Robert G. Wedig, Ph.D.

April 2023

Education

B.E.E. Electrical Engineering, University of Dayton, 1977.

M. S. Electrical Engineering, University of Southern California, 1979.

Ph.D. Electrical Engineering, Stanford University, 1982.

Professional Experience

1/86 - present Independent Consultant. Wedig Consulting, Inc. Sunnyvale, Ca.

8/82 - 12/85 Assistant Professor of Electrical and Computer Engineering. Carnegie-Mellon University, Pittsburgh, PA.

9/79 - 6/82 Research Assistant, Instructor, and Teaching Assistant. Computer Systems Laboratory, Stanford University, Stanford, Ca.

4/77 - 9/79 Processor Design Engineer. Hughes Aircraft Company, Fullerton, Ca.

9/74 - 4/77 Application Programmer. University of Dayton, Dayton, Ohio.

Awards

1983 - 1985 IBM Faculty Development Award.

1980 - 1982 IBM Predoctoral Fellowship.

1977 -1979 Hughes Aircraft Masters Fellowship.

Professional Societies

Tau Beta Pi, IEEE, ACM

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Invited Presentations

"The Directly Interfaceable Parallel I/O Chip", Professional Seminar, Xerox Palo Alto Research Center, April 1981.

"Advances in Computer Architecture", Program for Technical Managers, Carnegie-Mellon University, April 1983.

"The GaAs Realization of a Production System Machine", Hawaii International Conference on System Sciences, January 1986.

"GaAs Computer Architectures", NCR Corporation, April 1986.

"Software and Hardware Techniques for Stack Management", Hawaii International Conference on System Sciences, January 1987.

"A Performance Analysis of Automatically Managed Top of Stack Buffers", NCR Corporation, June 1987.

"Concurrency in Single Chip Processors", NCR Corporation, September 1987.

Professional Activities

- Session Leader of GaAs Processor Session, Hawaii International Conference on System Sciences, January 1986.
- Minitrack Chairman of Hardware Track, Hawaii International Conference on System Sciences, January 1988.
- Committee Member, Asilomar Microcomputer Workshop, 1986 – 2012.
- Program Chairman, Asilomar Microcomputer Workshop, 1998.
- Committee Member, HOT Interconnects Symposium, 2000 – 2001.

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WEDIG CONSULTING

Publications

1. Wedig, R. G., "Dynamic Detection of Concurrency in DO-Loops Using Ordering Matrices", Technical Report 209, Stanford University, May 1981.

2. Wedig, R. G., A "Phenomenal" Chip for Toy Design, *VLSI Design*, Vol. 2, No. 3, 1981, pp. 51-52

3. Wedig, R. G., "Dynamic Detection of Concurrency in DEL Instruction Streams", Technical Report 231, Stanford University, February 1982.

4. *Detection of Concurrency in Directly Executed Language Instruction Streams*, Ph.D. dissertation, Stanford University, June 1982.

5. Wedig, R. G. and Flynn, M. J., "Concurrency Detection in Language-Oriented Processing Systems", *Proceedings of the 3rd International Conference on Distributed Computing Systems*, IEEE, October 1982, pp. 805-810.

6. With Flynn, M. J., Huck, J. C. and Wakefield, S. P., "Performance Evaluation of Execution Aspects of Computer Architectures", *Proceedings of the International Workshop on High Level Language Computer Architectures*, University of Maryland and the Office of Naval Research, December 1982.

7. Wedig, R. G., "The Detection of Concurrency Using Structured Control Flow", *Proceedings of the International Workshop on Computer Systems Organization*, IEEE Computer Society, March 1983, pp. 28-35.

8. Wedig, R. G., "A Language-Oriented Approach for Implementing Branches: Structured Control Flow", *Proceedings of the International Workshop on High-Level Computer Architecture*, University of Maryland, May 1984, pp. 3.1-3.7.

9. Wedig, R. G. and Rose, M. A., "The Reduction of Branch Instruction Execution Overhead Using Structured Control Flow", *Proceedings of the 11th Annual International Symposium on Computer Architecture*, IEEE Computer Society, June 1984, pp. 119-125

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10. Wedig, R. G., "Using ISPS to Teach Computer Architecture", Proceedings of the National Educational Computing Conference, ACM, June 1984.

11. With Forgy, C., Gupta, A. and Newell, A., "Initial Assessment of Architectures for Production Systems", *Proceedings of the National Conference on Artificial Intelligence*, AAAI, August 1984.

12. Wedig, Robert G. and Lehr, Theodore F., "The GaAs Implementation of a Production System Machine", *The Proceedings of the 19th Annual Hawaii International Conference on System Sciences*, IEEE Computer Society, January 1986.

13. With Anoop Gupta and Charles Forgy, "Parallel Algorithms and Architectures for Rule-Based Systems", *Proceedings of the 13th Annual International Conference on Computer Architecture*, IEEE, June 1986.

14. With Augustus K. Uht, "Hardware Extraction of Low-Level Concurrency from Serial Instruction Streams", *Proceedings of the 15th Annual International Conference on Parallel Processing*, ACM, August 1986.

