

## Journal Publications

1. Fenwick P.M., “A Note on Variable-Length Codes with Constant Hamming Weights” *Journal of Universal Computer Science*, vol. 21, no. 9 (2015), 1136-1142
2. Fenwick, P.M., “PPM Compression without Escapes”, *Software – Practice and Experience*, Article first published online : 25 APR 2011, DOI: 10.1002/spe.1070  
printed Vol 42, no 2, pp 255–260, February 2012)
3. Fenwick, P.M., Burrows–Wheeler compression : Principles and reflections” *Theoretical Computer Science* Vol 387(2007) pp 200–219
4. Fenwick, P.M., “Zeckendorf Integer Arithmetic”, *Fibonacci Quarterly*, Vol 41.5, Nov 2003, pp 405 – 413.
5. Fenwick, P.M., “Burrows Wheeler Compression with Variable Length Integer Codes”, *Software – Practice and Experience*, Vol 32, No 13, Nov 2002, pp 1307–1316..
6. Fenwick, P.M., “Variable-Length Integer Codes Based on the Goldbach Conjecture, and Other Additive Codes”, *IEEE Trans. Inform. Theory*, Vol 48, No 8, pp 2412–2417, Aug 2002.
7. Fenwick, P.M., “Fast string matching for multiple searches”, *Software – Practice and Experience*, Vol 31, pp 815–833 April 2001.
8. Fenwick, P.M., “Some Perils of Performance Prediction : a case study on Pattern Matching”, *Software – Practice and Experience*, Vol 31, pp 835–843 April 2001.
9. Fenwick, P.M., “Symbol ranking text compressors: review and implementation”, *Software – Practice and Experience*, Vol 28, No 5, pp 547–559, April 1998.
10. Fenwick, P.M., “The Burrows–Wheeler Transform for Block Sorting Text Compression — Principles and Improvements”, *The Computer Journal*, Vol 39, No 9, pp 731–740, 1996.
11. Fenwick, P.M., “Symbol Ranking Text Compression with Shannon Recodings”, *J.UCS* Vol 3, No 2 pp 70–85 Feb 1997. [http://www.iicm.edu/jucs\\_3\\_2](http://www.iicm.edu/jucs_3_2)
12. Fenwick, P.M., “A New Data Structure for Cumulative Frequency Tables: an Improved Frequency-to-Symbol Algorithm”, *Software – Practice and Experience*, Vol 26, No 4, pp 399–400, April 1996
13. Fenwick, P.M., “Differential Ziv-Lempel Text Compression”, *J.UCS* Vol 1, No 8 pp 587–598 Aug 1995  
[http://www.iicm.edu/jucs\\_1\\_8](http://www.iicm.edu/jucs_1_8)
14. Fenwick, P.M., “Huffman code efficiencies for extensions of sources”, *IEEE Trans. Comm.*, Vol 43 No 2 pp 163–165, Feb 1995
15. Fenwick, P.M., “High-radix Division with Approximate Quotient-digit Estimation”, *Journal for Universal Computer Science (J.UCS)* Vol 1, No 1, pp 2–22 Jan 1995 [http://www.iicm.edu/jucs\\_1\\_1](http://www.iicm.edu/jucs_1_1)
16. Fenwick, P.M., “A new data structure for cumulative frequency tables”, *Software – Practice and Experience*, Vol 24, No 3, pp 327–336 Mar 1994.
17. Fenwick, P.M., “A New Technique for Self Organising List Searches”, *Computer Journal*, pp 450–454, Oct. 1991.
18. Fenwick, P.M., “Performance Measurements on a 39 km Extended Ethernet”, *Computer Journal*, pp 314–322, August 1990
19. Fenwick, P.M., “A Fast-Carry Adder with CMOS Transmission Gates”, *Computer Journal*, Vol 30, No 1, pp 77–79, 1987.
20. Fenwick, P.M., “Some Aspects of the Dynamic Behaviour of Hierarchical Memories”, *IEEE Trans. Comput.* Vol C-34, pp 570–573, June 1985.

