Curriculum Vitae

William M. Waite

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Education

Columbia University New York, New York 10027	PhD, Electrical Engineering, 1965 (Thesis: 'The Synthesis of Multidimensional Iterative Networks') MS, Electrical Engineering, 1962 (with Graduate Citation)
Oberlin College Oberlin, Ohio 44074	AB, Physics, 1960 (Cum Laude)

Other Qualifications

General Radiotelephone Certificate PG-15-4809
Airline Transport Pilot Certificate 1915705 (ASEL)
Flight Instructor (Airplane Single Engine, Instrument Airplane)

Professional Experience

Dept. of Electrical and Computer Engineering University of Colorado Boulder, Colorado 80309-0425	August, 2006 – Present August, 1974 – August, 2006 August, 1990 – August, 1994 July, 1970 – August 1974 September, 1966 – June, 1970	Professor Emeritus Professor Department Chair Associate Professor Assistant Professor
Computing Department Division of Information and Communication Sciences Macquarie University New South Wales 2109 AUSTRALIA	November, 2007 July – August, 2004 June – July, 2003 January, 2000 February – May, 1998	Visiting Fellow Visiting Fellow Visiting Fellow Visiting Fellow Visiting Fellow
Institut für Informatik Universität Paderborn 33102 Paderborn GERMANY	August, 2012 July, 2010 June – July, 2008 June – July, 2006 June – July, 2004	Gastwissenschaftler Gastwissenschaftler Gastwissenschaftler Gastwissenschaftler Gastprofessor

School of Computing and Information Technology Nathan Campus Griffith University Brisbane, Queensland 4111 AUSTRALIA	July – August, 2003	Visiting Fellow
Department of Computer Science RMIT University Melbourne 3001 AUSTRALIA	July – August, 2000	Visiting Lecturer
Fachbereich Informatik Technische Hochschule Darmstadt Alexanderstr. 10 64283 Darmstadt GERMANY	May – July, 1997	Gastprofessor
Departamento de Informatica Facultad de Cs. Fisico-Matematicas y Naturales Universidad Nacional de San Luis 5700 - San Luis ARGENTINA	August, 1996	Professor Visitante
Department of Computer Science Australian National University Canberra, ACT AUSTRALIA	May – July, 1996	Visiting Fellow
School of Computer Science Queensland University of Technology Brisbane, Queensland 4001 AUSTRALIA	June – August, 1994	Adjunct Professor
	June – July, 1993	Gastforscher (Berlin)
GMD Schloß Birlinghoven 53757 Sankt Augustin GERMANY	June – August, 1990 May – July, 1989 May – July, 1987 May – July, 1986 May – July, 1985 June – August, 1984	Gastforscher (Karlsruhe)
Department of Computer Science University of Melbourne Parkville, Victoria 3052 AUSTRALIA	June – August, 1988 June – August, 1982 June, 1977	Visiting Lecturer
Universität Karlsruhe Fakultät für Informatik Postfach 6980 76128 Karlsruhe GERMANY	May – July, 1980 May – July, 1973	wiss. Angestellter Visiting Lecturer

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Culham Laboratory, UKAEA Abingdon, Berkshire ENGLAND	April – August, 1971	Temporary Research Associate
Dept. of Information Science Monash University Clayton, Victoria 3168 AUSTRALIA	June, 1970 – March, 1971	Visiting Lecturer
Bell Telephone Laboratories Holmdel, New Jersey 07733	June – August, 1969	Member of Technical Staff
Computer Laboratory Corn Exchange Street Cambridge CB2 3QG ENGLAND	June – August, 1968	Faculty Fellow (University of Colorado)
Computer Center Columbia University New York, New York 10027	June – August, 1967	Senior System Analyst
Basser Computing Department University of Sydney Sydney, New South Wales 2006 AUSTRALIA	May, 1965 – May, 1966	Postdoctoral Fellow (National Science Foundation)
Columbia University Electronics Research Labs. New York, New York 10027	September, 1962 – April, 1965 Summer, 1962 Summer, 1961	Research Assistant Staff Engineer

Professional and Honorary Societies

Association for Computing Machinery

- – Editor, Operating Systems Review (June, 1972 – December, 2005)
- – Editor, SNOBOL Bulletin (May, 1967 – July, 1976)
- – ACM National Lecturer (1973 – 1974)