15. Wedig, Robert G., Software and Hardware Techniques for Stack Management, *The Proceedings of the 20th Annual Hawaii International Conference on System Sciences*, IEEE Computer Society, January 1987.

16. With Theodore F. Lehr, "The GaAs Implementation of a Production System Machine, *IEEE Computer*, April 1987.

17. With Timothy Stanley, "A Performance Analysis of Automatically Managed Top of Stack Buffers", *Proceedings of the 14th Annual International Conference on Computer Architecture*, IEEE, June 1987.

18. Wedig, R. G., *High Level Language Computer Architectures*, Elsevier Science, New York, NY, 1988, chapter 6.

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Prior Expert Witness Work

Neutral Expert

1. Expert for Judge John Flaherty, Ret., Systems America, Inc. v. Rockwell Software, Inc., Judicial Arbitration and Mediation Services (JAMS), December, 2005.
2. Source Code Auditor, Niku Coporation v. Ameripay Payroll, Ltd., United States District Court, Northern District of California, December 2004.
3. Neutral Expert, ISS v. Blade Software, United States District Court, Northern District of Georgia, March 2003.
4. Expert for the Mediator, OneBox v. iHello.com Mediation, July 1999.
5. Expert to the Supreme Court of Singapore, Aztech Systems Ltd. v. Creative Laboratories Ltd., June, 1995.
6. Auditor for the Chips and Technologies v. Elite Microelectronics Settlement Agreement, June, 1990.

Courtroom Testimony

1. In the Matter of Certain Memory Modules and Components Thereof, and Products Containing Same, Expert for SK hynix Inc., International Trade Commission, Inv. No. 337-TA-1089, July 17, 2019.
2. In the Matter of Certain Memory Modules and Components Thereof, and Products Containing Same, Expert for SK hynix Inc., International Trade Commission, Inv. No. 337-TA-1023, May 10, 2017.
3. Mondis Technology, LTD. v. Hon Hai Precision Industry Co., LTD., Chimei Innolux Corp., and Innolux Corp., Expert for the Plaintiff, United States District Court, Eastern District of Texas, June 23, 2011.
4. Phillip M. Adams & Associates, LLC v. Dell, Inc., et. al., Expert for the Defendants, United States District Court, District of Utah, September, 2010
5. In the matter of Certain Electronic Devices Including Handheld, Wireless Communication Devices, Expert for Palm and Samsung Electronics Co., Ltd., International Trade Commission, October 28, 2009.
6. Renesas Technology Corp. and Renesas Technology America, Inc. v. the International Trade Commission, Expert for Samsung Electronics Co., Ltd., March, 2008.

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7. Lucent Technologies, Inc. v. Dell Inc., Gateway Inc. and Microsoft Corporation, Expert for Defendants Dell and Gateway, United States District Court, Southern District of California, March 14, 2008.

8. Samsung Electronics Co., LTD. v. Compal Electronics, Inc., Expert for the Plaintiff, United States District Court, Northern District of California, November, 2006.

9. Samsung Electronics Co., LTD. v. Inventec Corp and Samsung Electronics Co., LTD. v. Arima Computer Corp., Expert for the Plaintiff, United States District Court, Southern District of Texas, November 12-15, 2002.

10. Oak Technologies Inc. v. United Microelectronics Corp., Mediatek, Inc. v. Oak Technologies Inc., Expert for Oak Technologies, United States District Court, Northern District of California, August, 2002.

11. Maurice Mitchell v. Samsung Electronics Co., LTD, Expert for the Defendant, United States District Court, Northern District of California, December, 2001.

12. Texas Instruments v. Hyundai Corporation, Expert for the Defense, United States District Court, Eastern District of Texas, March, 1999.

13. UMC, Mediatek, LiteOn and Aopen v. the International Trade Commission, Expert for Oak Technologies, January, 1999.

14. Compass Software, Inc. v. Automated Insurance, Inc., et al., Expert for the Defense, United States District Court, Eastern District of Washington, June, 1997.

15. Gates Rubber v. Bando America, Expert for the Defense, United States District Court, District of Colorado, November, 1994.

16. Genmark v. Equipe, Expert for the Plaintiff, United States District Court, Northern District of California, January - February, 1992

Deposition Testimony

1. Memory Module with Timing-Controller Data Buffering, Samsung Electronics Co., LTD. v. Netlist, Inc., Expert for Partitioner, Inter Partes Review, January 19, 2023.

2. In the Matter of Certain Memory Modules and Components Thereof, and Products Containing Same, Expert for SK hynix Inc., International Trade Commission, Inv. No. 337-TA-1089, October 16, 2018.

3. In the Matter of Certain Memory Modules and Components Thereof, and Products Containing Same, Expert for SK hynix Inc., International Trade Commission, Inv. No. 337-TA-1023, March 30, 2017.

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4. Datel Holdings Ltd. and Datel Design and Development, Inc. v. Microsoft Corporation, Expert for the Defendant and Counterclaim Defendant, United States District Court, Northern District of California, November 9, 2011.

