trans. Computers* C-42 (1993), 1207–1221.

201. C.J. Colbourn, D.D. Harms, and W.J. Myrvold, Reliability polynomials can cross twice, *J. Franklin Institute* 330 (1993), 629–633.

202. S.A. Vanstone, D.R. Stinson, P.J. Schellenberg, A. Rosa, R. Rees, C.J. Colbourn, M.J. Carter, and J.A. Carter, Hanani triple systems, *Israel J. Mathematics* 83 (1993), 305–319.

203. C.J. Colbourn, L.D. Nel, T.B. Boffey, and D.F. Yates, Network reliability and the probabilistic estimation of damage from fire spread, *Annals Oper. Res.* 50 (1994), 173–185.

204. D.D. Harms and C.J. Colbourn, Renormalization of two-terminal network reliability, *Networks* 23 (1993), 289–298.

205. J.I. Brown, C.J. Colbourn and J.S. Devitt, Network transformations and bounding network reliability, *Networks* 23 (1993), 1–17.

206. C.J. Colbourn, E. Mendelsohn, C.E. Praeger and V.D. Tonchev, Concerning multiplier automorphisms of cyclic Steiner triple systems, *Designs Codes Cryptography* 2 (1992), 237–251.

207. C.J. Colbourn, D.R. Stinson and L. Teirlinck, A parallelization of Miller's $n^{\log n}$ isomorphism technique, *Information Processing Letters* 42 (1992), 223–228.

208. J.I. Brown and C.J. Colbourn, Roots of the reliability polynomial, *SIAM J. Discrete Mathematics* 5 (1992), 571–585.

209. C.J. Colbourn, A. Rosa and S. Znám, The spectrum of maximal partial Steiner triple systems, *Designs Codes Cryptography* 3 (1993), 209–219.

210. E.S. Elmallah and C.J. Colbourn, Series-parallel subgraphs of planar graphs, *Networks* 22 (1992), 607–614.

211. C.J. Colbourn, S.S. Magliveras and D.R. Stinson, Steiner triple systems of order 19 with nontrivial automorphism group, *Mathematics of Computation* 59 (1992), 283–295.

212. C.J. Colbourn and C.C. Lindner, Support sizes of triple systems, *J. Combinatorial Theory (A)* 61 (1992), 193–210.

213. M. Kraetzl and C.J. Colbourn, Transformations on channel graphs, *IEEE Trans. Communications* 41 (1993), 664–666.

214. C.J. Colbourn and K.E. Heinrich, Conflict-free access to parallel memories, *J. Parallel Distributed Computing* 14 (1992), 193–200.

215. C.J. Colbourn and A. Rosa, Leaves, excesses and neighbourhoods in triple systems, *Australasian J. Combinatorics* 4 (1991), 143–178.

216. C.J. Colbourn and R.J. Simpson, A note on bounds on the minimum area of convex lattice polygons, *Bull. Australian Mathematical Society* 45 (1992), 237–240.

217. D.C. Bigelow and C.J. Colbourn, Faithful enclosing of triple systems: doubling the index, *Acta Math. Univ. Comen.* 60 (1991), 133–151.

218. C.J. Colbourn and G.F. Royle, Support sizes of (v,4,2), designs, *Le Matematiche* 65 (1990), 39–59.

219. C.J. Colbourn, D.G. Hoffman and C.A. Rodger, Directed star decompositions of the complete directed graph, *J. Graph Theory* 16 (1992), 517–528.

220. C.J. Colbourn and M.V. Lomonosov, Renewal networks: connectivity and reachability on a time interval, *Probability in the Engineering and Information Sciences* 5 (1991), 361–368.

221. C.J. Colbourn, S.S. Magliveras, and R.A. Mathon, Transitive Steiner and Kirkman triple systems of order 27, *Mathematics of Computation* 58 (1992), 441–450 and S23–S27.

222. C.J. Colbourn, R.A. Mathon, and N. Shalaby, The fine structure of threefold triple systems: v ≡ 5 (mod 6), *Australasian J. Combinatorics* 3 (1991), 75–92.

223. C.J. Colbourn, A. Satyanarayana, C.L. Suffel, and K. Sutner, Computing residual node connectedness for restricted classes of graphs, *Discrete Applied Mathematics* 44 (1992), 221–232.

224. J.I. Brown and C.J. Colbourn, On the log concavity of reliability and matroidal sequences, *Advances in Applied Mathematics* 15 (1994), 114–127.

225. C.J. Colbourn, Combinatorial aspects of network reliability, *Annals of Operations Research* 33 (1991), 3–15.

226. C.J. Colbourn and E.S. Elmallah, Reliable assignments of processors to tasks and factoring on matroids, *Discrete Mathematics* 114 (1993), 115–129.

227. C.J. Colbourn, D.G. Hoffman, and R. Rees, A new class of group divisible designs with block size three, *J. Combinatorial Theory (A)* 45 (1992), 73–89.

228. C.J. Colbourn, D.G. Hoffman, K.T. Phelps, V. Rödl, and P.M. Winkler, The number of t-wise balanced designs, *Combinatorica* 11 (1991), 207–218.

229. Y.M. Chee, C.J. Colbourn, S.C. Furino, and D.L. Kreher, Large sets of disjoint t-designs, *Australasian J. Combinatorics* 2 (1990), 111–119.

230. C.J. Colbourn, Automorphisms of directed triple systems, *Bull. Australian Mathematical Society* 43 (1991), 257–264.

231. C.J. Colbourn, A. Rosa, and D.R. Stinson, Pairwise balanced designs with block sizes three and four, *Canadian J. Mathematics* 43 (1991), 673–704.

232. C.J. Colbourn, C.C. Lindner, and C.A. Rodger, Neighbor designs and m-wheel systems, *J. Statistical Planning Inference* 27 (1991), 335–340.

233. C.J. Colbourn and A. Hartman, Intersections and supports of quadruple systems, *Discrete Mathematics* 97 (1991), 119–137.

234. Y.M. Chee, C.J. Colbourn, and D.L. Kreher, Simple t-designs with v ≤ 30, *Ars Combinatoria* 29 (1990), 193–258.

235. D.L. Kreher, Y.M. Chee, D. de Caen, C.J. Colbourn, and E.S. Kramer, Some new simple t-designs, *J. Combin. Math. Combin. Computing* 7 (1990), 53–90.

236. C.J. Colbourn, A note on bounding k-terminal reliability, *Algorithmica* 7 (1992), 303–307.

237. H.M.F. AboElFotoh and C.J. Colbourn, Efficient algorithms for computing the reliability of permutation and interval graphs, *Networks* 20 (1990), 883–898.

238. C.J. Colbourn, D.G. Hoffman, and C.C. Lindner, Intersections of S(2,4,v), designs, *Ars Combinatoria* 33 (1992), 97–111.

239. C.J. Colbourn, D.G. Hoffman, and C.A. Rodger, Directed star decompositions of complete directed multigraphs, *Discrete Mathematics* 97 (1991), 139–148.

240. C.J. Colbourn, J.H. Dinitz, and D.R. Stinson, Spanning sets and scattering sets in Steiner triple systems, *J. Combinatorial Theory (A)* 57 (1991), 46–59.

241. C.J. Colbourn and E.S. Mahmoodian, Support sizes of sixfold triple systems, *Discrete Mathematics* 115 (1993), 103–131.

242. C.J. Colbourn, K.T. Phelps, M.J. de Resmini, and A. Rosa, Partitioning Steiner triple systems into complete arcs, *Discrete Mathematics* 89 (1991), 149–160.

243. C.J. Colbourn, Concerning 3–factorizations of $3K_{n,n}$, *Ars Combinatoria* 30 (1990), 257–274.

244. H.M.F. Abo El Fotoh and C.J. Colbourn, Series-parallel bounds for the two-terminal reliability problem, *ORSA J. Computing* 1 (1989), 201–222.

245. L.D. Nel and C.J. Colbourn, Combining Monte Carlo estimates and bounds for network reliability, *Networks* 20 (1990), 277–298.

246. L.D. Nel and C.J. Colbourn, Locating a broadcast facility in an unreliable network, *INFOR* 28 (1990), 363–379.

247. C.J. Colbourn, R.A. Mathon, A. Rosa, and N. Shalaby, The fine structure of threefold triple systems: v = 1,3 (mod 6), *Discrete Mathematics* 92 (1991), 49–64.

248. H.M.F. Abo El Fotoh and C.J. Colbourn, Computing the two-terminal reliability for radio broadcast networks, *IEEE Trans. Reliability* R-38 (1989), 538–555.

249. C.J. Colbourn and A. Rosa, Repeated edges in 2–factorizations, *J. Graph Theory* 14 (1990), 5–24.

250. C.J. Colbourn and S. Milici, Support sizes of triple systems with small index, *J. Combin. Math. Combin. Computing* 6 (1989), 155–161.

251. C.J. Colbourn and P.C. van Oorschot, Applications of combinatorial designs in computer science, *ACM Computing Surveys* 21 (1989), 223–250.

252. C.J. Colbourn, Repeated edges in 3–factorizations, *J. Combin. Math. Combin. Computing* 4 (1988), 133–154.

253. C.J. Colbourn and V. Rödl, Percentages in pairwise balanced designs, *Discrete Mathematics* 77 (1989), 57–63.

254. C.J. Colbourn and E.S. Mahmoodian, The spectrum of support sizes for threefold triple systems, *Discrete Mathematics* 83 (1990), 9–19.

255. T.B. Brecht and C.J. Colbourn, Multiplicative improvements in network reliability bounds, *Networks* 19 (1989), 521–530.

256. C.J. Colbourn, Analysis and synthesis problems for network resilience, *Mathematical Computer Modelling* 17 (1993), 43–48.

257. G.L. Chia, C.J. Colbourn, and W.J. Myrvold, Graphs determined by their reliability polynomial, *Ars Combinatoria* 26A (1988), 249–251.

258. C.J. Colbourn, R.P.J. Day, and L.D. Nel, Unranking and ranking spanning trees of a graph, *J. Algorithms* 10 (1989), 271–286.

259. E.S. El Mallah and C.J. Colbourn, On two dual classes of planar graphs, *Discrete Mathematics* 80 (1990), 21–40.

260. C.J. Colbourn, Simple neighbourhoods in triple systems, *J. Combinatorial Theory (A)* 52 (1989), 10–19.

261. C.J. Colbourn and L.K. Stewart, Permutation graphs: connected domination and Steiner trees, *Discrete Mathematics* 86 (1990), 179–189.

262. C.J. Colbourn, W.R. Pulleyblank, and A. Rosa, Hybrid triple systems and cubic feedback sets, *Graphs and Combinatorics* 5 (1989), 15–28.

263. J.I. Brown and C.J. Colbourn, A set system polynomial with reliability and colouring applications, *SIAM J. Discrete Mathematics* 1 (1988), 151–157.

264. C.J. Colbourn and W.R. Pulleyblank, Matroid Steiner problems, the Tutte polynomial, and network reliability, *J. Combinatorial Theory (B)* 41 (1989), 20–31.

265. J.J. Harms and C.J. Colbourn, Probabilistic single processor scheduling, *Discrete Applied Mathematics* 27 (1990), 101–112.

266. C.J. Colbourn and D.R. Stinson, Edge-coloured designs with block size four, *Aequationes Mathematicae* 36 (1988), 230–245.