International Federation for Information Processing

- – Working Group 2.4 (September, 1974 – Present, Chairman: October, 1983 – May 1990)
- – Silver Core Recipient, 1989
- – Elected an IFIP Fellow, 2020

British Computer Society

- – Computer Journal Editorial Board (January, 1983 – December, 1992)

Sigma Xi

Eta Kappa Nu

Civil Air Patrol

Colorado Wing 360 W Otis St Peterson AFB, Colorado 80914-3103	November, 2010 – August, 2015 September, 2015 – October, 2016 November, 2016 – October, 2019 October, 2019 – November, 2019	Director of Operations Assistant Director of Operations Director of Operations Assistant Director of Operations
Boulder Composite Squadron 3335 Airport Rd Boulder, Colorado 80301	March, 2007 – November, 2010 March, 2007 – November, 2010 March, 2007 – September, 2010 July, 2021 – Present	Administrative Officer Personnel Officer Professional Development Officer Operations Officer

Publications

Books

1. Uwe Kastens, Anthony M. Sloane, and William M. Waite. *Generating Software from Specifications.* Jones and Bartlett Publishers, Sudbury, MA, 2007.

2. William M. Waite and Lynn Robert Carter. *An Introduction to Compiler Construction.* HarperCollins, New York, 1993.

3. William M. Waite and Gerhard Goos. *Compiler Construction.* Springer-Verlag, New York, 1984.

4. William J. Cody and William M. Waite. *Software Manual for the Elementary Functions.* Prentice-Hall, Englewood Cliffs, NJ, 1980.

5. William M. Waite. *Implementing Software for Non-Numeric Applications.* Prentice-Hall, Englewood Cliffs, NJ, 1973.

Articles

1. Uwe Kastens and William M. Waite. Name Analysis for Modern Languages: A General Solution. *Software: Practice and Experience*, 47:1597–1631, 2017.

2. Clayton Lewis, Michelle H. Jackson and William M. Waite. Student and Faculty Attitudes and Beliefs about Computer Science. *Communications of the ACM*, 53:78–85, May, 2010.

3. Uwe Kastens and William M. Waite. Reusable Specification Modules for Type Analysis. *Software – Practice and Experience*, 39:833–864, 2009.

4. John Dennis, Elizabeth Jessup and William Waite. SLAMM — Automating Memory Analysis for Numerical Algorithms. Ninth Workshop on Language Descriptions, Tools and Applications, 2009.

5. William M. Waite, Assad Jarrahian, Michele H. Jackson, and Amer Diwan. Design and Implementation of a Modern Compiler Course. 11th Annual Conference on Innovation and Technology in Computer Science Education, 2006, pages 18–22.

6. William M. Waite. The Compiler Course in Today's Curriculum: Three Strategies. 37th ACM Technical Symposium on Computer Science Education, 2006, pages 87–91.

7. Anthony M. Sloane and William M. Waite. Eclipse Support for Using Eli and Teaching Programming Languages. Electronic Notes in Theoretical Computer Science, Vol. 141, No. 4, pages 189–194, 2005.

8. Paul M. Leonardi, Michele H. Jackson, William M. Waite, and Amer Diwan. Occupational work styles and organizational change: A constitutive perspective on engineering culture. Paper presented at the Academy of Management Conference, Honolulu, HI, August, 2005.

9. Amer Diwan, Michele H. Jackson, William M. Waite, and Jacob Dickerson. PL-detective: experiences and results. 36th ACM Technical Symposium on Computer Science Education, 2005, pages 221–225.

10. William M. Waite, Michele H. Jackson, and Amer Diwan. Student culture vs group work in Computer Science. 35th ACM Technical Symposium on Computer Science Education, 2004, pages 12–16.

11. Amer Diwan, William M. Waite, and Michele H. Jackson. PL-Detective: A system for teaching programming language concepts. 35th ACM Technical Symposium on Computer Science Education, 2004, pages 80–84.

12. William M. Waite, Michele H. Jackson, and Amer Diwan. The conversational classroom. 34th ACM Technical Symposium on Computer Science Education, 2003, pages 127–131.