21. Fenwick, P.M., "A Binary Representation for Decimal Numbers", *Aust. Comp. Journal*, Vol 4, pp 146–149, Nov 1972.
22. Fenwick, P.M., "Pulse Generator Using R.T.L. Integrated Circuits", *Radio and Electronic Engineer*, Vol 37, pp 374–376, June 1969
23. Fenwick, P.M., "Binary Multiplication Using Overlapped Addition Cycles", *IEEE Trans. Comp.* Vol 18, pp 71–74, Jan 1969.
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25. J.B. Earnshaw, Fenwick, P.M., "Design for a Parallel Binary Adder", *Electronic Engineering*, pp 794–796, December 1966
26. Fenwick, P.M., J.B. Earnshaw, "A Transistor-Diode Feedback Type Logic Circuit", *Radio and Electronic Engineer*, Vol 32, pp 191–199, September 1966

### Conference Papers (most recent first. ® denotes a refereed paper)

1. ® Titchener, M.R., Fenwick, P.M. and Lorenz, M.. "Burrows-Wheeler — alternatives to Move-To-Front", *Data Compression Conference, DCC-03*, Snowbird, Utah Mar 1999.
2. ® Titchener, M.R., Fenwick, P.M. and Chen, M.C. "Towards a Calibrated Corpus for Compression Testing", *Data Compression Conference, DCC-99*, Snowbird, Utah Mar 1999.
3. ® Fenwick, P.M. and Brierley, S. "Compression of Unicode Files", *Data Compression Conference, DCC-98*, Snowbird, Utah Mar 1998.
4. ® Fenwick, P.M., "Symbol Ranking text compressors", *Data Compression Conference, DCC-97*, Snowbird, Utah March 1997.  
Fenwick, P.M., "Queue Prediction: an efficient scheduler for fast ATM cell transmission", ATMworks workshop, University of Waikato, Feb 1997.
5. ® Fenwick, P.M., "Queue Prediction: an efficient scheduler for fast ATM cell transmission", ACSC'97, Sydney, Australia, Feb 1997.
6. ® Fenwick, P.M., "Block Sorting Text Compression", ACSC'96, Melbourne, Australia, Jan 1996
7. ® Fenwick, P.M. and Woolford, S.A., "Vector quantisation for wavelet based image compression", *Data Compression Conference, Snowbird, Utah March 1995*  
Fenwick, P.M., "Huffman code efficiencies for extensions of sources", *Salodays in Auckland – Proceedings*, Auckland, January 1994.
8. ® Fenwick, P.M., Gutmann, P.C., "Table-Driven Arithmetic Coding", *Data Compression Conference, Snowbird, Utah, March 1993*
9. ® Fenwick, P.M., "Ziv-Lempel encoding with multi-bit flags", *Data Compression Conference, Snowbird, Utah, March 1993*
10. ® Fenwick, P.M., "Time-Domain Measurements on an Extended Ethernet", *Int. Symposium on Signal Processing & Applications* (Gold Coast, Queensland, Aug 1990)  
Murray Thompson, Peter Fenwick, Joe Lackey, Karl Nissen, Don Thielman and Zhang Huilian, "A 40 km Extended Ethernet", *Telecom. Users Assn of N.Z.* (Auckland, August 1988) pp 43–50
11. Fenwick, P.M., "A Digital Data Network with Radio Frequency F.S.K. Transmission", *Australian Universities Network Workshop*, Univ. of Sydney, Nov 1983.
12. ® Fenwick, P.M., "A Data-Oriented Addressing System," *Proc. 5th Aust. Comp. Conf.*, pp 340–344 (Brisbane, May 1972)

13. Fenwick, P.M., "Data Acquisition and On-Line Analysis on a HP2116B Computer", *Data Acquisition and Real-Time Systems*, pp 42–52, Fenwick, P.M. and D.E. Lawrence (Eds) University of Queensland Press, 1971.
14. Fenwick, P.M., "A Small Fast Microprogram Computer," *NELCON III* (Auckland, 1970)
15. Fenwick, P.M., "A Three-Channel Variable Delay Pulse Generator," *NELCON II* (Auckland 1968)
16. Fenwick, P.M., "A Transistor-Diode Feedback Type Logic Circuit," *N.Z. National Electronics Conf. (NELCON I)*, 1966

### Books and Sections of Books

1. *Introduction to Computer Data Representation*. Bentham Publications 2014 eBook(eISBN 978-1-60805-882-2, 2014) ("Print-On-Demand" ISBN 978-1-60805-883-9)
2. *Data Compression Handbook*, Ed Khalid Sayood, Academic Press, 2003. Invited chapters on –
  - Burrows-Wheeler Compression
  - Symbol Ranking and ACB Compression
  - Unicode Compression
  - Universal Codes
3. *Dictionary of Computer Science, Engineering and Technology*, Ed Philip A. Laplante, CRC Press 2001. (Contributor on computer memory and input/output)
4. *Comprehensive Dictionary of Electrical Engineering*, Ed Philip A. Laplante, CRC Press/IEEE Press 1999. (Contributor on computer memory and input/output)
5. *Data Acquisition and Real-Time Systems*, Fenwick, P.M. and D.E. Lawrence (Eds) University of Queensland Press, 1971.