267. B.N. Clark, C.J. Colbourn, and D.S. Johnson, Unit disk graphs, *Discrete Mathematics* 86 (1990), 165–177.

268. E.S. El Mallah and C.J. Colbourn, The complexity of some edge-deletion problems, *IEEE Trans. Circuits and Systems* CAS-35 (1988), 354–362.

269. C.J. Colbourn and R.A. Mathon, Leave graphs of small maximal partial triple systems, *J. Combin. Math. Combin. Computing* 2 (1987), 13–28.

270. C.J. Colbourn, Edge-packings of graphs and network reliability, *Discrete Mathematics* 72 (1988), 49–61.

271. C.J. Colbourn, Leaves, excesses and neighbourhoods, *Acta Universitatis Carolinae (Mathematica et Physica)* 28 (1987), 41–47.

272. T.B. Brecht and C.J. Colbourn, Lower bounds for two-terminal network reliability, *Discrete Applied Mathematics* 21 (1988), 185–198.

273. C.J. Colbourn and A. Rosa, Quadratic excesses of coverings by triples, *Ars Combinatoria* 24 (1987), 23–30.

274. C.J. Colbourn, E. Mendelsohn, and A. Rosa, Extending the concept of decomposability for triple systems, *Annals of Discrete Mathematics* 37 (1988), 107–116.

275. C.J. Colbourn and J.J. Harms, Partitions into indecomposable triple systems, *Annals of Discrete Mathematics* 34 (1987), 107–118.

276. C.J. Colbourn and B.D. McKay, Cubic neighbourhoods in triple systems, *Annals of Discrete Mathematics* 34 (1987), 119–136.

277. C.J. Colbourn, D. Curran, and S.A. Vanstone, Recursive constructions for Kirkman squares with block size three, *Utilitas Mathematica* 32 (1987), 169–174.

278. C.J. Colbourn and D.D. Harms, Bounding all-terminal reliability in computer networks, *Networks* 18 (1988), 1–12.

279. C.J. Colbourn, Network resilience, *SIAM J. Algebraic and Discrete Methods* 8 (1987), 404–409.

280. A. Ramanathan and C.J. Colbourn, Counting almost minimum cutsets with reliability applications, *Mathematical Programming* 39 (1987), 253–261.

281. C.J. Colbourn and A. Rosa, Quadratic leaves of maximal partial triple systems, *Graphs and Combinatorics* 2 (1986), 317–337.

282. C.J. Colbourn, D. Jungnickel, and A. Rosa, The strong chromatic number of partial triple systems, *Discrete Applied Mathematics* 20 (1988), 31–38.

283. C.J. Colbourn, Orienting triple systems is NP-complete, *Ars Combinatoria* 22 (1986), 155–163.

284. A. Ramanathan and C.J. Colbourn, Bounds for all-terminal reliability by arc-packing, *Ars Combinatoria* 23A (1987), 229–236.

285. C.J. Colbourn, Realizing small leaves of partial triple systems, *Ars Combinatoria* 23A (1987), 91–94.

286. C.J. Colbourn and A. Rosa, Element neighbourhoods in twofold triple systems, *J. Geometry* 30 (1987), 36–41.

287. T.B. Brecht and C.J. Colbourn, Improving reliability bounds in computer networks, *Networks* 16 (1986), 369–380.

288. A. Ramesh, M.O. Ball, and C.J. Colbourn, Bounds for all-terminal reliability in planar networks, *Annals of Discrete Mathematics* 33 (1987), 261–273.

289. B.N. Clark, E.M. Neufeld, and C.J. Colbourn, Maximizing the mean number of communicating vertex pairs in series-parallel networks, *IEEE Trans. Reliability* R-35 (1986), 247–251.

290. C.J. Colbourn and R.C. Hamm, Embedding and enclosing partial triple systems with λ=3, *Ars Combinatoria* 21 (1986), 111–117.

291. C.J. Colbourn and A. Rosa, Maximal partial triple systems of order v $\leq$ 11, *Ars Combinatoria* 20 (1985), 5–28.

292. C.J. Colbourn, W.L. Kocay, and D.R. Stinson, Some NP-complete problems for hypergraph degree sequences, *Discrete Applied Mathematics* 14 (1986), 239–254.

293. C.J. Colbourn, The reliability polynomial, *Ars Combinatoria* 21A (1986), 31–58.

294. C.J. Colbourn, R.C. Hamm, C.C. Lindner, and C.A. Rodger, Embedding partial graph designs, block designs, and triple systems with $\lambda > 1$, *Canadian Mathematical Bulletin* 29 (1986), 385–391.

295. C.J. Colbourn, J.M. Keil, and L.K. Stewart, Finding minimum dominating cycles in permutation graphs, *Operations Research Letters* 4 (1985), 13–17.

296. D.D. Harms and C.J. Colbourn, The Leggett bounds for network reliability, *IEEE Trans. Circuits and Systems* CAS-32 (1985), 609–611.

297. R.D. Cameron, C.J. Colbourn, R.C. Read, and N.C. Wormald, Cataloguing the graphs on 10 vertices, *J. Graph Theory* 9 (1985), 551–562.

298. C.J. Colbourn and W.R. Pulleyblank, Minimizing setups in ordered sets of fixed width, *Order* 1 (1985), 225–229.

299. C.J. Colbourn and L.K. Stewart, Dominating cycles in series-parallel graphs, *Ars Combinatoria* 19A (1985), 107–112.

300. E.S. El Mallah and C.J. Colbourn, Optimum communication spanning trees in series-parallel graphs, *SIAM J. Computing* 14 (1985), 915–925.

301. C.J. Colbourn, M.J. Colbourn, and A. Rosa, Indecomposable 1–factorizations of the complete multigraph, *J. Australian Mathematical Society (A)* 39 (1985), 334–343.

302. E.M. Neufeld and C.J. Colbourn, Lucas sequences in subgraph counts of series-parallel and related graphs, *Fibonacci Quarterly* 23 (1985), 330–337.

303. C.J. Colbourn, K.E. Manson, and W.D. Wallis, Frames for twofold triple systems, *Ars Combinatoria* 17 (1984), 69–78.

304. E.M. Neufeld and C.J. Colbourn, The most reliable series-parallel networks, *Networks* 15 (1985), 27–32.

305. C.J. Colbourn, M.J. Colbourn, and D.R. Stinson, The computational complexity of finding subdesigns in combinatorial designs, *Annals of Discrete Mathematics* 26 (1985), 59–66.

306. J.B. Peachey, R.B. Bunt, and C.J. Colbourn, Some empirical observations on program behaviour with applications to program restructuring, *IEEE Trans. Software Engineering* SE-11 (1985), 188–193.

307. C.J. Colbourn and A. Rosa, Indecomposable triple systems with λ=4, *Studia Sci. Math. Hung.* 20 (1985), 139–144.

308. M.J. Colbourn and C.J. Colbourn, Recursive constructions for cyclic block designs, *J. Statistical Planning Inference* 10 (1984), 97–103.

309. C.J. Colbourn, K.T. Phelps, and V. Rödl, Block sizes in pairwise balanced designs, *Canadian Mathematical Bulletin* 27 (1984), 375–380.

310. C.J. Colbourn, R.C. Hamm, and C.A. Rodger, Small embeddings of partial directed triple systems and of triple systems with even λ, *J. Combinatorial Theory (A)* 37 (1984), 363–369.

311. C.J. Colbourn and M.J. Colbourn, Nested triple systems, *Ars Combinatoria* 16 (1983), 27–34.

312. J.J. Harms and C.J. Colbourn, Partitions into directed triple systems, *Ars Combinatoria* 16 (1983), 21–25.

313. C.J. Colbourn and A.I. Weiss, A census of regular 3–polystroma arising from honeycombs, *Discrete Mathematics* 50 (1984), 29–36.

314. J.J. Harms and C.J. Colbourn, An optimal algorithm for directing triple systems using Eulerian circuits, *Annals of Discrete Mathematics* 27 (1985), 433–438.

315. C.J. Colbourn, The complexity of completing partial Latin squares, *Discrete Applied Mathematics* 8 (1984), 25–30.
316. C.J. Colbourn and M.J. Colbourn, The computational complexity of decomposing block designs, *Annals of Discrete Mathematics* 27 (1985), 345–350.
317. J.A. Wald and C.J. Colbourn, Steiner trees in probabilistic networks, *Microelectronics and Reliability* 23 (1983), 837–840.
318. C.J. Colbourn and J.J. Harms, Directing triple systems, *Ars Combinatoria* 15 (1983), 261–266.
319. J.A. Wald and C.J. Colbourn, Steiner trees, partial 2–trees, and minimum IFI networks, *Networks* 13 (1983), 159–167.
320. C.J. Colbourn, Distinct cyclic Steiner triple systems, *Utilitas Mathematica* 22 (1982), 103–126.
321. C.J. Colbourn, M.J. Colbourn, and A. Rosa, Completing small partial triple systems, *Discrete Mathematics* 45 (1983), 165–179.
322. C.J. Colbourn and M.J. Colbourn, Every twofold triple system can be directed, *J. Combinatorial Theory (A)* 34 (1983), 375–378.
323. C.J. Colbourn, Hamiltonian decompositions of complete graphs, *Ars Combinatoria* 14 (1982), 261–269.
324. C.J. Colbourn, Embedding partial Steiner triple systems is NP-complete, *J Combinatorial Theory (A)* 35 (1983), 100–105.
325. C.J. Colbourn and M.J. Colbourn, Greedy colourings of Steiner triple systems, *Annals of Discrete Mathematics* 18 (1983), 201–208.
326. M.J. Colbourn, C.J. Colbourn, and W.L. Rosenbaum, Trains: an invariant for Steiner triple systems, *Ars Combinatoria* 13 (1982), 149–165.
327. C.J. Colbourn, Computing the chromatic index of Steiner triple systems, *The Computer Journal* 25 (1982), 338–339.
328. C.J. Colbourn and M.J. Colbourn, The chromatic index of cyclic Steiner 2–designs, *International J. Mathematics and Mathematical Sciences* 5 (1982), 823–825.
329. C.J. Colbourn, M.J. Colbourn, K.T. Phelps, and V. Rödl, Coloring block designs is NP-complete, *SIAM J. Algebraic and Discrete Methods* 3 (1982), 305–307.
330. C.J. Colbourn and M.J. Colbourn, Deciding Hadamard equivalence of Hadamard matrices, *BIT* 21 (1981), 374–376.
331. C.J. Colbourn, M.J. Colbourn, K.T. Phelps, and V. Rödl, Colouring Steiner quadruple systems, *Discrete Applied Mathematics* 4 (1982), 103–111.
332. C.J. Colbourn, Farey series and maximal outerplanar graphs, *SIAM J. Algebraic and Discrete Methods* 3 (1982), 187–189.
333. M.J. Colbourn and C.J. Colbourn, The analysis of directed triple systems by refinement, *Annals of Discrete Mathematics* 15 (1982), 99–105.
334. C.J. Colbourn, On drawings of complete graphs, *J. Combinatorics, Information, and System Sciences* 6 (1981), 169–172.
335. C.J. Colbourn and E. Mendelsohn, Kotzig factorizations: existence and computational results, *Annals of Discrete Mathematics* 12 (1982), 65–78.
336. C.J. Colbourn and M.J. Colbourn, Disjoint cyclic Mendelsohn triple systems, *Ars Combinatoria* 11 (1981), 3–8.