13. Amer Diwan, William M. Waite, and Michele H. Jackson. An infrastructure for teaching skills for group decision making and problem solving in programming projects. 33rd ACM Technical Symposium on Computer Science Education, 2002, pages 276–280.

14. Lynn Robert Carter and William M. Waite. Problem Solving Skills. FIE 2000, 30th Annual Frontiers in Education Conference, Conference Proceedings, Vol. 2, 2000, pages S1B-6–S1B-10.

15. Anthony M. Sloane and William M. Waite. Issues in automatic software manufacturing in the presence of generators. Proc. of the Australian Software Engineering Conference, Adelaide, pages 134–143. November, 1998.

16. Michael Doherty, Michael Greene, David Keaton, Christian Och, Matthew Seidl, William M. Waite, and Benjamin Zorn. Programmable Ubiquitous Telerobotic Devices. Proc. Spie Telemanipulator And Telepresence Technologies Iv, Vol. 3206, pages 150–157, Pittsburgh, Pa, October, 1997.

17. William M. Waite and Rosemary Michelle Simpson. The Lab and the Web: Transforming the Sophomore Experience. In *Proceedings of ASEE '96*, 1996.

18. William M. Waite and Basim M. Kadhim. Languages for system components: A case study. In *Workshop on Compiler Techniques for Application Domain Languages and Extensible Language Models*, pages 41–47. April 26 1996.

19. William M. Waite. Compiler construction: Craftsmanship or engineering? In Tibor Gyimothy, editor, *Compiler Construction*, volume 1060 of *Lecture Notes in Computer Science*, pages 151–159. Springer-Verlag, Heidelberg, 1996.

20. Basim M. Kadhim and William M. Waite. Maptool — Supporting Modular Syntax Development. In Tibor Gyimothy, editor, *Compiler Construction*, volume 1060 of *Lecture Notes in Computer Science*, pages 268–280. Springer-Verlag, Heidelberg, 1996.

21. Uwe Kastens and William M. Waite. Modularity and reusability in attribute grammars. *Acta Informatica*, 31:601–627, 1994.

22. William M. Waite. An executable language definition. *SIGPLAN Notices*, 28:21–40, February 1993.

23. Robert W. Gray, Vincent P. Heuring, Steven P. Levi, Anthony M. Sloane, and William M. Waite. Eli: A complete, flexible compiler construction system. *Communications of the ACM*, 35:121–130, February 1992.

24. Uwe Kastens and William M. Waite. An abstract type for name analysis. *Acta Informatica*, 28:539–558, 1991.

25. William M. Waite. Use of attribute grammars in compiler construction. In Pierre Deransart and Martin Jourdan, editors, *Attribute Grammars and their Applications*, volume 461 of *Lecture Notes in Computer Science*, pages 255–265. Springer-Verlag, Berlin, 1990.

26. Vincent P. Heuring, Uwe Kastens, Robert G. Plummer, and William M. Waite. Comar: A data format for integration of cfg tools. *Computer Journal*, 32:445–452, October 1989.

27. William M. Waite, Vincent P. Heuring, and Uwe Kastens. Configuration control in compiler construction. In *Proc. International Workshop on Software Version and Configuration Control*, pages 159–168. Teubner, Stuttgart, 1988.

28. William M. Waite. Compiler design. In Allen Kent and James G. Williams, editors, *Encyclopedia of Microcomputers*, volume 2, pages 433–452. Marcel Dekker, Inc., New York, 1988.

29. William M. Waite. The cost of lexical analysis. *Software – Practice and Experience*, 16:473–488, May 1986.

30. William M. Waite. Treatment of tab characters by a compiler. *Software – Practice and Experience*, 15:1121–1123, November 1985.

31. Malcolm C. Newey and William M. Waite. The robust implementation of sequence-controlled iteration. *Software – Practice and Experience*, 15:655–658, July 1985.

32. William M. Waite and Lynn Robert Carter. The cost of a generated parser. *Software – Practice and Experience*, 15:221–239, March 1985.

33. William M. Waite. Flexibility. In David T. Muxworthy, editor, *Programming for Software Sharing*, pages 111–125. Reidel, Amsterdam, 1983.

34. William M. Waite. Software flexibility. In Anthony Ralston and Edwin D. Riley, Jr., editors, *Encyclopedia of Computer Science and Engineering*, pages 1352–1353. Van Nostrand Reinhold Company, New York, 1983.

