Bibliography

[1] Sergio Antoy, Bernd Brassel, and Michael Hanus. Conditional narrowing without conditions. In *PPDP*, pages 20–31, 2003.

[2] Franz Baader and Tobias Nipkow. *Term rewriting and all that.* Cambridge University Press, New York, NY, USA, 1998.

[3] Leo Bachmair, Ta Chen, I. V. Ramakrishnan, Siva Anantharaman, and Jacques Chabin. Experiments with associative-commutative discrimination nets. In *IJCAI*, pages 348–355, 1995.

[4] J.-P. Banâtre, A. Coutant, and D. Le Métayer. A parallel machine for multiset transformation and its programming style. *Future Generation Computer Systems*, 4(2):133 – 144, 1988.

[5] Jean-Pierre Banâtre and Daniel Le Métayer. A new computational model and its discipline of programming. Technical Report INRIA-RR–566, Institut National de Recherche en Informatique et en Automatique (INRIA), 35 - Rennes (France), 1986.

[6] Jean-Pierre Banâtre and Daniel Le Métayer. Chemical reaction as a computational model. In *Functional Programming*, Workshops in Computing, pages 103–117. Springer, 1989.

[7] Jean-Pierre Banâtre and Daniel Le Métayer. The gamma model and its discipline of programming. *Sci. Comput. Program.*, 15(1):55–77, 1990.

[8] Jean-Pierre Banâtre and Daniel Le Métayer. The GAMMA model and its discipline of programming. *Science of Computer Programming*, 15(1):55–77, 1990.

[9] Jan Bergstra and J. V. Tucker. Equational specifications, complete term rewriting systems, and computable and semicomputable algebras. *Journal of the Association for Computing Machinery*, 42(6):1194–1230, 1995.

[10] Gérard Berry and Gérard Boudol. The chemical abstract machine. In *POPL*, pages 81–94, 1990.

[11] Gérard Berry and Gérard Boudol. The chemical abstract machine. *Theoretical Computer Science*, 96(1):217–248, 1992.

[12] Peter Borovanský, Horatiu Cirstea, Hubert Dubois, Claude Kirchner, Hélène Kirchner, Pierre-Etienne Moreau, Christophe Ringeissen, and Marian Vittek. ELAN *V 3.4 User Manual.* LORIA, Nancy (France), fourth edition, January 2000.

[13] Peter Borovanský, Claude Kirchner, Hélène Kirchner, and Pierre-Etienne Moreau. ELAN from a rewriting logic point of view. *Theoretical Computer Science*, 285(2):155–185, 2002.

[14] Peter Borovanský, Claude Kirchner, Hélène Kirchner, Pierre-Etienne Moreau, and Christophe Ringeissen. An overview of ELAN. *ENTCS*, 15, 1998.

[15] Christiano Braga. *Rewriting Logic as a Semantic Framework for Modular Structural Operational Semantics*. PhD thesis, Departamento de Informática, Pontificia Universidade Católica de Rio de Janeiro, Brasil, 2001.

[16] Christiano Braga and José Meseguer. Modular rewriting semantics in practice. *Electr. Notes Theor. Comput. Sci.*, 117:393–416, 2005.

[17] Christiano de O. Braga, E. Hermann Hæusler, José Meseguer, and Peter D. Mosses. Mapping modular sos to rewriting logic. In *LOPSTR'02: Proceedings of the 12th international conference on Logic based program synthesis and transformation*, pages 262–277, Berlin, Heidelberg, 2003. Springer-Verlag.

[18] Fabricio Chalub and Christiano Braga. Maude MSOS tool. In Grit Denker and Carolyn Talcott, editors, *Proceedings of the Sixth International Workshop on Rewriting Logic and its Applications (WRLA 2006)*, volume 176(4) of *Electronic Notes in Theoretical Computer Science*, pages 133–146. Elsevier, 2007.

[19] Alonzo Church. A formulation of the simple theory of types. *J. Symb. Log.*, 5(2):56–68, 1940.

[20] M. Clavel, F. Durán, S. Eker, J. Meseguer, P. Lincoln, N. Martí-Oliet, and C. Talcott. *All About Maude, A High-Performance Logical Framework*, volume 4350 of *Lecture Notes in Computer Science*. Springer, 2007.

[21] Manuel Clavel, Francisco Durán, Steven Eker, Patrick Lincoln, Narciso Martí-Oliet, José Meseguer, and Jose F. Quesada. Maude: specification and programming in rewriting logic. *Theoretical Computer Science*, 285(2):187–243, 2002.

[22] Oliver Danvy and Lasse R. Nielsen. Refocusing in reduction semantics. Technical Report BRICS RS-04-26, University of Aarhus, November 2004.

[23] Olivier Danvy and Lasse R. Nielsen. Syntactic theories in practice. In *Second International Workshop on Rule-Based Programming (RULE 2001)*, volume 59(4) of *ENTCS*, pages 358–374, 2001.

[24] Răzvan Diaconescu and Kokichi Futatsugi. *CafeOBJ Report. The Language, Proof Techniques, and Methodologies for Object-Oriented Algebraic Specification*, volume 6 of *AMAST Series in Computing*. World Scientific, 1998.

[25] Hartmut Ehrig. Introduction to the algebraic theory of graph grammars (a survey). In *International Workshop on Graph-Grammars and Their Application to Computer Science and Biology*, volume 73 of *Lecture Notes in Computer Science*, pages 1–69. Springer, 1979.

