

## REFERENCES

- [Abra77] N. Abramson, "The Throughput of Packet Broadcasting Channels," *IEEE Trans. on Comm.*, Vol. COM-25, No. 1, January 1977 (pp. 117-128).
- [Aviz78] A. Avizienis, "Fault-Tolerance: The Survival Attribute of Digital Systems," *Proceedings of the IEEE*, Vol. 66, No. 10, October 1978.
- [Awer85] B. Awerbuch, "Complexity of Network Synchronization," *J. of ACM*, Vol. 32, No. 4, October 1985 (pp. 804-823).
- [Berg73] C. Berge, *Graphs and Hypergraphs*. Amsterdam: North-Holland Publishing Company, 1973.
- [FiTo86] M. Fine and F. A. Tobagi, "Packet Voice on a Local Area Network with Round Robin Service," *IEEE Trans. on Comm.*, Vol. COM-34, No. 9, September 1986 (pp. 906-915).
- [Fran70] P. A. Franaszek, "Sequence-state Method for Run-length-limited Coding," *IBM J. of Res. and Develop.*, July 1970 (pp. 376-383).
- [Fran82] P. A. Franaszek, "Construction of Bounded Delay Codes for Discrete Noiseless Channel," *IBM J. of Res. and Develop.*, July 1982 (pp. 506-514).
- [GoWo85] P. M. Gopal and J. W. Wong, "Analysis of a Hybrid Token-CSMA/CD Protocols for Bus Networks," *Computer Networks and ISDN Systems 9*, 1985 (pp. 131-141).
- [Grub81] J. G. Gruber, "Delay Related Issues in Integrated Voice and Data Networks," *IEEE Trans. on Comm.*, Vol. COM-29, No. 6, June 1981 (pp. 786-800).
- [HoOs75] S. L. Hong and D. L. Ostapko, "Codes for Self-clocking, AC-coupled Transmission: Aspects of Synthesis and Analysis," *IBM J. of Res. and Develop.*, July 1975 (pp. 358-365).
- [Joly84] S. Joshi and V. Iyer, "New Standards for Local Networks Push Upper Limits for Lightwave Data," *Data Communications*, July 1984 (pp. 127-138).
- [Kama87] Ahmed E. Kamal, "Star Local Area Network: A Performance Study," *IEEE Trans. on Computers*, Vol. C-36, No. 4, April 1987 (pp. 483-499).
- [Kapr85] F. P. Kapron, "Fiber Optic System Tradeoffs," *IEEE Spectrum*, March 1985 (pp. 68-75).
- [Knut86] D. Knuth, "Efficient Balanced Codes," *IEEE Trans. on Info. Theory*, January 1986.
- [KuRo81] H. T. Kung and J. T. Robinson, "On Optimistic Methods for Concurrency Control," *ACM Trans. on Database Systems*, Vol. 6, No. 2, June 1981 (pp.

- 213-226).
- [Lacr84] J. Lacroix, "Line Signals in Submarine Digital Telephone Links Using Optical Fibers," *J. of Lightwave Technology* (IEEE), December 1984.
- [Lamp78] L. Lamport, "Time, Clocks, and the Ordering of Events in a Distributed System," *Comm. of the ACM*, Vol. 21, No. 7, July 1978 (pp. 558-565).
- [Lazar85] A. A. Lazar, A. Patir, T. Takahashi, and M. El Zarki, "MAGNET: Columbia's Integrated Network Testbed," *IEEE J. on Selected Areas in Comm.*, Vol. SAC-3, No. 6, November 1985 (pp. 859-871).
- [LeBo83] E. S. Lee and P. I. P. Boulton, "The Principles and Performance of Hubnet: A 50 megabit/Sec Glass Fiber Local Area Network," *IEEE J. on Selected Areas in Comm.*, Vol. SAC-1, No. 5, November 1983.
- [LeBolk84] Lee, Boulton and Ikeman, "A Glass-Fiber Rooted-Tree Local Area Network," *FOC/LAN'84*.
- [Leis84] E. L. Leiss, "Data Integrity in Optical Disks," *IEEE Trans. on Comp.*, Vol. C-33, No. 9, September 1984 (pp. 818-827).
- [LMHo86] Ming-Kang Liu, David G. Messerschmitt and David A. Hodges, "An Approach to Fiber Optics DATA/VOICE/VIDEO LAN," *INFOCOM 1986*.
- [Mang83] G. R. Mangus, "LANFOTS - A Fiber Optic Transmission System for A Local Area Network," *FOC/LAN'83*.
- [Marh84] M. E. Marhic, "Combinatorial Star Couplers for Single-Mode Optical Fibers," *FOC/LAN'84*.
- [McOf87] P. McKinley and Y. Ofek, "Resource Sharing in a Synchronous Optical Hypergraph," To be presented in the Symposium on the *Simulation of Computer Networks*.
- [Mont83] W. A. Montgomery, "Techniques for Packet Voice Synchronization," *IEEE J. on Selected Areas in Comm.*, Vol. SAC-1, No. 6, December 1983 (pp. 1022-1028).
- [NTM85] M. M. Nassehi, F. A. Tobagi and M. E. Marhic, "Topological Design of Fiber Optics Local Area Networks with Application to Expressnet," *SEL Technical Report No. 85-271*, Stanford University March 1985.
- [Ofek87a] Y. Ofek, "A Family of Conservative Codes with Block Delimiters for Decoding without a Phase-Locked Loop," *The 1987 ACM Computer Science Conference*.
- [Ofek87b] Y. Ofek, "An Encoder/Decoder System and Methodology Utilizing Conservative Coding with Block Delimiters, for Serial Communication," Patent pending (U.S.).
- [OFFa87a] Y. Ofek and M. Faiman, "A Digital Interface to a One Gigabit/sec Multiple-Access Fiber-Optic Network," *The Sixth Annual IEEE Phoenix*

