Dataflow and Functional Languages related publications of Arvind and his collaborators

This is far from a comprehensive bibliography of Dataflow work, it does not even include the work of Jack Dennis and other important players. However, by consulting the papers listed below and following the bibliographic references in them, one should be able to build a pretty comprehensive bibliography.

- 1. Arvind and Kim P. Gostelow, "A Computer Capable of Exchanging Processing Elements for Time," *Information Processing* 77, B. Gilchrist, ed., North-Holland Publishing Company, 1977.
- 2. Arvind and Kim P. Gostelow, "The Semantics of Asynchrony: The Relationships Between Two Different Interpreters of a Programming Language," *Proceedings of the IFIP Working Conference on Formal Description of Programming Concepts*, New Brunswick, Canada, North-Holland Publishing Company, August 1-5, 1977.
- 3. Arvind, Kim P. Gostelow, and Wil Plouffe, "Indeterminacy, Monitors, and Dataflow," Proceedings of the 6th Symposium on Operating Systems Principles, Purdue University, Lafayette, Indiana, November 16-18, 1977.
- 4. Arvind, "Decomposing a Program for Multiple Processor Systems," *Proceedings of 1980 International Conference on Parallel Processing*, Boyne Highlands, Michigan, August 1980.
- 5. Arvind and Vinod K. Kathail, "A Multiple Processor Dataflow Machine that Supports Generalized Procedures," *Proceedings of the 8th International Symposium on Computer Architecture*, Minneapolis, MN, May 13-14, 1981.
- 6. Agerwala, Tilak, and Arvind, "Dataflow Systems: Guest Editors Introduction," *IEEE Computer*, Vol. 15, No. 2, February 1982.
- 7. Arvind and K.P. Gostelow, "The U-interpreter," *IEEE Computer*, Vol. 15, No. 2, February 1982.
- 8. Arvind and J. Dean Brock, "Streams and Managers," *Lecture Notes in Computer Science*, Vol. 143, Springer-Verlag, June 1982.
- 9. Arvind and Robert A. Iannucci, "A Critique of Multiprocessing von Neumann Style," *Proceedings of the 10th International Symposium on Computer Architecture*, Stockholm, Sweden, June 14-17, 1983.
- 10. Arvind, Vinod K. Kathail and Keshav K. Pingali, "Sharing of Computation in Functional Language Implementations," *Proceedings of International Workshop on High-level Computer Architecture*, Los Angeles, CA, May 21-25, 1984.
- 11. Papadopoulos, Gregory M., and Arvind, "Dataflow Models for Fault-Tolerant Control Systems," *American Control Conference Proceedings*, San Diego, CA, June 6-8, 1984.
- 12. Arvind and J. Dean Brock, "Resource Managers in Functional Programming," *Journal of Parallel and Distributed Computing*, Vol. 1, No. 1, June 1984.
- 13. Arvind and David E. Culler, "Managing Resources in a Parallel Machine," *Proceedings of IFIP TC-10 Working Conference on Fifth Generation Computer Architecture*, Manchester, England, North-Holland Publishing Company, July 15-18, 1985.
- 14. Arvind and David E. Culler, "Dataflow Architectures," *Annual Review of Computer Science*, Vol. 1, pages 225-253, Annual Reviews Inc., Palo Alto, CA, 1986.
- 15. Pingali, Keshav K., and Arvind, "Efficient Demand-Driven Evaluation (I)," *ACM TOPLAS*, Vol. 7, No. 2, April 1985. *Corrigendum*): *ACM TOPLAS*, Vol. 8, No. 1, January 1986.