### Non-refereed Contributions (most recent first)

1. Fenwick, P.M., "A picture is worth 1000 words (or 16000 bits)", *IEEE Computer*, Vol 26, No 9, p 128, Sep 1993
2. Fenwick, P.M., "Figuring the angles", *IEEE Spectrum*, Vol 24, No 1 p10, Jan 1987.
3. Fenwick, P.M., "Micros, Mainframes, and Computer Safety", *IEEE Computer.*, Vol 18, p 113, June 1985.
4. Fenwick, P.M., "On Hardware Design Effort", *IEEE Computer.*, Vol 18, p 112, March 1985.
5. Fenwick, P.M., "Reliability and Safety", *CACM*, Vol 27, No. 12, pp 1175–1176, Dec 1984. (See also *CACM* Vol 28, No. 4, p 350, April 1985.)
6. Fenwick, P.M., "Addressing Operations for Automatic Data Structure Accessing", *Comp. Arch. News*, Vol 12, No. 1, pp 44–57, March 1984.
7. Fenwick, P.M., "A Novel Message Control System for the B6700", *J. Users Burroughs Large Systems*, Vol 8, pp 19–23, 1976.
8. Fenwick, P.M., "A Small Fast Microprogram Computer", *Radio, Electronics and Communications*, Vol 25, No 12, pp 13–16, March 1971.

### Technical Reports (most recent first)

1. Fenwick, P.M., "Reflections on Burrows Wheeler compression", The University of Auckland, Department of Computer Science Report No 172, Jul. 2004.
2. Fenwick, P.M., "A fast, constant-order, symbol ranking text compressor", *The University of Auckland, Department of Computer Science Report No 145*, April 1997

3. Fenwick, P.M., "Punctured Elias Codes for variable-length coding of the integers", *The University of Auckland, Department of Computer Science Report No 137*, 15 pages, Dec. 1996.
4. Fenwick, P.M., "Symbol Ranking Text Compression", *The University of Auckland, Department of Computer Science Report No 132*, June 1996.
5. Fenwick, P.M., "Block Sorting Text Compression — Final Report", *The University of Auckland, Department of Computer Science Report No 130*, Apr. 1996.
6. Fenwick, P.M., "Improvements to the Block Sorting Text Compression Algorithm", *The University of Auckland, Department of Computer Science Report No 120*, Aug. 1995.
7. Fenwick, P.M., "Experiments with a Block Sorting Text Compression Algorithm", *The University of Auckland, Department of Computer Science Report No 111*, May 1995.
8. Fenwick, P.M., "A New Data Structure for Cumulative Probability Tables : an Improved Frequency-to-Symbol Algorithm", *The University of Auckland, Department of Computer Science Report No 110*, Feb. 1995.
9. Fenwick, P.M. and P.C. Gutmann, "Fast LZ-77 string matching", *The University of Auckland, Department of Computer Science Report No 102*, Sep. 1994.
10. Fenwick, P.M., "Huffman code efficiencies for extensions of sources", *The University of Auckland, Department of Computer Science Report No 89*, Feb. 1994.
11. Fenwick, P.M., "A new data structure for cumulative frequency tables", *The University of Auckland, Department of Computer Science Report No 88*, Feb. 1994.
12. Fenwick, P.M., "The University of Auckland Student Streaming Programs", *The University of Auckland, Department of Computer Science Report No 58*, Nov. 1991.
13. Doran R.W. , Fenwick, P.M., Zheng Qun, "Virtual Registers", *The University of Auckland, Department of Computer Science Report No 57*, Oct. 1991.
14. Fenwick, P.M. "Hierarchical Memories", Burroughs Corp., Mission Viejo, CA. Engineering & Technical Memorandum (ETM 544) Sep 1979
15. Fenwick, P.M., "6800 Microprocessor Hardware", *The University of Auckland, Computer Centre Tech. Report 14*, December 1978.
16. Fenwick, P.M., "MUL – A Language for the 6800 Microprocessor", *The University of Auckland, Computer Centre, Tech. Report 13*, November 1978.
17. Fenwick, P.M., "A System for Processing Student Jobs on Marksense Cards", *The University of Auckland, Computer Centre, Tech. Report 12*, October 1978.
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20. Fenwick, P.M., "EAST – a High Level Assembler for the CAI Alpha-16 Computer", *The University of Auckland, Computer Centre, Tech. Report 3*, March 1976.
21. Fenwick, P.M., "A Data Link to Connect 16-bit Computers", *A.N.U. Computer Centre, Tech. Report 41*, August 1972
22. Fenwick, P.M., "A Program for the Preparation of Wiring Tables", *A.N.U. Computer Centre, Tech. Report 40*, August 1972.