337. M.J. Colbourn and C.J. Colbourn, Concerning the complexity of deciding isomorphism of block designs, *Discrete Applied Mathematics* 3 (1981), 155–162.
338. M.J. Colbourn and C.J. Colbourn, Cyclic block designs with block size 3, *European J. Combinatorics* 2 (1981), 21–26.
339. M.J. Colbourn and C.J. Colbourn, The complexity of combinatorial isomorphism problems, *Annals of Discrete Mathematics* 8 (1980), 113–116.

340. C.J. Colbourn and K.S. Booth, Linear time automorphism algorithms for trees, interval graphs, and planar graphs, *SIAM J. Computing* 10 (1981), 203–225.

341. C.J. Colbourn, On testing isomorphism of permutation graphs, *Networks* 11 (1981), 13–21.

342. C.J. Colbourn and D.G. Corneil, On deciding switching equivalence of graphs, *Discrete Applied Mathematics* 2 (1980), 181–184.

343. C.J. Colbourn and M.J. Colbourn, A recursive construction for infinite families of cyclic SQS, *Ars Combinatoria* 10 (1980), 95–102.

344. C.J. Colbourn and K.T. Phelps, Three new Steiner quadruple systems, *Utilitas Mathematica* 18 (1980), 35–40.

345. C.J. Colbourn and B.D. McKay, A correction to Colbourn's paper on the complexity of matrix symmetrizability, *Information Processing Letters* 11,2 (1980), 96–97.

346. C.J. Colbourn and M.J. Colbourn, Combinatorial isomorphism problems involving 1–factorizations, *Ars Combinatoria* 9 (1980), 191–200.

347. M.J. Colbourn and C.J. Colbourn, Cyclic Steiner systems having multiplier automorphisms, *Utilitas Mathematica* 17 (1980), 127–149.

348. M.J. Colbourn and C.J. Colbourn, On cyclic block designs, *Mathematical Reports of the Academy of Science* 2 (1980), 95–98.

349. C.J. Colbourn, The complexity of symmetrizing matrices, *Information Processing Letters* 9 (1979), 108–109.

350. C.J. Colbourn and R.C. Read, Orderly algorithms for generating restricted classes of graphs, *International J. Computer Mathematics (A)* 7 (1979), 167–172.

351. C.J. Colbourn and R.C. Read, Orderly algorithms for graph generation, *J. Graph Theory* 3 (1979), 187–195.

Papers submitted to refereed journals, currently in the refereeing process, are not listed here.

Refereed Conference Papers

1. K. Sarkar, C.J. Colbourn, A. De Bonis, and U. Vaccaro, Partial covering arrays: Algorithms and Asymptotics, *Lecture Notes in Computer Science* 9843 (2016), 437-448.

2. C.J. Colbourn and V.R. Syrotiuk, Coverage, Location, Detection, and Measurement, *2016 IEEE Ninth International Conference on Software Testing, Verification and Validation Workshops (ICSTW)*, 2016, IEEE Press, 19-25.

3. Randy Compton, Michael T. Mehari, Charles J. Colbourn, Eli De Poorter, and Violet R. Syrotiuk, Screening Interacting Factors in a Wireless Network Testbed Using Locating Arrays, *Proc. 2016 IEEE INFOCOM International Workshop on Computer and Networking Experimental Research Using Testbeds*, 2016, IEEE Press, 650-655.

4. P.C. Murray and C.J. Colbourn, Sequence covering arrays and linear extensions, *Lecture Notes in Computer Science* 8986 (2015), 274-285.

5. C. Nie, J. Jiang, H. Wu, H. Leung, and C.J. Colbourn, Empirically Identifying the Best Greedy Algorithm for Covering Array Generation, *Proc. The 2nd International Workshop on Combinatorial Testing (IWCT 2013), Luxembourg*, IEEE Press, 2013, pp. 239-248.

6. W.-T. Tsai, Q. Li, C.J. Colbourn, and X. Bai, Adaptive Combinatorial Testing with Reasoning for Testing Tenant Applications in Multi-Tenancy SaaS Systems, in *Proc. IEEE International Conference on Cloud Engineering (IC2E). March 2013. San Francisco, CA, USA*, 183-192.

7. W.-T. Tsai, C.J. Colbourn, J. Luo, G. Qi, Q. Li, and X. Bai, Test algebra for combinatorial testing, *Proc. 8th International Workshop Automation of Software Test (AST13)*, IEEE Press, 2013, 19-25.

8. J. Lutz, C.J. Colbourn, and V.R. Syrotiuk, Variable weight sequences for adaptive scheduled access in MANETs, *Lecture Notes in Computer Science* 7280 (2012), 53-64.

9. C.J. Colbourn and P. Nayeri, Randomized post-optimization for t-restrictions, *Lecture Notes in Computer Science* 7777 (2013), 597–608.

10. C.J. Colbourn, Efficient Conditional Expectation Algorithms for Constructing Hash Families, *Proceedings of the International Workshop on Combinatorial Algorithms, Victoria, Canada, Lecture Notes in Computer Science* 7056 (2011), 144–155.

11. R.C. Bryce, C.J. Colbourn, and D.R. Kuhn, Interaction Faults Adaptively using Distance-Based Strategies, *Proceedings of the 18th IEEE International Conference and Workshops on Engineering of Computer-Based Systems (ECBS11)*, Las Vegas NV, April 2011, pp. 4–15.

12. J. Lutz, C. J. Colbourn, and V. R. Syrotiuk, Apples and Oranges: Comparing Schedule- and Contention-based Medium Access Control, *Proceedings of the 13th ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM'10)*, Bodrum, Turkey, October 17-21, 2010, pp. 319-326.

13. C.J. Colbourn, D. Horsley, and V.R. Syrotiuk, Frameproof codes and compressive sensing, *Proceedings of the Forty-Eighth Allerton Conference on Communications, Control, and Computing*, Allerton, Illinois, October 2010, pp. 985–990.

14. T.R. Farley and C.J. Colbourn, Multiterminal Measures for Network Reliability and Resilience, *Proc. Design of Reliable Computer Networks (DRCN2009)*, October 2009, pp. 107–114.

15. P. Nayeri, C.J. Colbourn, and G. Konjevod, Randomized Postoptimization of Covering Arrays, *Proc. Int. Workshop on Combinatorial Algorithms (IWOCA2009)*, Hradec nad Moravici, Czech Republic, July 2009. *Lecture Notes in Computer Science* 5874 (2009), 408–419.

16. C.J. Colbourn and G. Kéri, Binary Covering Arrays and Existentially Closed Graphs, *Proc. Int. Workshop Coding and Cryptology*, Zhangjiajie, China, June 2009. *Lecture Notes in Computer Science* 5557 (2009), 22-33.

17. R.C. Bryce and C.J. Colbourn, One-test-at-a-time heuristic search for interaction test suites, *Proc. Genetic and Evolutionary Computation Conference (GECCO-2007)*, London, England, July 2007, pp. 1082-1089.

18. M.P. McGarry, M. Reisslein, C.J. Colbourn, and M. Maier, Just-in-Time Online Scheduling for WDM EPONs, Proceedings of the International Conference on Communications (ICC 2007), Glasgow, UK, June 2007, pp. 2174–2179.

19. Y.M. Chee, C.J. Colbourn, and A.C.H. Ling, Optimal memoryless encoding for low power off-chip data buses, Proceedings Inter. Conf. Computer-Aided Design (ICCAD2006), San Jose CA, November 2006, pp. 369–374.

20. C. J. Colbourn, K. N. Johnson, V. R. Syrotiuk, M. Kraetzl, and K.-P. Hui, System Lifetime: A Global Problem and Local Solutions, Proceedings of the Fifth Annual Mediterranean Ad Hoc Networking Workshop (MedHoc-Net'06), Lipari, Italy, June 2006, pp. 208-215.

21. C. J. Colbourn, M. Cui, V. R. Syrotiuk, and E. L. Lloyd, A Carrier Sense Multiple Access Protocol with Power Backoff (CSMA/PB), Proceedings of the Fifth Annual Mediterranean Ad Hoc Networking Workshop (Med-HocNet'06), Lipari, Italy, June 2006, pp. 76-83.

22. P.J. Dukes, C.J. Colbourn, and V.R. Syrotiuk, Topology-transparent schedules for energy-limited ad hoc networks, *Proc. IEEE International Workshop on Foundations and Algorithms for Wireless Networks (FAWN)*, Pisa, Italy, March 2006, pp. 85-90.

23. D.S. Hoskins, C.J. Colbourn, and D.C. Montgomery, Software Performance Testing Using Covering Arrays, *Fifth International Workshop on Software and Performance (WOSP 2005)*, Palma de Mallorca, Illes Balears, SPAIN, July 2005, pp. 131–137.

24. R.C. Bryce, C.J. Colbourn, and M.B. Cohen, A Framework of Greedy Methods for Constructing Interaction Test Suites, *Proc. 27th International Conference on Software Engineering (ICSE2005)*, St. Louis MO, May 2005, pp. 146-155.

25. R.C. Bryce and C.J. Colbourn, Test Prioritization for Pairwise Coverage, *Proc. Workshop on Advances in Model-Based Software Testing (A-MOST)*, St. Louis MO, May 2005, pp. 1–7.

26. C.J. Colbourn, Y. Chen, and W.-T. Tsai, Progressive Ranking and Composition of Web Services Using Covering Arrays, *Tenth IEEE International Workshop on Object-oriented Real-time Dependable Systems (WORDS2005)*, Sedona AZ, February 2005, pp. 179-186.

27. D. Hoskins, R.C. Turban and C.J. Colbourn, Experimental Designs in Software Engineering: D-Optimal Designs and Covering Arrays, *Proc. SIGSOFT 2004/FSE-12 Workshop on Interdisciplinary Software Engineering Research (WISER 2004)*, November 2004, Newport Beach CA, pp. 55–66.

28. M.M. Coahran and C.J. Colbourn, Maximum and average access cost in double erasure RAID disk arrays, *Proc. 35th Southeastern Conference on Combinatorics, Graph Theory, and Computing*, Boca Raton FL, 2004, *Congressus Numerantium* 167 (2004), 209–219.

29. C.J. Colbourn and V.R. Syrotiuk, Scheduled Persistence for Medium Access Control in Sensor Networks, *Proc. First IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS2004)*, Fort Lauderdale FL, October 2004, pp. 264–273.

30. M. Cui, V.R. Syrotiuk, and C.J. Colbourn, Securing dynamic spectrum use, *Proc. Vehicular Technology Conference (VTC2004)*, Los Angeles CA, September 2004, pp. 1153-1157.

31. W. Chu, C.J. Colbourn, and V.R. Syrotiuk, Topology Transparent Scheduling, Synchronization and Maximum Delay, *Proceedings of the 18th International Parallel and Distributed Processing Symposium (IPDPS2004)*, Santa Fe, New Mexico, April, 2004, pp. 223-228.

32. C.J. Colbourn, M.B. Cohen, and R.C. Turban, A Deterministic Density Algorithm for Pairwise Interaction Coverage, *Proceedings of the International Conference on Software Engineering (SE 2004)*, Innsbruck, Austria, February 2004, pp. 345-352.