- 16. Pingali, Keshav K., and Arvind, "Efficient Demand-Driven Evaluation (II)," *ACM TOPLAS*, Vol. 8, No. 1, January 1986.
- 17. Arvind, Rishiyur S. Nikhil and Keshav K. Pingali, "I-Structures: Data Structures for Parallel Computing," *Proceedings of the Graph Reduction Workshop* Santa Fe, NM. October 1986. (LNCS Volume 279, Springer-Verlag).
- 18. Arvind and Kattamuri Ekanadham, "Future Scientific Programming on Parallel Machines," *Proceedings of the International Conference on Supercomputing (ICS)*, Athens, Greece. June 8-12 1987.
- 19. Arvind and Rishiyur S. Nikhil, "Executing a Program on the MIT Tagged-Token Dataflow Architecture," *Proceedings of the PARLE Conference*, Eindhoven, Netherlands. June 15-19 1987. (LNCS Volume 259, Springer-Verlag).
- 20. Arvind and Robert A. Iannucci, "Two Fundamental Issues in Multiprocessing," *Proceedings of DFVLR Conference 1987 on "Parallel Processing in Science and Engineering*, Bonn-Bad Godesberg, W. Germany, June 25-26, 1987. (LNCS Volume 295, Springer-Verlag).
- 21. Culler, D.E., and Arvind, "Resource Requirements of Dataflow Programs," *Proceedings of the 15th Annual Symposium on Computer Architecture*, Honolulu, Hawaii, May 31-June 2, 1988.
- 22. Arvind, David E. Culler, and K., Ekanadham, "The Price of Asynchronous Parallelism: An Analysis of Dataflow Architectures," *Proceedings of CONPAR*, Manchester, U.K., September 12-16, 1988.
- 23. Arvind, Steven K. Heller, and R.S. Nikhil, "Programming Generality and Parallel Computers," *Proceedings of the Fourth International Symposium on Biological and Artificial Intelligence Systems*, Trento, Italy, September 1988. (ESCOM Publications).
- 24. Arvind and K. Ekanadham, "Future Scientific Programming on Parallel Machines," *Journal of Parallel and Distributed Computing*, Vol. 5, No. 5, October 1988.
- 25. Arvind, David E. Culler and G.K. Maa, "Assessing the Benefits of Fine-grain Parallelism in Dataflow Programs," *The International Journal of Supercomputing Applications*, Vol. 2, No. 3, November 1988.
- 26. Nikhil, R.S., and Arvind, "Can Dataflow Subsume von Neumann Computing?," *Proceedings of the 16th International Symposium on Computer Architecture*, Jerusalem, Israel, May 1989.
- 27. Ariola, Z.M., and Arvind, "P-TAC: A Parallel Intermediate Language," *Proceedings of the Conference on Functional Languages and Computer Architecture*, London, England, September 1989.
- 28. Arvind, R. S. Nikhil and K.K. Pingali, "I-Structures: Data Structures for Parallel Computing," *ACM Transactions on Programming Languages and Systems*, 11(4): 598-632, October 1989.
- 29. Arvind and R.S. Nikhil, "Executing a Program on the MIT Tagged-Token Dataflow Architecture," *IEEE Transactions on Computers*, 39(3): 300-318, March 1990.
- 30. Arvind, L. Bic and T. Ungerer. "Evolution of Data-Flow Computers," in <u>Advanced Topics in Data-Flow Computing</u>, Gaudiot, J.L. and Bic, L., eds. Prentice-Hall, Inc., Englewood Cliffs, NJ; 1991, pp. 3-33.
- 31. Arvind and R. S. Nikhil, "A Dataflow Approach to General Purpose Computing," in <u>Research Directions: An MIT Perspective</u>, Meyer, A.R., Guttag, J.V., Rivest, R.L., and Szolovits, P., eds. MIT Press, Cambridge, MA, 1991, pp. 93-128.

- 32. Ariola, Z.M., and Arvind, "A Syntactic Approach to Program Transformations," *Proceedings of the Symposium on Partial Evaluation and Semantics-Based Program Manipulation*, New Haven, CT, June 17-19, 1991.
- 33. Barth, P.S., R. S. Nikhil and Arvind. "M-Structures: Extending a Parallel, Non-strict, Functional Language with State," *Proceedings of the Conference on Functional Programming Languages and Computer Architecture*, Cambridge, MA, August 1991. (LNCS 523, Springer-Verlag)
- 34. Ariola, Z.M., and Arvind. "Compilation of Id," *Proceedings of the Fourth Workshop on Languages and Compilers for Parallel Computing Semantics Based Program Manipulations*, Santa Clara, CA, August 1991. (LNCS 589, Springer-Verlag)
- 35. Nikhil, R.S., and Arvind, "Id: a language with implicit parallelism," in <u>A Comparative Study of Parallel Programming Languages: The Salishan Problems</u>. Ed. John Feo. Amsterdam, New York: North-Holland, 1992. pp. 169-215.
- 36. Nikhil, R.S, G. M. Papadopoulos and Arvind, "*T: A Multithreaded Massively Parallel Architecture," *Proceedings of the 1992 International Symposium on Computer Architecture*, Queensland, Australia, May 1992.
- 37. Ariola, Z., and Arvind, "Graph Rewriting Systems for Efficient Compilation," in <u>Term Graph Rewriting: Theory and Practice</u>. Eds. M.R. Sleep, M.J. Plasmeijer, and M.C.J.D. van Eeckelen. Chichester: John Wiley and Sons, 1993. pp. 77-90.
- 38. Arvind and S. A. Brobst, "The Evolution of Dataflow Architectures from Static Dataflow to P-RISC," International Journal of High Speed Computing, Vol. 5, No. 2, 1993.
- 39. Hicks, J., D. Chiou, B. S. Ang and Arvind "Performance Studies of Id on the Monsoon Dataflow System," *Journal of Parallel and Distributed Computing*, special Dataflow Issue, July 1993.
- 40. Ang, B.S., Arvind, and D. Chiou, "StarT the Next Generation: Integrating Global Caches and Dataflow Architecture," February 1994; *Proceedings of the IEEE Dataflow Workshop*, Hamilton Island, Australia, May 1992 (to be published).
- 41. Arvind, B.S. Ang and D. Chiou. "StarT the Next Generation: In the Real World" *Proceedings of the International Conference on Computer Systems and Education*, IISc, Bangalore, India, June 1994, (Tata-McGraw Hill)
- 42. Aditya, S., Arvind and J. Stoy, "Semantics of Barriers in a Non-Strict, Implicitly-Parallel Language." *Proceedings of the Conference on Functional Programming Languages and Computer Architecture*, San Diego, CA, June, 1995.
- 43. Ariola, Zena M., and Arvind. "Properties of First-Order Functional Languages with Sharing," *Journal of Theoretical Computer Science*, 146(1-2): 69-108, July 1995.
- 44. Chiou, D., B.S. Ang, R. Greiner, Arvind, J.C. Hoe, M.J. Bekerle, J.E. Hicks and G.A. Boughton, "StarT-NG: Delivering Seemless Parallel Computing", *Proceedings of the First International EURO-PAR Conference*, Stockholm, Sweden, August 1995, (LNCS 966, Springer).
- 45. Andrew Shaw, Arvind and R. Paul Johnson, "Performance Tuning Scientific Codes for Dataflow Execution", *Proceedings of the 1996 Conference on Parallel Architectures and Compilation Techniques, PACT'96*, Boston, MA, October 1996.
- 46. Arvind, Alejandro Caro, Jan-Willem Maessen and Shail Aditya, "A Multithreaded Substrate and Compilation Model for the Implicitly Parallel Language pH", *Proceedings of the 1996 Workshop on Languages and Compilers for Parallel Computing*, LCPC-96, San Jose, CA, August 1996.(also CSG-Memo-382)