35. William M. Waite. Operating system interfaces. In David T. Muxworthy, editor, *Programming for Software Sharing*, pages 127–137. Reidel, Amsterdam, 1983.

36. William M. Waite and Lynn Robert Carter. An analysis/synthesis interface for pascal compilers. *Software – Practice and Experience*, 11:769–787, August 1981.

37. William M. Waite. Software flexibility. In *Proceedings of the Conference on Computing in the 1980's*, pages 56–60, 1978.

38. Bruce K. Haddon and William M. Waite. Experience with the universal intermediate language Janus. *Software – Practice and Experience*, 8:601–616, September-October 1978.

39. William M. Waite. Theory. In Peter J. Brown, editor, *Software Portability*, pages 7–19. Cambridge University Press, 1977.

40. William M. Waite. System interface. In Peter J. Brown, editor, *Software Portability*, pages 127–135. Cambridge University Press, 1977.

41. William M. Waite. Janus. In Peter J. Brown, editor, *Software Portability*, pages 277–290. Cambridge University Press, 1977.

42. William M. Waite. Intermediate languages: current status. In Wayne Cowell, editor, *Portability of Numerical Software*, pages 269–303. Springer-Verlag, 1977.

43. Peter C. Poole and William M. Waite. Portability and adaptability. In Friedrich L. Bauer, editor, *Software Engineering*, volume 30 of *Lecture Notes in Computer Science*, pages 183–277. Springer-Verlag, Heidelberg, 1975.

44. William M. Waite. Janus: an implementation of UNCOL. In *Proc. Eighth Hawaii Intl. Conf. on System Sciences*, pages 207–209, 1975.

45. William M. Waite. Hints on distributing portable software. *Software – Practice and Experience*, 5:295–308, July-September 1975.

46. William M. Waite. Semantic analysis. In Friedrich L. Bauer and Jürgen Eickel, editors, *Compiler Construction - An Advanced Course*, volume 21 of *Lecture Notes in Computer Science*, pages 157–169. Springer-Verlag, Heidelberg, 1974.

47. William M. Waite. Relationship between languages and machines. In Friedrich L. Bauer and Jürgen Eickel, editors, *Compiler Construction - An Advanced Course*, volume 21 of *Lecture Notes in Computer Science*, pages 170–194. Springer-Verlag, Heidelberg, 1974.

48. William M. Waite. Code generation. In Friedrich L. Bauer and Jürgen Eickel, editors, *Compiler Construction - An Advanced Course*, volume 21 of *Lecture Notes in Computer Science*, pages 302–332. Springer-Verlag, Heidelberg, 1974.

49. William M. Waite. Assembly and linkage. In Friedrich L. Bauer and Jürgen Eickel, editors, *Compiler Construction - An Advanced Course*, volume 21 of *Lecture Notes in Computer Science*, pages 333–355. Springer-Verlag, Heidelberg, 1974.

50. William M. Waite. Optimization. In Friedrich L. Bauer and Jürgen Eickel, editors, *Compiler Construction - An Advanced Course*, volume 21 of *Lecture Notes in Computer Science*, pages 549–602. Springer-Verlag, Heidelberg, 1974.

51. William M. Waite. Software portability via an intermediate language. In Gerhard Krüger and Rüdiger Friehmelt, editors, *Fachtagung Prozessrechner 1974, Karlsruhe*, volume 12 of *Lecture Notes in Computer Science*, page 564. Springer-Verlag, Heidelberg, June 1974.

52. Samuel S. Coleman, Peter C. Poole, and William M. Waite. The mobile programming system: Janus. *Software – Practice and Experience*, 4:5–23, January-March 1974.

53. William M. Waite. A sampling monitor for applications programs. *Software – Practice and Experience*, 3:75–79, January-March 1973.

54. Peter C. Poole and William M. Waite. Portability and adaptability. In Friedrich L. Bauer, editor, *Software Engineering*, volume 81 of *Lecture Notes in Economics and Mathematical Systems*, pages 183–277. Springer-Verlag, Heidelberg, 1973.