33. M.B. Cohen, C.J. Colbourn, and A.C.H. Ling, Augmenting simulated annealing to build interaction test suites, *Proc. IEEE Int Symp Software Reliability Eng (ISSRE 2003)*, Denver CO, November 2003, pp. 394–405.

34. V.R. Syrotiuk, C.J. Colbourn, and A.C.H. Ling, Topology-Transparent Scheduling for MANETs using Orthogonal Arrays, *Proceedings Conf. Principles of Mobile Computing (DIALM-POMC2003)*, San Diego CA, September 2003, 43-49.

35. C.J. Colbourn, V.R. Syrotiuk, and A.C.H. Ling, Steiner Systems for Topology-Transparent Access Control in MANETs, *Proceedings of AdHocNow03, Second International Conference on AD-HOC Networks and Wireless*, Montreal CA, October 2003, *Lecture Notes in Computer Science* 2865 (2003), 247-258.

36. M.B. Cohen, C.J. Colbourn, J.S. Collofello, P.B. Gibbons, and W.B. Mugridge, Variable Strength Interaction Testing of Components, *Proc. 27th Annual International Computer Software and Applications Conference (COMPSAC 2003)*, Dallas TX, November 2003, pp. 413-418.

37. V.R. Syrotiuk and C.J. Colbourn, Adaptive bandwidth utilization via frequency hopping and erasure coding, *Proc. International Conference on Computer, Communication and Control Technologies: CCCT '03*, Orlando FL, July 2003, pp. V.62-V.66.

38. C.J. Colbourn and M.K. Gupta, On quaternary MacDonald codes, *Proc. Intern. Conf. Information Technology: Coding and Computing (ITCC03)*, Las Vegas NV, April 2003, pp. 212-215.

39. V.R. Syrotiuk and C.J. Colbourn, Routing in mobile aerial networks, *Proc. Conf. Modeling Optimization in Wireless, Mobile, and Ad Hoc Networks (WiOPT03)*, Sophia-Antipolis, France, March 2003, pp. 293-301.

40. M.B. Cohen, C.J. Colbourn, P.B. Gibbons, and W.B. Mugridge, Constructing test suites for interaction testing, *Proc. International Conf. Software Engineering (ICSE)*, Portland OR, 2003, pp. 38-48.

41. C.J. Colbourn, Multiple access communications using combinatorial designs, *Lecture Notes in Computer Science* 2292 (2002), 1-29.

42. M.B. Cohen, C.J. Colbourn and D. Froncek, Cluttered orderings for the complete graph, *COCOON 2001*, *Lecture Notes in Computer Science* 2108 (2001), 420-431.

43. M.B. Cohen and C.J. Colbourn, Ordering disks for double erasure codes, *Proc. Symp. Parallel Algorithms and Architectures*, Crete, July 2001, pp. 229-236.

44. D.R. de la Torre, C.J. Colbourn, and A.C.H. Ling, An application of permutation arrays to block ciphers, *Proceedings Thirty-first Southeastern Conference on Combinatorics, Graph Theory, and Computing*, *Congressus Numerantium* 145 (2000), 5-7.

45. M.B. Cohen and C.J. Colbourn, Steiner triple systems as multiple erasure correcting codes in disk arrays, *Proceedings of IPCCC 2000 (19th IEEE International Conference on Performance, Computing and Communications)*, 2000, pp. 288-294.

46. M.B. Cohen and C.J. Colbourn, Optimal and pessimal orderings of Steiner triple systems in disk arrays, LATIN 2000 (Punta del Este, Uruguay), *Lecture Notes in Computer Science* 1776 (2000), 95-104.

47. H.J. Strayer, K.C. Wellsch, C.J. Colbourn, and F. Glover, Planarization, dualization, and all-terminal reliability, *Proceedings of the Eighth International Conference on Graph Theory, Combinatorics, Algorithms and Applications* (Y. Alavi, D.R. Lick, and A. Schwenk; editors) Volume II, New Issues Press, Kalamazoo MI, 1999, pp. 873-882.

48. C.H.A. Ling and C.J. Colbourn, Concerning the generating set of $Z_{\geq n}$, *Congressus Numerantium* 114 (1996), 65-72.

49. V.R. Syrotiuk, C.J. Colbourn, D.A. Klarner, and J. Pachl, Characterizing Wang tilings using finite automata, *Proc. Third International Workshop on Polyominoes and Tilings*, Toulouse, France, 1994, pp. 11-30.

50. D.L. Erickson and C.J. Colbourn, Combinatorics and the conflict-free access problem, Proc. 24th Southeastern Conf. Combin., Graph Theory Computing, *Congr. Numer.* 94 (1993), 115-121.

51. C.J. Colbourn, Some open problems for reliability polynomials, Proc. 24th Southeastern Conf. Combin., Graph Theory Computing, *Congr. Numer.* 93 (1993), 187-202.

52. M. Kraetzl, C.J. Colbourn, and J.S. Devitt, Bounding Techniques for the Reliability of Multistage Interconnection Networks, Proceedings of IEEE Singapore International Conference on Networks and International Conference on Information Engineering '93, 1993, pp. 766-770.

53. V.R. Syrotiuk, C.J. Colbourn, and J. Pachl, Wang Tilings and Distributed Orientation on Anonymous Torus Networks (Extended Abstract), *Lecture Notes in Computer Science* 725 (1993), pp. 264-278.

54. C.J. Colbourn and D.D. Harms, Evaluating performability: most probable states and bounds, *Proc. Telecommunications Systems Conf.*, Nashville, 1993, pp. 91-103.

55. D.L. Erickson and C.J. Colbourn, Conflict-free access for collections of templates, Proc. Sixth SIAM Conf. Parallel Processing for Scientific Computing, 1993, volume II, pp. 949-952.

56. H.J. Strayer and C.J. Colbourn, Bounding network reliability via surface duality, *Proc. Sixth Latin American Conference on Operations Research*, Mexico City, 1992.

57. C.J. Colbourn, M. Elbert, E. Litvak, and T. Weyant, Performability analysis of large-scale packet-switching networks, International Conference on Communications (SUPERCOMM/ICC) 1992, Chicago, pp. 416-419.

58. D.L. Erickson and C.J. Colbourn, Conflict-free access to rectangular subarrays, *Congr. Numer.* 90 (1992), 239-253.

59. C.J. Colbourn, J.S. Devitt, D.D. Harms, and M. Kraetzl, Renormalization for channel graphs, *Actas XI Congreso de Metodologias en Ingenieria de Sistemas*, Santiago, Chile, 1991, pp. 171-174.

60. C.J. Colbourn and L.D. Nel, Using and abusing bounds for network reliability, Proceedings of the IEEE Telecommunications Conference (Globecom90), IEEE Press, pp. 663-667.

61. C.J. Colbourn and A. Rosa, Support sizes of λ-factorizations, *Combinatorics88, Proc. Int. Conf. on Incidence Geometries and Combinatorial Structures*, volume I, 1991, pp. 249-265.

62. E.S. Elmallah and C.J. Colbourn, Partitioning the edges of a planar graph into two partial k-trees, Proc. Nineteenth Southeastern Conference on Combinatorics, Graph Theory and Computing, 1988, Congressus Numerantium 66 (1988) 69-80.

63. C.J. Colbourn, B.M. Debroni, and W.J. Myrvold, Estimating the coefficients of the reliability polynomial, Proc. Seventeenth Manitoba Conference on Numerical Mathematics and Computing, 1987, Congressus Numerantium 62 (1988) 217-223.

64. E.S. El Mallah and C.J. Colbourn, Edge deletion problems: properties defined by weakly connected forbidden subgraphs, Proc. Eighteenth Southeastern Conference on Combinatorics, Graph Theory, and Computing, 1987, Congressus Numerantium 61 (1988) 275-285.

65. J.I. Brown and C.J. Colbourn, A combinatorial study of the reliability polynomial, Proc. Sixteenth Manitoba Conference on Numerical Mathematics and Computing, October 1986, pp. 71-89.

66. C.J. Colbourn, P.J. Slater, and L.K. Stewart, Locating dominating sets in series-parallel networks, Proc. Sixteenth Manitoba Conference on Numerical Mathematics and Computing, October 1986, pp. 135-162.

67. J.J. Harms, C.J. Colbourn, and A.V. Ivanov, A census of (9,3,3) designs without repeated blocks, Proc. Sixteenth Manitoba Conference on Numerical Mathematics and Computing, October 1986, pp. 147-170.

68. E.S. El Mallah and C.J. Colbourn, Partial k-tree algorithms, Proceedings of the Indiana Conference on Graph Theory and Applications, Congressus Numerantium 64 (1988) 105-119.

69. T.B. Brecht and C.J. Colbourn, Improving bounds on network reliability: some examples, Proceedings of the Fifteenth Manitoba Conference on Numerical Mathematics and Computing, Winnipeg, Manitoba, October 1985, pp. 93-102.

70. C.J. Colbourn, Exact algorithms for network reliability, Proceedings of the Fifteenth Manitoba Conference on Numerical Mathematics and Computing, October 1985, pp. 7-57.

71. E.H. Carrasco and C.J. Colbourn, Reliability bounds for networks with statistical dependence, Proceedings of INFOCOM86, Miami, March 1986, pp. 290-292. (reprinted in Advances in Distributed System Reliability (S. Rai, D.P. Agrawal, eds.), IEEE Press, 1990, pp. 157-159.)

72. C.J. Colbourn, Network reliability: new bounds from old, Proceedings of IEEE Electronicom85, October 1985, pp. 124-126.

73. E.S. El Mallah and C.J. Colbourn, Reliability of Δ-Y reducible networks, Proceedings of the Sixteenth Southeastern Conference on Combinatorics, Graph Theory, and Computing, February 1985, pp. 49-54.

74. B.N. Clark, C.J. Colbourn, and P. Erdös, A conjecture on dominating cycles, Proceedings of the Sixteenth Southeastern Conference on Combinatorics, Graph Theory, and Computing, February 1985, pp. 189-198.

75. C.J. Colbourn, R.C. Hamm, and A. Rosa, Embedding, immersing, and enclosing, Proceedings of the Sixteenth Southeastern Conference on Combinatorics, Graph Theory, and Computing, February 1985, pp. 229-238.

76. E.S. El Mallah and C.J. Colbourn, Optimum communication spanning trees in chordal graphs, Proceedings of the Fifteenth Southeastern Conference on Combinatorics, Graph Theory, and Computing, March 1984, pp. 301-316.

77. C.J. Colbourn and A. Proskurowski, Concurrent transmissions in broadcast networks, ICALP-84, June 1984, Lecture Notes in Computer Science 172 (1984) 128-136.

78. E.M. Neufeld and C.J. Colbourn, The Construction of Reliable Series-Parallel Networks, Proceedings of the Second West Coast Conference on Computing in Graph Theory, June 1983, pp. 21-26.

79. C.J. Colbourn, M.J. Colbourn, and D.R. Stinson, The computational complexity of recognizing critical sets, Proceedings of the First Southeast Asian Conference on Graph Theory, May 1983, Lecture Notes in Mathematics 1073 (1984) 248-253.

80. C.J. Colbourn and M.J. Colbourn, Directing graph designs, Proc. Fourteenth Southeastern Conference on Combinatorics, Graph Theory, and Computing, February 1983, pp. 225-230.