- Conference on Computers and Communications (1987).*
- [OfFa87b] Y. Ofek and M. Faiman, "Distributed Global Event Synchronization in a Fiber Optic Hypergraph Network," To be presented in the *7th International Conference on Distributed Computing Systems*.
- [Pers83] D. P. Personick, "Review of Fundamentals of Optical Fiber Systems," *IEEE J. on Selected Areas in Comm.*, Vol. SAC-1, No. 3, April 1983.
- [RePa85] S. Renben and P. C. Patton, "BCA: A Bus Connected Architecture," *The 1985 International Conference on Parallel Processing (ICPP 85)*.
- [SRNJB83] Schmidt, Rawson, Norton, Jackson and Baily, "Fibernet II: A Fiber Optic Ethernet," *IEEE J. on Selected Areas in Comm.*, Vol. SAC-1, No. 5, November 1983.
- [Seve80] R. H. Severt, "Encoding Schemes Support High Density Digital Data Recording," *Computer Design*, May 1980 (pp. 181-190).
- [Sore84] H. Sorensen, "Use of Standard Modulation Codes for Fiber Optic Link Optimization," *FOC/LAN'84*.
- [Sze85] D. T. W. Sze, "A Metropolitan Area Network," *IEEE J. on Selected Areas in Comm.*, Vol. SAC-3, No. 6, November 1985 (pp. 815-824).
- [Tane81] A. S. Tanenbaum, *Computer Networks*. Prentice-Hall, Inc. 1981.
- [TCJ83] C. Tseng, B. Chen, and A. Jalail, "Implementation of D-NET at TRW Technology Research Center," *FOC/LAN'83*.
- [Ullm84] J. D. Ullman, "Flux, Sorting, and Supercomputer Organization for AI Applications," *J. of Parallel and Distributed Computing* 1, 1984 (pp. 133-151).
- [VILe84] D. Vlack and H. R. Lehman, "An Experimental Digital Video Switching Architecture," *ISS'84 Florence*.
- [WiFr83] A. Widmer and P. Franaszek, "A DC-Balanced, Partitioned-Block, 8B/10B Transmission Code," *IBM J. of Res. and Develop.*, September 1983.
- [Witt81] L. D. Wittie, "Communication Structure for Lare Network of Microprocessors," *IEEE Trans. on Comp.* Vol. c-30, No. 4, April 1981.

## VITA

Yoram Ofek was born in Kibbutz Ramat David, Israel. In 1979, he completed his B.S. in Electrical Engineering at the Technion, the Israel Institute of Technology. After graduation, he worked with the Israeli Armament Development Authority and then at Fermi National Accelerator Laboratory. He started his graduate studies in the Department of Electrical and Computer Engineering, at the University of Illinois, Urbana-Champaign, in January 1984. He received his M.S. degree in May of 1985, and his Ph.D. degree in May of 1987. Yoram is married to Barbara, and they have three children: Tidhar, Gidon, and Daphna.