5. Motorola Mobility, Inc. v. Microsoft Corporation, Expert for the Defendant and Counterclaim Defendant, United States District Court, Southern District of Florida, July 13, 2011.

6. Mondis Technology, LTD. v. Hon Hai Precision Industry Co., LTD., Chimei Innolux Corp., and Innolux Corp., Expert for the Plaintiff, United States District Court, Eastern District of Texas, April 11, 2011.

7. Primax Electronics, LTD. v. KYE Systems America Corp., Expert for the Defendant, United States District Court, Central District of California, April 1, 2010.

8. In the Matter of Certain Electronic Devices Including Handheld, Wireless Communication Devices, Expert for RIM, Palm and Samsung Electronics Co., Ltd., International Trade Commission, August 19, 2009.

9. Silicon Image, Inc. v. Analogix Semiconductor, Inc., Expert for the Defendant, United States District Court, Northern District of California, September 19, 2008.

10. Wistron Corporation v. Samsung Electronics Co., LTD., Expert for the Defendant and Counter-Plaintiff, United States District Court, Northern District of California, May 19, 2008.

11. Renesas Technology Corp. and Renesas Technology America, Inc. v. the International Trade Commission, Expert for Samsung Electronics Co., Ltd., February 22, 2008.

12. Lucent Technologies, Inc. v. Dell Inc., Gateway Inc. and Microsoft Corporation, Expert for Defendants Dell and Gateway, United States District Court, Southern District of California, October 23, 2007.

13. Matsushita Industrial Electric Co., LTD. v. Mediatek, Inc., et. al. Expert for the Defendant, United States District Court, Northern District of California, March 22, 2007.

14. Lucent Technologies, Inc. v. Dell Inc., Gateway Inc. and Microsoft Corporation, Expert for Defendants Dell and Gateway, United States District Court, Southern District of California, June 21, 2006.

15. Schultz v. Hewlett-Packard Company, Expert for the Defendants, Superior Court of the State of California, San Joaquin County, April 5, 2006.

16. Samsung Electronics Co., LTD. v. Quanta Computer, Inc. and Compal Electronics, Inc., Expert for the Plaintiff, United States District Court, Northern District of California, March 13-14, 2006.

17. Oak Technology, Inc. v. United Microelectronics Corporation, Expert for the Plaintiff, United States District Court, Northern District of California, September 23, 2005.

18. Samsung Electronics Co., LTD. v. Quanta Computer, Inc. and Samsung Electronics Co., LTD. v. Twinhead Corporation., Expert for the Plaintiff, United States District Court, Northern District of California, March 17-18, 2005.

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19. Balboa Instruments, Inc. v. Spa Builders Support Group, et. al., Expert for the Defendants, United States District Court, Central District of California, July 8, 2004.

20. Alvis v. Hewlett-Packard Company, Expert for the Defendants, United States District Court, District Court of Jefferson County, Texas, May 29, 2003.

21. Gemstar Development Corporation v. EchoStar Corporation, Expert for the Defendant, United States District Court Multi-District Litigation, Northern District of Georgia, February 25-26, 2003.

22. OPTi Inc. v. National Semiconductor Corporation, Expert for the Plaintiff, United States District Court, Northern District of California, February 12, 2003.

23. Samsung Electronics Co., LTD. v. Inventec Corp and Samsung Electronics Co., LTD. v. Arima Computer Corp., Expert for the Plaintiff, United States District Court, Southern District of Texas, September and October, 2002.

24. Maurice Mitchell v. Samsung Electronics Co., LTD, Expert for the Defendant, United States District Court, Northern District of California, February, 2002.

25. Intel v. Via Technologies, Inc., Expert for the Plaintiff, United States District Court, Northern District of California, September, 2001.

26. Balboa Instruments, Inc. v. Gecko Electronique, Inc., et. al., Expert for the Defendants, United States District Court, Central District of California, February, 2000.

27. Adaptec v. Prassi Technology, Expert for the Plaintiff, United States District Court, District of Northern California, September, 1999.

28. Texas Instruments v. Hyundai Corporation, Expert for the Defense, United States District Court, Eastern District of Texas, February, 1999.

29. UMC, Mediatek, LiteOn and AOpen v. the International Trade Commission, Expert for Oak Technologies, December, 1998.

30. Bingo Card Minder vs. Gametech International, Expert for the Defense, United States District Court, District of Northern California, September, 1998.

31. Adaptec and Prassi Technology, Expert for the Plaintiff, United States District Court, District of Northern California, September, 1998.

32. Symantec Corporation v. McAfee Associates, Inc., Expert for the Defense, United States District Court, Northern District of California, June, 1998.

33. WinBond v. the International Trade Commission, Expert for Oak Technologies, February, 1998.

34. Symantec Corporation v. McAfee Associates, Inc., Expert for the Defense, United States District Court, Northern District of California, September, 1997.

35. Gates Rubber v. Bando America, Expert for the Defense, United States District Court, District of Colorado, October, 1994.

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36. Gates Rubber v. Bando America, Expert for the Defense, United States District Court, District of Colorado, September, 1993.

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