81. J.J. Harms and C.J. Colbourn, An efficient algorithm for directing triple systems, Proceedings of the Fourteenth Southeastern Conference on Combinatorics, Graph Theory, and Computing, February 1983, pp. 455-462.

82. J.B. Peachey, R.B. Bunt, and C.J. Colbourn, Towards an intrinsic measure of program locality, Proceedings of the Sixteenth Annual Hawaii International Conference on System Sciences, January 1983, pp. 128-137.

83. J.A. Wald and C.J. Colbourn, Computing reliability for a generalization of series-parallel networks, Proceedings of the Twentieth Allerton Conference on Communication, Control, and Computing, October 1982, pp. 25-26.

84. C.J. Colbourn, M.J. Colbourn, J.J. Harms, and A. Rosa, A complete census of (10,3,2) block designs and of Mendelsohn triple systems of order ten. III. (10,3,2) block designs without repeated blocks, Proceedings of the Twelfth Manitoba Conference on Numerical Mathematics and Computing, October 1982, pp. 211-234.

85. C.J. Colbourn and M.J. Colbourn, Decomposition of block designs: computational issues, Proceedings of the Tenth Australian Conference on Combinatorial Mathematics, Lecture Notes in Mathematics 1036 (1983) 141-146.

86. J.B. Peachey, R.B. Bunt, and C.J. Colbourn, Bradford-Zipf phenomena in computer systems, Proceedings of CIPS Session 82, May 1982, pp. 155-161.

87. C.J. Colbourn and M.J. Colbourn, A recursive construction for 1-rotational Steiner 2-designs, Proceedings of the Thirteenth Southeastern Conference on Combinatorics, Graph Theory, and Computing, February 1982, pp. 163-167.

88. J.A. Wald and C.J. Colbourn, Steiner trees in outerplanar graphs, Proceedings of the Thirteenth Southeastern Conference on Combinatorics, Graph Theory, and Computing, February 1982, pp. 15-22. (reprinted in *Advances in Discrete Mathematics and Computer Science* 5).

89. C.J. Colbourn and S.A. Vanstone, Doubly resolvable twofold triple systems, Proceedings of the Eleventh Manitoba Conference on Numerical Mathematics and Computing, October 1981, pp. 219-223.

90. C.J. Colbourn, Some NP-complete problems on graph decompositions, Proceedings of the Nineteenth Allerton Conference on Communication, Control, and Computing, October 1981, pp. 741-745.

91. C.J. Colbourn, Disjoint cyclic Steiner triple systems, Proceedings of the Twelfth Southeastern Conference on Combinatorics, Graph Theory and Computing, March 1981, pp. 205-212.

92. M.J. Colbourn and C.J. Colbourn, Some small directed triple systems, Proceedings of the Tenth Manitoba Conference on Numerical Mathematics and Computing, Winnipeg, October 1980, pp. 247-255.

93. C.J. Colbourn, M.J. Colbourn, and J.B. MacAulay, A clustering algorithm for locating scientific research fronts, Proceedings of the Tenth Manitoba Conference on Numerical Mathematics and Computing, Winnipeg, October 1980, pp. 235-246.

94. C.J. Colbourn, Isomorphism complete problems on matrices, Proc. West Coast Conference on Combinatorics, Graph Theory, and Computing, Arcata CA, September 1979, pp. 101-107.

95. C.J. Colbourn and M.J. Colbourn, The complexity of combinatorial isomorphism problems II, Proceedings of the Ninth Manitoba Conference on Numerical Mathematics and Computing, Winnipeg, October 1979, pp. 167-172.

96. C.J. Colbourn, M.J. Colbourn, and K.T. Phelps, Combinatorial algorithms for generating cyclic Steiner quadruple systems, Proceedings of the Conference on Discrete Mathematical Analysis and Combinatorial Computation, Fredericton, May 1980, pp. 25-39.

97. C.J. Colbourn, Refinement techniques for graph isomorphism, Proceedings of the Tenth Southeastern Conference on Combinatorics, Graph Theory, and Computing, Boca Raton FLA, April 1979, pp. 281-288.

98. C.J. Colbourn and M.J. Colbourn, Isomorphism problems involving self-complementary graphs and tournaments, Proceedings of the Eighth Manitoba Conference on Numerical Mathematics and Computing, Winnipeg, October 1978, pp. 153-164.

Books

1. C.J. Colbourn and J.H. Dinitz (editors), *Handbook of Combinatorial Designs, Second Edition*, Chapman and Hall/CRC Press, Boca Raton FL, 2006.

2. C.J. Colbourn and A. Rosa, *Triple Systems*, Oxford University Press, Oxford, 1999. ISBN 0 19 853576 7.

3. C.J. Colbourn and J.H. Dinitz (editors), *CRC Handbook of Combinatorial Designs*, CRC Press, Boca Raton FL, 1996 (ISBN 0 8493 8498 8).

4. D.D. Harms, M. Kraetzl, C.J. Colbourn, and J.S. Devitt, *Network Reliability: Experiments with a Symbolic Algebra Environment*, CRC Press, Boca Raton FL, 1995.

5. C.J. Colbourn and E.S. Mahmoodian (editors), *Combinatorics Advances*, Kluwer Academic Press, 1995.

6. C.J. Colbourn, D. Jungnickel and A. Rosa (editors), *Designs and Graphs*, special volume of *Discrete Mathematics*, 97 (1991); also *Topics in Discrete Mathematics* 4 (1991).

7. C.J. Colbourn, *The Combinatorics of Network Reliability*, Oxford University Press, 1987.

8. C.J. Colbourn and R.A. Mathon (editors), *Combinatorial Design Theory*, Annals of Discrete Mathematics, North-Holland, volume 34, 1987.

9. C.J. Colbourn and M.J. Colbourn (editors), *Algorithms in Combinatorial Design Theory*, Annals of Discrete Mathematics, volume 26, North-Holland, 1985.

I have also edited special volumes of *Discrete Applied Mathematics* (1999), *Discrete Mathematics* (2000), the *Journal of Statistical Planning and Inference* (2000), and others.

Chapters in Books (refereed)

1. C.J. Colbourn, Covering arrays and hash families, *Information Security, Coding Theory, and Related Combinatorics* (D. Crnkovič and V. Tonchev, eds.), NATO Science for Peace and Security Series, IOS Press, 2011, pp. 99–135.
2. C.J. Colbourn, Boolean aspects of network reliability, *Boolean Models and Methods in Mathematics, Computer Science, and Engineering* (Y. Crama and P. L. Hammer, editors), Cambridge University Press, 2010, pp. 723–759.
3. C.J. Colbourn and D.R. Shier, Computational issues in network reliability, *Encyclopedia of Statistics for Quality and Reliability*, F. Ruggeri, R.S. Kennet, F.W. Faltin (editors), Wiley, 2008.
4. Y.M. Chee and C.J. Colbourn, Scalable Optimal Test Patterns for Crosstalk-Induced Faults on Deep Submicron Global Interconnects, *Coding and Cryptology*, Y. Li, S. Ling, H. Niederreiter, H.X. Wang, C.P. Xing, S.Y. Yang (editors), World Scientific, pp. 80-91.
5. C.J. Colbourn, Constructing Perfect Hash Families using a Greedy Algorithm, *Coding and Cryptology*, Y. Li, S. Ling, H. Niederreiter, H.X. Wang, C.P. Xing, S.Y. Yang (editors), World Scientific, pp. 109-118.
6. chapters in the *Handbook of Combinatorial Designs, Second Edition* (C.J. Colbourn and J.H. Dinitz, editors), CRC Press, 2006:

Sect	Title	Authors	Pages
I.1	Opening the Door	C.J. Colbourn	3-10
I.2	Design Theory: Antiquity to 1950	Ian Anderson, C.J. Colbourn, J.H. Dinitz, T.S. Griggs	11-22
II.2	Triple Systems	C.J. Colbourn	58-70
II.5	Steiner Systems	C.J. Colbourn, Rudolf Mathon	101-109
III.1	Latin Squares	C.J. Colbourn, J.H. Dinitz, I.M. Wanless	135-152
III.3	Mutually Orthogonal Latin Squares (MOLS)	R. Julian R. Abel, C.J. Colbourn, J.H. Dinitz	160-192
III.4	Incomplete MOLS	R. Julian R. Abel, C.J. Colbourn, J.H. Dinitz	193-210
III.6	Orthogonal Arrays of Index More Than One	Malcolm Greig, C.J. Colbourn	219-223
III.7	Orthogonal Arrays of Strength More Than Two	C.J. Colbourn	224-228
VI.10	Covering Arrays	C.J. Colbourn	361-365
VI.17	Difference Matrices	C.J. Colbourn	410-417
VI.43	Perfect Hash Families	Robert A. Walker II, C.J. Colbourn	565-568
VI.56	Superimposed Codes and Combinatorial Group Testing	C.J. Colbourn, Frank K. Hwang	628-632
VI.65	Youden Squares and Generalized Youden Designs	Donald A. Preece, C.J. Colbourn	668-674

7. C.J. Colbourn and G. Xue, Grade of service Steiner trees in series-parallel networks, *Advances in Steiner Trees* (D.Z. Du, J.M. Smith, J.H. Rubinstein; eds.) Kluwer Academic Press, 2000, pp. 163–174.

8. chapters in the *CRC Handbook of Discrete and Combinatorial Mathematics* (K. Rosen *et al.*, editors), CRC Press, 2000:

Sect	Authors	Title	Pages
8.1	C.J. Colbourn, J.H. Dinitz	Block designs	754-770
8.2	C.J. Colbourn, J.H. Dinitz	Symmetric designs and finite geometries	770-778
8.3	C.J. Colbourn, J.H. Dinitz	Latin squares and orthogonal arrays	778-786

9. C.J. Colbourn, Reliability issues in telecommunications network planning, in: *Telecommunications Network Planning* (B. Sansó, ed.) Kluwer Academic Press, 1999, pp. 135-146.

10. C.J. Colbourn, J.H. Dinitz and D.R. Stinson, Applications of combinatorial designs to communications, cryptography, and networking, *Surveys in Combinatorics 1999* (J.D. Lamb and D.A. Preece, eds.), Cambridge University Press, pp. 37-100.

11. A.C.H. Ling and C.J. Colbourn, Rosa triple systems, in: *Geometry, Combinatorial Designs and Related Structures* (J.W.P. Hirschfeld, S.S. Magliveras, M.J. de Resmini; editors) Cambridge University Press, 1997, pp. 149-159.

12. C.J. Colbourn and J.H. Dinitz, N(n) and $\nu(n)$: similarities and differences, in *Combinatorics, Complexity and Logic* (D.S. Bridges, et al, eds.), Springer, 1996, pp. 35-46.