- 47. Arvind, J.W. Maessen, R.S. Nikhil and Joe Stoy, "Lambda-S: an Implicitly Parallel Lambda-Calculus with Letrec, Synchronization and Side-Effects," November 1996, Based on paper submitted to ICFP '97.
- 48. Arvind, Jan-Willem Maessen, Rishiyur S. Nikhil and Joseph. E. Stoy, "A Lambda Calculus with Letrecs and Barriers", *Proceedings of the 16th conference Foundations of Software Technology and Theoretical Computer*, FSTTCS-16, Hydrabad, India, December 1996.(LNCS 1180)
- 49. Shaw, A., Arvind, K.C. Cho, C. Hill, R.P. Johnson, and J. Marshall, "A Comparison of Implicitly Parallel Multithreaded and Data Parallel Implementations of an Ocean Model based on the Navier-Stokes Equations," *Journal of Parallel and Distributed Computing*, January 10, 1998.
- 50. Arvind, J-W. Maessen, R.S. Nikhil, J.E. Stoy, "LambdaS: an implicitly parallel lambda-calculus with letrec, synchronization and side effects," *Electronic Notes in Theoretical Computer ScienceV16 #3*. September 1998. (*Proceedings of the Workshop on High-Level Concurrent Languages (HLCL)* in Nice, France).
- 51. B. S. Ang, D. Chiou, L. Rudolph, and Arvind, "The StarT-Voyager Parallel System," In *Proceedings of the International Conference on Parallel Architectures and Compilation Techniques*, Paris, France, October 1998.
- 52. B. S. Ang, D. Chiou, D. L. Rosenband, M. Ehrlich, L. Rudolph and Arvind. "StarT-Voyager: A Flexible Platform for Exploring Scalable SMP Issues." In *Proceedings of Supercomputing Conference 1998*, Orlando, FL, November 1998.
- 53. B. S. Ang, D. Chiou, L. Rudolph and Arvind, "Message Passing Support on StarT-Voyager," In Proceedings of *The International Conference on High Performance Computing*, Madras, India, December 1998.
- 54. Arvind, Anton T. Dahbura and Alejandro Caro, "From Monsoon to Start Voyager: University-Industry Research Collaboration," Special issue of *IEEE Micro* on *Computer Architecture Educations* May/June 2000.
- 55. Arvind, David August, Keshav Pingali, Derek Chiou, Resit Sendag, Jushua J. Yi, "Programming Multicore: Do Applications Programmers Need to Write Explicitly Parallel Programs?", *IEEE Micro* May/ June 2010.

Books

- Arvind, <u>Lecture Notes on Dataflow Computer Architectures</u> (in Japanese). Japan Electronic Industry Development Association (Nippon Denshi Kogyo Shinko Kyokai): Tokyo; 1980.
- Nikhil, R.S. and Arvind, <u>Programming in Id: A Parallel Programming Language</u>; draft December 1993. (abandoned)
- Nikhil, R.S. and Arvind, Implicit Parallel Programming in pH. Morgan Kaufman, 2001