55. Peter C. Poole and William M. Waite. Portable systems software. In *INCOMPATIBILITY*, volume 9 of *Infotech State of the Art Reports*, page 345. Infotech Information Limited, Maidenhead, Berkshire, U.K., 1972.

56. Malcolm C. Newey, Peter C. Poole, and William M. Waite. Abstract Machine Modelling to Produce Portable Software — A Review and Evaluation. *Software – Practice and Experience*, 2:107–136, April-June 1972.

57. William M. Waite. Input/output conventions for abstract machines. In *Proc. Culham Symposium on Software Engineering*, pages 55–64. Her Majesty's Stationery Office, London, 1971.

58. William M. Waite. The mobile programming system: STAGE2. *Communications of the ACM*, 13:415–421, July 1970.

59. Peter C. Poole and William M. Waite. Input/ouput for a mobile programming system. In *Software Engineering*. Academic Press, New York, 1970.

60. William M. Waite. Building a mobile programming system. *Computer Journal*, 13:28–31, February 1970.

61. Peter C. Poole and William M. Waite. Machine independent software. In *Proc. ACM Second Symposium on Operating System Principles*, pages 19–24, October 1969.

62. Richard J. Orgass and William M. Waite. A base for a mobile programming system. *Communications of the ACM*, 12:507, September 1969.

63. Herbert Schorr and William M. Waite. An efficient machine independent procedure for garbage collection in various list structures. *Communications of the ACM*, 10:501, August 1967.

64. Bruce K. Haddon and William M. Waite. A compaction procedure for variable length storage elements. *Computer Journal*, 10:162, August 1967.

65. William M. Waite. A language-independent macro processor. *Communications of the ACM*, 10:433, July 1967.

66. William M. Waite. Path detection in multidimensional iterative arrays. *Journal of the ACM*, 14:300, April 1967.

67. William M. Waite. An efficient procedure for the generation of closed subsets. *Communications of the ACM*, 10:169, March 1967.

68. Michael O'Halloran and William M. Waite. Note on rapid instruction analysis by table lookup. *Computer Journal*, 9:248, November 1966.

69. Cyril M. Harris and William M. Waite. Measurement of speech spectra recorded with a close-talking microphone. *Journal of the Acoustical Society of America*, 37:926, 1965.

70. William M. Waite and Herbert Schorr. A note on the formation of a free list. *Communications of the ACM*, 7:83, August 1964.

71. William M. Waite. The production of completion signals by asynchronous iterative networks. *IEEE Transactions on Electronic Computers*, EC-13:83, April 1964.

72. Cyril M. Harris and William M. Waite. Response of spectrum analysers of the bank-of-filters type to signals generated by vowel sounds. *Journal of the Acoustical Society of America*, 35:1972, December 1963.

73. Cyril M. Harris and William M. Waite. Display of sound spectrograms in real time. *Journal of the Acoustical Society of America*, 35:729, May l963.

74. Cyril M. Harris and William M. Waite. Gaussian-filter spectrum analyser. *Journal of the Acoustical Society of America*, 35:447, April l963.

Major Internal Reports

1. William M. Waite. Fortran lexical analysis specification. Arbeitspapier 816, Gesellschaft für Mathematik und Datenverarbeitung, Sankt Augustin, Germany, January 1994.

2. William M. Waite, Josef Grosch, and Friedrich-Wilhelm Schröer. Three compiler specifications. GMD Studien 166, Gesellschaft für Mathematik und Datenverarbeitung, Sankt Augustin, Germany, August 1989.

3. William M. Waite. Generator for attribute grammars — abstract data type. Arbeitspapier 219, Gesellschaft für Mathematik und Datenverarbeitung, Karlsruhe, Germany, September 1986.

4. William M. Waite. A mapping from MODULA to the Motorola 68000. Arbeitspapier 184, Gesellschaft für Mathematik und Datenverarbeitung, Karlsruhe, Germany, March 1986.

5. Bruce K. Haddon and William M. Waite. The universal intermediate language Janus (draft definition). Technical Report SEG-78-3, Department of Electrical and Computer Engineering, University of Colorado at Boulder, 1978.

6. William M. Waite. A program for document maintenance and production. Technical Report NSF-OCA-GJ32471-T1, Department of Electrical and Computer Engineering, University of Colorado at Boulder, 1973. NTIS Accession Number PB 223 163.