13. chapters in the *CRC Handbook of Combinatorial Designs* (C.J. Colbourn and J.H. Dinitz, editors), CRC Press, 1996:

Sect	Authors	Title	Pages
I.4	C.J. Colbourn, R. Mathon	Steiner systems	66-75
II.1	C.J. Colbourn, J.H. Dinitz	Latin squares	97-110
II.2	R.J.R. Abel, A.E. Brouwer, C.J. Colbourn, J.H. Dinitz	Mutually orthogonal latin squares (MOLS)	111-142
II.3	R.J.R. Abel, C.J. Colbourn, J.H. Dinitz	Incomplete MOLS	142-172
II.4	C.J. Colbourn	Orthogonal arrays of index more than one	172-178
II.5	J. Bierbrauer, C.J. Colbourn	Orthogonal arrays of strength more than two	179-182
IV.11	C.J. Colbourn, W. de Launey	Difference matrices	287-297
IV.14	C.J. Colbourn	Difference triangle sets	312-317
IV.47	C.J. Colbourn	(t,m,s)-nets in base b	478-480
IV.54	C.J. Colbourn	Youden designs, generalized	508-514
V.2	C.J. Colbourn	Computer science: selected applications	543-549
V.6	C.J. Colbourn	Group testing	564-565
V.8	C.J. Colbourn	Winning the lottery	578-584

14. C.J. Colbourn and J.H. Dinitz, Making the MOLS table, in: *Computational and Constructive Design Theory* (W.D.Wallis, ed.) Kluwer Academic Press, 1996, pp. 67-134.

15. C.J. Colbourn, Construction techniques for mutually orthogonal latin squares, in: *Combinatorics Advances* (C.J. Colbourn and E.S. Mahmoodian, eds.) Kluwer Academic Press, 1995, 27-48.

16. C.J. Colbourn and L. Zhu, The spectrum of r-orthogonal latin squares, in: *Combinatorics Advances* (C.J. Colbourn and E.S. Mahmoodian, eds.) Kluwer Academic Press, 1995, 49-75.

17. D.L. Erickson and C.J. Colbourn, Conflict-free access to rectangular subarrays of constant perimeter, *Interconnection Networks and Mapping and Scheduling Parallel Computations*, ACM/DIMACS, 1995, pp. 105-124.

18. M.O. Ball, C.J. Colbourn and J.S. Provan, Network reliability, Chapter 11 of *Handbook of Operations Research: Network Models*, Elsevier North-Holland, 1995, 673-762.

19. D.D. Harms, J.S. Devitt and C.J. Colbourn, Networks and reliability in MAPLE, *Computational Support for Discrete Mathematics* (N. Dean and G.E. Shannon, eds.) AMS/DIMACS, 1994, pp. 223-243.

20. D.C. Bigelow and C.J. Colbourn, Faithful enclosing of triple systems: a generalization of a theorem of Stern, in: *Graphs, Matrices and Designs* (R. Rees, editor) Dekker, 1992, pp. 31-42.

21. J.S. Devitt and C.J. Colbourn, On implementing an environment for investigating network reliability, in: *Computer Science and Operations Research: New Developments in their Interfaces*, Pergamon Press, 1992, pp. 159-173.

22. C.J. Colbourn and A. Rosa, Directed and Mendelsohn triple systems, *Contemporary Design Theory*, Chapter 4, 1992, pp. 97-136.

23. A. Rosa and C.J. Colbourn, Colorings of block designs, *Contemporary Design Theory*, Chapter 10, 1992, pp. 401-430.

24. C.J. Colbourn and E.I. Litvak, Bounding network parameters by approximating graphs, *Reliability of Computer and Communications Networks*, AMS/ACM, 1991, pp. 91-104.

Other publications (non-refereed)

1. C.J. Colbourn, Separations of Steiner triple systems: some questions, *Bulletin of the ICA* 6 (1992) 53-56.

2. C.J. Colbourn and J.S. Devitt, Notes on some computations for reliability polynomials, Mathematics and Statistics Technical Report 7-90, Curtin University of Technology, 1990.

3. C.J. Colbourn and A. Rosa, Bibliography on triple systems, Research Report 90-14, Department of Combinatorics and Optimization, University of Waterloo, 1990.

4. C.J. Colbourn, Network reliability: numbers or insight?, Annals of Operations Research 33 (1991) 87-93.

5. C.J. Colbourn and A. Rosa, Maximal partial Steiner triple systems of order $v \leq 11$ and their embedding, immersion and enclosing, Preprint Series 1988/89 No. 1, McMaster University, 1988.

6. C.J. Colbourn, Directing and orienting triple systems, Proc. Research Institute in Mathematical Sciences, Kyoto University, Volume 607, 1987, pp. 33-38.

7. C.J. Colbourn and E. Mendelsohn, The rainbow highways of OZ, *J. Recreational Mathematics* 13 (1981) 246-249.

8. K.S. Booth and C.J. Colbourn, Problems polynomially equivalent to graph isomorphism, Technical Report CS-77/04, Department of Computer Science, University of Waterloo, 1979.

9. C.J. Colbourn, A bibliography of the graph isomorphism problem, Technical Report 123/78, Department of Computer Science, University of Toronto, 1978.

10. M.J. Colbourn and C.J. Colbourn, Graph isomorphism and self-complementary graphs, ACM SIGACT News 10 (1978) 25-29.

Invited Conference Presentations

1. C.J. Colbourn, "Asymptotic and Constructive Bounds for Covering Arrays", Real and Complex Hadamard Matrices and Applications, Budapest, Hungary, July 2017.

2. C.J. Colbourn, "Fervour with Measure: The Mathematics of Alex Rosa", RosaFest: Alex Rosa is 80, Mikulov, Czech Republic, June 2017.

3. C.J. Colbourn, "Computational and Recursive Constructions of Perfect Hash Families", Seventh International Conference on Algebraic Informatics (CAI2017), Kalamata, Greece, June 2017.

4. C.J. Colbourn, "Asymptotic Sizes of Covering Arrays", HyGraDe: Hypergraphs, Graphs, and Designs, Sant'Alessio Siculo, Italy, June 2017.

5. C.J. Colbourn, "Covering Perfect Hash Families", Ninth Shanghai Conference on Combinatorics (9SHCC), Shanghai, China, May 2017.

6. C.J. Colbourn, "Disjoint Spread Systems and Fault Location", National Conference on Combinatorial Designs 2016, Hangzhou, China, July 2016.

7. C.J. Colbourn, "Covering arrays: asymptotics and construction algorithms", Nordic Combinatorial Conference 2016, Levi, Kittil, Finland, June 13–15 2016.

8. C.J. Colbourn, "Coverage, Location, Detection, and Measurement", Ottawa-Carleton Discrete Math Days 2016, Ottawa Canada, May 2016.

9. C.J. Colbourn, "Coverage, Location, Detection, and Measurement", 2016 IEEE International Workshop on Combinatorial Testing, Chicago IL, March 2016.

10. C.J. Colbourn, "Disjoint Spread Systems and Fault Location", Auburn Conference on Designs, Graphs, and Codes, Auburn AL, January 2016.

11. C.J. Colbourn, "The Construction of Locating Arrays", 29th Midwestern Conference on Combinatorics and Combinatorial Computing, Charleston SC, October 2015.

12. C.J. Colbourn, "Fault Location and Resolvable Set Systems", Algebraic Combinatorics and Applications (The first annual Kliakhandler Conference), Houghton MI, August 2015.

13. C.J. Colbourn, "Column Replacement of Covering Arrays", Design and Analysis of Experiments (DAE), Cary NC, March 2015.

14. C.J. Colbourn, "Suitable Permutations and Covering Arrays", 22nd Coast Combinatorics Conference, Kona HI, February 2015.

15. C.J. Colbourn, "Optimal Low-Power Coding for Error Correction and Crosstalk Avoidance in On-Chip Data Buses", Mathematics of Communications: Sequences, Codes and Designs, Banff, Canada, January 2015.

16. C.J. Colbourn, "Suitable Permutations and Covering Arrays", Atlanta Lectures Series in Combinatorics and Graph Theory, Atlanta GA, November 2014.

17. C.J. Colbourn, "Permutation Coverings", Workshop on Hadamard Matrices, Banff AB, July 2014.

18. C.J. Colbourn, "Hadamard Matrices and Covering Arrays", Algebraic Design Theory and Hadamard Matrices, Lethbridge AB, July 2014.

19. C.J. Colbourn, "Linear Extensions and Sequence Covering Arrays", 14th Haifa Workshop on Interdisciplinary Applications of Graph Theory, Combinatorics and Algorithms, Haifa, Israel, June 2014.

20. C.J. Colbourn, "Combinatorial Sequence Testing and Scrambling Permutations", Combinatorics 2014, Gaeta, Italy, June 2014.

21. C.J. Colbourn, "Permutation Covers", Workshop on Graphs and Algorithms, Toronto ON, May 2014.

22. C.J. Colbourn, "Steiner Loops and Moufang's Theorem", Tenth Graduate Student Combinatorics Conference, Auburn AL, April 2014.

23. C.J. Colbourn, "F-Vectors of Pure Complexes and Pure Multicomplexes of Rank Three", Forty-Fifth Southeastern Conference on Combinatorics, Graph Theory, and Computing, March 2014.

24. C.J. Colbourn, "Mutually Orthogonal Latin Squares: Packing and Covering Analogues", Third Mile High Conference on Nonassociative Mathematics, Denver Colorado, August 2013.

25. C.J. Colbourn, "Covering Arrays" (ten lecture short course), Beihang University, Beijing, China, June-July, 2013.

26. C.J. Colbourn, "F-Vectors of Pure Complexes and Pure Multicomplexes of Rank Three", East Coast Combinatorics Conferenbce, Corner Brook, Newfoundland, May 2013.

27. C.J. Colbourn, "Sequence covering arrays", Clemson MiniConference on Discrete Mathematics, Clemson SC, October 2012.

28. C.J. Colbourn, "Resolvable covering arrays and their applications", Fourth Workshop on Combinatorial Designs, Hangzhou, China, June 2012.

29. C.J. Colbourn, "Variable Weight Schedules for Adaptive Scheduled Access in MANETs", SETA2012, Waterloo, June 2012.

30. C.J. Colbourn, "Sublinear Time Recovery of Sparse Signals", Network Mapping and Measurement Conference, Arizona State University, March 2012.
31. C.J. Colbourn, "Strengthening hash families", Winter Meeting, Canadian Mathematical Society, Toronto, Ontario, December 2011.
32. C.J. Colbourn, "Combinatorial t-Restrictions", Second International Conference on Design Theory, Istanbul, Turkey, July 2011.
33. C.J. Colbourn, "Column replacement for covering arrays", Seventh Shanghai Conference on Combinatorics, Shanghai, China, June 2011.
34. C.J. Colbourn, "Measurement matrices for compressive sensing via column replacement", Workshop on Coding Theory, Singapore, May 2011.
35. C.J. Colbourn, "A handful of sparse testing problems", Workshop on Linear Algebra and Combinatorics, Banff International Research Station, Banff, Canada, January 2011.
36. C.J. Colbourn, "Combinatorial restriction problems" (keynote), Workshop on Combinatorial Search, ZiF, Bielefeld, Germany, October 2010.
37. C.J. Colbourn, "A handful of sparse testing problems", Network Mapping and Measurement Conference, McGill University, Montréal, Canada, August 2010.
38. C.J. Colbourn, "Applications of Designs: Covering Arrays, and Optical Grooming", 10 lecture short course, AMSI 2010 Australian Graduate Theme Program in Mathematical Sciences, Brisbane, Australia, July 2010.
39. C.J. Colbourn, "Hash Families and Covering Arrays", Combinatorics 2010, Verbania, Italy, July 2010.
40. C.J. Colbourn, "Perfect hash families and covering arrays", 3 lecture series, NATO Advanced Study Institute on Information Security and Related Combinatorics, Opatija, Croatia, June 2010.
41. C.J. Colbourn, "Interaction testing", Computer Science Research Day, University of Vermont, Burlington VT, December 2009.
42. C.J. Colbourn, "Grooming to minimize load", Workshop on Combinatorics in Memory of Lucia Gionfriddo, Catania, Italy, December 2009.
43. C.J. Colbourn, "Balanced grooming in optical networks", Combinatorial Configurations and Their Applications, Houghton MI, August 2009.
44. C.J. Colbourn, "Network reliability and resilience", Combinatorial Configurations and Their Applications, Houghton MI, August 2009.
45. C.J. Colbourn, "Finding an interaction fault", Dagstuhl Workshop on Search Theory, Dagstuhl, Germany, July 2009.
46. C.J. Colbourn, "Combinatorial Aspects of Compressive Sensing Matrices", Network Mapping and Measurement, College Park MD, June 2009.
47. C.J. Colbourn, "Binary covering arrays", International Workshop on Coding and Cryptology (IWCC2009), Zhangjiajie, China, June 2009.
48. C.J. Colbourn, "The Combinatorics at the Heart of the Problem, Inaugural Peter Gibbons Lecture, University of Auckland, Auckland, New Zealand, May 2009.
49. C.J. Colbourn, "Distributing hash families and covering arrays", Canadian Mathematics Society Winter Meeting, Ottawa, Canada, December 2008.
50. C.J. Colbourn, "Linear hash families", Combinatorial Design Theory Workshop, BIRS, Banff, Canada, November 2008.
51. C.J. Colbourn, "Covering arrays", Workshop on Combinatorial Designs, Nanyang Technological University, Singapore, June 2008.
52. C.J. Colbourn, "Graph decompositions and optical grooming", Sixth Shanghai Conference on Combinatorics and Coding, Shanghai, China, May 2008.
53. C.J. Colbourn, "Graph decompositions and optical grooming", Ottawa-Carleton Graph Theory Workshop, Fields Institute, Ottawa, Canada, May 2008.

54. C.J. Colbourn, "Locating and Detecting Arrays for Interaction Faults", Network Mapping and Measurement, College Park MD, June 2008.

55. C.J. Colbourn, "Locating Interaction Faults", Miniconference on Discrete Mathematics With An Emphasis on Search Theory, University of South Carolina, Columbia SC, October 2007.

56. C.J. Colbourn, "Combinatorial Aspects of Network Reliability", DRCN2007, the 6th International Workshop on Design and Reliable Communication Networks, La Rochelle, France, October 2007.

57. C.J. Colbourn, "Configurations in Steiner triple systems", Design Theory of Alex Rosa, Bratislava, Slovakia, July 2007.

58. C.J. Colbourn, "Grooming in Optical Networks", Workshop on Combinatorial Designs, Hangzhou, China, June 2007.

59. C.J. Colbourn, "A Density Algorithm for Perfect Hash Families", International Workshop on Coding and Cyrptography, Fujian, China, June 2007.

60. C.J. Colbourn, "Grooming in Optical Networks", Workshop on Combinatorial Designs, Kyoto, Japan, June 2007.

61. C.J. Colbourn, "Covering Arrays for Interaction Testing", Workshop on Combinatorics, Yokohama, Japan, June 2007.

62. C.J. Colbourn, Graph Decompositions and Grooming in Optical Networks, 5th Cracow Conference on Graph Theory, Ustron, Poland, September 2006.

63. C.J. Colbourn, Locating and Detecting Interaction Faults, Conference on Optimal Discrete Structures and Algorithms, Rostock, Germany, September 2006.

64. C.J. Colbourn, Perfect hash families, Dry and Discrete Workshop, Yulara, Australia, July 2006.

65. C.J. Colbourn, Screening to Locate Interaction Faults, Workshop on Combinatorial Algorithms, Kings Canyon, Australia, July 2006.

66. C.J. Colbourn, Graph Decompositions and Grooming in Optical Networks, 31st Australasian Conference on Combinatorial Mathematics and Computing, Alice Springs, Australia, July 2006.

67. C.J. Colbourn, "Screening to Locate Interactions", DIMACS Workshop on Combinatorial Group Testing, New Brunswick NJ, May 2006.

68. C.J. Colbourn, "Construction Techniques for Covering Arrays", Fields Institute Workshop on Covering Arrays, Ottawa, Canada, May 2006.

69. C.J. Colbourn, "Graph Decompositions and Grooming in Optical Networks", Colloque en l'honneur de Jean-Claude Bermond, Sophia-Antipolis, France, December 2005.

70. C.J. Colbourn, "Combinatorial Designs for Software Interaction Testing", International Conference on Statistics, Combinatorics, Mathematics and Applications, Auburn AL, December 2005 (Presidential Invited Plenary Lecture).

71. C.J. Colbourn, "Cover-free families and topology-transparent communication", CTS Conference on Combinatorics and Its Applications, Hsinchu, Taiwan, May 2005.

72. C.J. Colbourn, "Two-period optical grooming and graph decompositions", Fifth Shanghai Conference on Combinatorics, Shanghai, China, May 2005.

73. C.J. Colbourn, "Cover-free families and topology-transparent communication", ALOCOMA 2005, Bayreuth, Germany, April 2005.

74. C.J. Colbourn, "Software testing and covering arrays", 36th Southeastern Conference on Combinatorics, Graph Theory, and Computing, Boca Raton FL, March 2005.

75. C.J. Colbourn, "Covering Arrays and the Power of Apathy", 36th Southeastern Conference on Combinatorics, Graph Theory, and Computing, Boca Raton FL, March 2005.

76. C.J. Colbourn, "Covering arrays", ACCOTA 2004, San Miguel de Allende, Mexico, November 2004.

77. C.J. Colbourn, "Combinatorial aspects of covering arrays", Combinatorics 2004, Capomulini, Italy, September 2004.

78. C.J. Colbourn, "Grooming in optical networks", Workshop on Working Applications of Discrete Mathematics, University of Queensland, Brisbane, Australia, January 2004.
79. C.J. Colbourn, "Combinatorial Techniques for Interaction Software Testing", Workshop on Working Applications of Discrete Mathematics, University of Queensland, Brisbane, Australia, January 2004.
80. C.J. Colbourn, "Software Interaction Testing and Covering Arrays", Thirty-First Miami University Conference on Mathematics, Oxford OH, October 2003.
81. C.J. Colbourn, "Topology-Transparent Communication in Mobile Ad Hoc Networks Using Orthogonal Arrays", Thirty-First Miami University Conference on Mathematics, Oxford OH, October 2003.
82. C.J. Colbourn, "Erasure Coding for RAID Disk Arrays", Andrew J. Buckingham Lecture, Thirty-First Miami University Conference on Mathematics, Oxford OH, October 2003.
83. C.J. Colbourn, "Life is like a box of smarties", Computer Science Alumni Reunion Conference, University of Saskatchewan, Saskatoon SK, September 2003.
84. C.J. Colbourn, "Permutation Codes for Powerline Communications", International Conference on Designs and Finite Geometries, Rhodes, Greece, June 2003.
85. C.J. Colbourn, "Software interaction testing", BIRS Workshop on Constraint Programming, Belief Revision, and Combinatorial Optimization, Banff, Alberta, Canada, May 2003.
86. C.J. Colbourn, "Cluttered Orderings of the Complete Graph", Clemson Miniconference on Discrete Mathematics, Clemson SC, October 2002.
87. C.J. Colbourn, "Testing for defectives using combinatorial designs", Workshop on Frontiers of Applied and Theoretical Combinatorics, Richmond VA, September 2002.
88. C.J. Colbourn, "Fully gated graphs", Shanghai Conference on Combinatorics, Shanghai, China, May 2002.
89. C.J. Colbourn, "Testing for consecutive defectives and ordering a binary code", COSSAC 2001, Ischia Island, Italy, September 2001.
90. C.J. Colbourn, "Graph decompositions and SONET networks", ACCOTA 2000, Mérida, Yucatan, Mexico, November 2000.
91. C.J. Colbourn, "Applications of combinatorial designs in communications and networking", Workshop on Emerging Applications of Combinatorial Designs, Berkeley CA, November 2000.
92. C.J. Colbourn, "Erasure codes and configurations in designs", Optimal Discrete Structures and Algorithms 2000, Rostock, Germany, September 2000.
93. C.J. Colbourn, "Multiple access communications and combinatorial designs", First Workshop on Theoretical Computer Science, Tehran, Iran, July 2000.
94. C.J. Colbourn, "Group testing and computational molecular biology", Combinatorics 2000, Gaeta, Italy, June 2000.
95. C.J. Colbourn, "Applications of combinatorial designs to communications, cryptography, and networking", British Combinatorial Conference, Canterbury, England, July 1999.
96. C.J. Colbourn, "Combinatorial embeddings in the classical designs", Second Pythagorean Conference on Geometry and Combinatorial Designs, Pythagorion, Samos, Greece, June 1999.
97. C.J. Colbourn, "A graph decomposition problem for SONET/WADM networks", Third Shanghai Conference on Designs, Codes, and Finite Geometries, Shanghai, China, May 1999.
98. C.J. Colbourn, "Combinatorial designs and cryptography" (series of three lectures), Workshop on Codes, Designs, and Cryptography, POSTECH, Pohang, South Korea, January 1999.
99. C.J. Colbourn, "Codes for MT-MFSK signalling, and configurations in designs", ACCOTA 98, Oaxaca, Mexico, December 1998.
100. C.J. Colbourn, "Cryptography and combinatorial designs" (five one hour lectures), Workshop on Coding Theory, Cryptography, and Computer Security, Lethbridge, Canada, August 1998.
101. C.J. Colbourn, "Weakly union-free designs and packings", Frontiers of Combinatorics, Los Alamos National Laboratory, New Mexico, July 1998.

102. C.J. Colbourn, "Group testing and weakly union-free designs", Combinatorists of New England (CONE) 27, Smith College, Northampton MA, December 1997.

103. C.J. Colbourn, "Applications of transversal designs in design theory", Workshop on Transversal Designs and Orthogonal Arrays, Kitchener, Ontario, April, 1997.

104. C.J. Colbourn, "Erasure codes", Combinatorial aspects of optimization, topology and algebra (ACOTA), Taxco, Mexico, Nov 1996.

105. C.J. Colbourn, "Network diagnosis", Second ALIO/EURO Workshop on Practical Combinatorial Optimization, Valparaiso, Chile, Nov 1996.

106. C.J. Colbourn, "Bounds on H-vectors", AMS Mathfest (Session on Algorithms on Graphs and Matroids), Burlington VT, August 1995.

107. C.J. Colbourn, "Pairwise balanced designs with block sizes five, seven and eight", R.C. Bose Memorial Conference on Statistical Design and Related Combinatorics, Fort Collins CO, June 1995.

108. C.J. Colbourn, "Transversal designs of higher index", Twentieth Australasian Conference on Combinatorial Mathematics and Combinatorial Computing, Auckland, NZ, December 1994.

109. C.J. Colbourn, "Performability of networks", II Seminario Internacional Diseño y Gestión Estratégica de las Redes, Viña del Mar, Chile, November 1994.

110. C.J. Colbourn, "Puncturing projective planes and making more MOLS", Twentyfourth Manitoba Conference on Combinatorial Mathematics and Computing, Winnipeg MB, October 1994.

111. C.J. Colbourn, "Making a difference (matrix)", Second Upper Michigan Conference on Designs and Finite Geometries, Houghton MI, August 1994.

112. C.J. Colbourn, "Constructing the MOLS table", Sixth Vermont Summer Workshop on Combinatorics, Burlington VT, June 1994.

113. C.J. Colbourn, "Constructions of mutually orthogonal latin squares", Session on Combinatorics, Canadian Mathematical Society Summer Meeting, Edmonton, June 1994.

114. C.J. Colbourn, "Construction techniques for mutually orthogonal latin squares", Twenty-fifth Annual Iranian Mathematics Conference, Tehran, Iran, March 1994.

115. C.J. Colbourn, "Orthogonal group divisible designs", Shanghai Conference on Designs, Codes and Finite Geometries, Shanghai, China, May 1993.

116. C.J. Colbourn, "Reliability polynomials", Twenty-fourth Southeastern Conference on Combinatorics, Graph Theory and Computing, Boca Raton FL, February 1993.

117. C.J. Colbourn, "Edge-partitioning multigraphs into triangles", Twenty-fourth Southeastern Conference on Combinatorics, Graph Theory and Computing, Boca Raton FL, February 1993.

118. C.J. Colbourn, "Enclosing triple systems and latin squares", Kombinatorik, Mathematisches Institut Oberwolfach, November 1992.

119. C.J. Colbourn, "Intersections and support sizes of triple systems", Sixth Midwest Conference on Combinatorics, Cryptography and Computing, Lincoln NE, November 1991.

120. C.J. Colbourn, "Subgraph counting bounds for network reliability", TIMS XXX — SOBRAPO XXIII, Rio de Janeiro, Brazil, July 1991.

121. C.J. Colbourn, "The combinatorics of network reliability", XIV Taller de Ingenieria de Sistemas, Santiago, Chile, July 1991.

122. C.J. Colbourn, "Conflict-free latin squares", Fourth Auburn Design Theory Conference, Auburn, Alabama, March 1991.

123. C.J. Colbourn, "Faithful enclosings of triple systems", AMS Special Session on Combinatorial Design Theory, San Francisco CA, January 1991.

124. C.J. Colbourn, "Leaves and neighbourhoods in triple systems", Sixteenth Australasian Conference on Combinatorial Mathematics and Computing, Palmerston North, New Zealand, December 1990.

125. C.J. Colbourn, "Intersections and supports of designs", Combinatorial Potlatch, Seattle, December 1989.

126. C.J. Colbourn, "Bounding network reliability by approximating graphs", DIMACS Workshop on Network Reliability, New Brunswick NJ, December 1989.
127. C.J. Colbourn, "Bounding network reliability efficiently", WOBCATS Meeting, Portland OR, October 1989.
128. C.J. Colbourn, "Leaves and neighbourhoods", Fourth Clemson Conference On Discrete Mathematics, September 1989.
129. C.J. Colbourn, "Support sizes of designs", Second International Catania Conference on Designs and Combinatorial Geometries, September 1989.
130. C.J. Colbourn, "Series-parallel bounds for two-terminal reliability", 1989 SIAM Annual Meeting, San Diego CA, July 1989.
131. (keynote lecture) C.J. Colbourn, "Combinatorial aspects of network reliability", NATO Advanced Research Workshop, Copenhagen, Denmark, June 1989.
132. C.J. Colbourn, "Intersections of quadruple systems", Vermont Summer Workshop on Design Theory, Stowe, Vermont, June 1989.
133. C.J. Colbourn, "Support sizes of designs", AMS Special Session on Codes and Designs, Chicago, May 1989.
134. C.J. Colbourn, "Combinatorial designs: their role in computer science", The Toronto Exxperience, Toronto, May 1988.
135. C.J. Colbourn, "Probabilistic single processor scheduling", Workshop on Computational Combinatorics, Burnaby, BC, July 1987.
136. C.J. Colbourn, "Leaves, excesses, and neighbourhoods", Fifteenth Winter School on Abstract Analysis and Topology, Srní, Czechoslovakia, January 1987.
137. C.J. Colbourn, "Bounding network reliability efficiently", Fifteenth Winter School on Abstract Analysis and Topology, Srní, Czechoslovakia, January 1987.
138. C.J. Colbourn, "Directing and orienting triple systems", Conference on Geometry and Combinatorial Designs, Kyoto Japan, June 1986.
139. C.J. Colbourn, "Edge-packings of graphs and network reliability", First Japan Conference on Graph Theory and Applications, Hakone Japan, June 1986.
140. C.J. Colbourn, "Exact algorithms for network reliability", Fifteenth Manitoba Conference on Numerical Mathematics and Computing, Winnipeg Manitoba, October 1985.
141. C.J. Colbourn, "The reliability polynomial", Thirteenth Australasian Conference on Combinatorial Mathematics and Computing, Sydney Australia, August 1985.

Editorial Work

I serve(d) in following editorial capacities:

- Editor-in-Chief, *Journal of Combinatorial Designs*, 1992-
- Associate Editor, *Networks*, 1986-
- Associate Editor, *Designs, Codes, and Cryptography*, 1996-
- Associate Editor, *Journal of Combinatorial Theory, Series A*, 2002-
- Associate Editor, *Discrete Mathematics*, 2002-
- Associate Editor, *Journal of Statistical Planning and Inference*, 2004-
- Associate Editor, *Journal of Statistical Theory and Practice*, 2006-
- Associate Editor, *Discrete Mathematics, Algorithms, and Applications*, 2007-
- Associate Editor, *IEEE Transactions on Reliability*, 1992-1998.
- Member, Editorial Board, *Aequationes Mathematicae*, 1993-2000.

- Associate Editor, *Combinatorial Optimization: Theory and Practice*, 1994-1999.
- Advisory Editor, *Handbook of Discrete and Combinatorial Mathematics*, 1993-1999.
- Member, Editorial Board, *Journal of Combinatorics, Information and System Sciences*, 1990-
- Member, Editorial Board, *Journal of Combinatorial Mathematics and Combinatorial Computing*, 1987-1993.

Administrative Experience

Position	Period	Department/Organization/Committee
Senator	2010-	Arizona State University Senate
Senator	2003-08	Arizona State University Senate
Chair	2001-02	Computer Science and Engineering
Chair	2000-01	Computer Science
Chair	1997-99	Computer Science
Associate Chair, CS	1996-97	Computer Science and Electrical Engineering
Chair	1993-95	Combinatorics and Optimization
Senator, Mathematics	1992-95	University of Waterloo Senate
Associate Chair, C&O	1991-93	Undergraduate Studies
Associate Chairman, CS	1984-85	Undergraduate Studies
Member	2012-	Dean's Faculty Advisory Committee
Member	2012-	Senate Personnel Committee
Member	2010-12	Senate Committee on Committees
Member	2008-09	School of Mathematics Planning Committee
Member	2006-08	University Personnel Committee
Member	2006-07	IEE Search Committee
Member	2005-06	CSE/AME Search Committee
Member	2005-08	Dean's Advisory Personnel Committee
Member	2004-	Steering Committee for Computational Biosciences Program
Member	2003-05	CSE Personnel Committee
Member	2003-04	Recruiting Committee for Evolutionary Functional Genomics
Member	2003-04	Ad Hoc Committee for MCS Online
Chair	2003-04	Graduate Programs Committee
Member	2002-04	Graduate Programs Committee
Member	2001-02	Proposition 301 Information Technology Committee
Member	1999-2001	Instructional Incentive Grants Committee
Member	1999-2001	Kroepsch-Maurice Teaching Awards Committee
Member	1999-2000	College Standards Committee
Member	1999-2001	IDX Workforce Training Committee
Member	1998-2001	Working Group for the Study of Media, Culture, and Society
Chair	1998	UVM CLIO Search Committee
Chairman	1984-85	CS Curriculum Committee

Member	1996-99	College Board of Advisors
Chair	1996-97	CS Curriculum Committee
Member	1996-97	College Standards Committee
Member	1996-97	College Curriculum Committee
Member	1996-97	College Computing Task Force
Member	1993-94	Senate Finance Committee
Member	1993-95	Academic Policy Committee
Member	1991-93	Undergraduate Affairs Committee
Member	1991-93	Standings and Promotions Committee
Library Representative	1988-89	Combinatorics and Optimization
Member	1986-88	Board of Directors, Institute for Computer Research
Chairman	1986-88	CS Ph.D. Comprehensives Committee
Chairman	1986	CS M.Math. Review Committee
Member	1986	CS Recruiting Committee
Chairman	1985	CS Ph.D. Comprehensives Committee
Member	1985	CS Ph.D. Comprehensives Committee
Member	1984-85	CS Admissions Committee
Member	1984-86	CS Advisory Committee
Member	1984-87	CS Graduate Committee
Chairman	1981-83	CMPT Graduate Advisory Committee
Member	1980-82	University Subcommittee on Computers in Education
Library Representative	1980-81	Computational Science

I served on the Scientific Advisory Panel to the Ontario Technology Fund, reporting to the Management Board of the Cabinet of the Government of Ontario, from 1986-1989.

I serve on the Advisory Board for the Department of Mathematical Sciences, Michigan Technological University, Houghton MI, 1993-2001.

I serve on the Advisory Board for the Centre for Discrete Mathematics and Theoretical Computer Science at the University of Auckland, New Zealand, 1994-2000.

I served on the Council of the Institute for Combinatorics and Its Applications, 1999-2002.

I was the lead UVM representative in negotiating an articulation agreement with the IDX Institute of Technology, 1998-99.

Major Administrative Initiatives

2006	served on external review committee for Mathematics and Statistics, Auburn University
2005	served on external review committee for Mathematics and Statistics, Simon Fraser University
1999-2000	coordinated computer science role in the introduction of a major research and educational initiative in structural and computational biology, jointly with six life science departments in Medicine, Agriculture, and Arts and Sciences; funded with $3 million from the Department of Energy.
1998-99	developed cooperative relationship with IDX Systems Corporation, a health care software provider, for education and training.
1998	served on an external review committee for the School of Mathematical and Information Sciences, University of Auckland
1997-99	introduced a dual reporting structure for the Department of Computer Science through the College of Arts and Sciences as well as through the College of Engineering and Mathematics, in order to introduce a new Bachelor of Arts (Computer Science) degree.
1996-98	developed a new joint program with the School of Business Administration, the Bachelor of Science (Computer Science and Information Systems).
1996-97	led major revision of Bachelor of Science (Computer Science) degree to meet the standards of the Computer Science Accreditation Board.
1996-97	was the principal in presenting the case for the separation of the CS program from the Electrical Engineering department, resulting in the formation of the Department of Computer Science. Enrollments then doubled within two years, and tripled within three.
1993-94	served as chair during dismissal for cause of tenured professor, including extensive involvement in legal proceedings. The University won the case and the appeal outright.
1991-92	as Associate Chair for Undergraduate Affairs, coordinated the transfer of Mathematics/Business programs to the department.
1984-85	extensive redesign of comprehensive examination procedures for the Ph.D. program in Computer Science.

Industrial Experience

Ministry of Industry, Trade and Technology, Government of Ontario, Science Monitor (consultant), 10/88-06/90.

Bulldog Holdings, Burlington VT, Consultant on Ecommerce Business, 4/99-12/99.

Speedfam/Ipec, Chandler AZ, Consultant on Flexible Manufacturing Opportunities, 7/02-12/02