[26] Steven Eker, José Meseguer, and Ambarish Sridharanarayanan. The maude ltl model checker and its implementation. In *Model Checking Software—The Tenth International SPIN Workshop*, volume 2648 of *Lecture Notes in Computer Science*, pages 230–234. Springer, 2003.

[27] Azadeh Farzan, Feng Chen, José Meseguer, and Grigore Rosu. Formal analysis of Java programs in JavaFAN. In Rajeev Alur and Doron Peled, editors, *Computer Aided Verification, 16th International Conference, CAV 2004, Boston, MA, USA, July 13-17, 2004, Proceedings*, volume 3114 of *Lecture Notes in Computer Science*, pages 501–505. Springer, 2004.

[28] Matthias Felleisen, Robert Bruce Findler, and Matthew Flatt. *Semantics Engineering with PLT Redex*. MIT Press, 2009.

[29] Matthias Felleisen and Robert Hieb. A revised report on the syntactic theories of sequential control and state. *Theoretical Computer Science*, 103(2):235–271, 1992.

[30] J. A. Goguen, J. W. Thatcher, E. G. Wagner, and J. B. Wright. Initial algebra semantics and continuous algebras. *J. ACM*, 24:68–95, January 1977.

[31] Joseph Goguen and José Meseguer. Completeness of many-sorted equational logic. *Houston Journal of Mathematics*, 11(3):307–334, 1985. Preliminary versions have appeared in: *SIGPLAN Notices*, July 1981, Volume 16, Number 7, pages 24–37; SRI Computer Science Lab, Report CSL-135, May 1982; and Report CSLI-84-15, Center for the Study of Language and Information, Stanford University, September 1984.

[32] Joseph Goguen, Timothy Winkler, José Meseguer, Kokichi Futatsugi, and Jean-Pierre Jouannaud. Introducing OBJ. In *Software Engineering with OBJ: algebraic specification in action*. Kluwer, 2000.

[33] Joseph A. Goguen and Grant Malcolm. *Algebraic Semantics of Imperative Programs*. Foundations of Computing. The MIT Press, May 1996.

[34] Carl A. Gunter and Dana S. Scott. Semantic domains. In *Handbook of Theoretical Computer Science, Volume B: Formal Models and Sematics (B)*, pages 633–674. MIT Press / Elsevier, 1990.

[35] Yuri Gurevich. Evolving algebras 1993: Lipari guide. In *Specification and validation methods*, pages 9–36. Oxford University Press, Inc., New York, NY, USA, 1995.

[36] Matthew Hennessy. *The Semantics of Programming Languages: an Elementary Introduction using Structural Operational Semantics*. John Wiley and Sons, New York, N.Y., 1990.

[37] John E. Hopcroft, Rajeev Motwani, and Jeffrey D. Ullman. *Introduction to Automata Theory, Languages, and Computation (3rd Edition)*. Addison-Wesley Longman Publishing Co., Inc., Boston, MA, USA, 2006.

[38] Gilles Kahn. Natural semantics. In Franz-Josef Brandenburg, Guy Vidal-Naquet, and Martin Wirsing, editors, *STACS 87, 4th Annual Symposium on Theoretical Aspects of Computer Science, Passau, Germany, February 19-21, 1987, Proceedings*, volume 247 of *Lecture Notes in Computer Science*, pages 22–39. Springer, 1987.

[39] Massimo Marchiori. On deterministic conditional rewriting. Computation Structures Group, Memo 405, MIT Laboratory for Computer Science, 1997.

[40] Narciso Martí-Oliet and José Meseguer. Rewriting logic as a logical and semantic framework. In D. Gabbay and F. Guenthner, editors, *Handbook of Philosophical Logic, 2nd. Edition*, pages 1–87. Kluwer Academic Publishers, 2002. First published as SRI Tech. Report SRI-CSL-93-05, August 1993. Second published in Electronic Notes in Theoretical Computer Science, Volume 4, 1996.

[41] Narciso Martí-Oliet and José Meseguer. Rewriting logic: roadmap and bibliography. *Theoretical Computer Science*, 285:121–154, 2002.

[42] Jacob Matthews, Robert Bruce Findler, Matthew Flatt, and Matthias Felleisen. A visual environment for developing context-sensitive term rewriting systems. In *Proceedings of 15th International Conference on Rewriting Techniques and Applications, (RTA'04)*, volume 3091 of *Lecture Notes in Computer Science*, pages 301–311, 2004.

[43] Jacob Matthews, Robert Bruce Findler, Matthew Flatt, and Matthias Felleisen. A visual environment for developing context-sensitive term rewriting systems. In Vincent van Oostrom, editor, *RTA*, volume 3091 of *Lecture Notes in Computer Science*, pages 301–311. Springer, 2004.

[44] José Meseguer. Conditional rewriting logic: Deduction, models and concurrency. In *Conditional and Typed Rewriting Systems (CTRS'90)*, volume 516 of *Lecture Notes in Computer Science*, pages 64–91. Springer, 1990.

[45] José Meseguer. A logical theory of concurrent objects. In *OOPSLA/ECOOP*, pages 101–115, 1990.

[46] José Meseguer. Rewriting as a unified model of concurrency. In *Theories of Concurrency: Unification and Extension (CONCUR'90)*, volume 458 of *Lecture Notes in Computer Science*, pages 384–400. Springer, 1990.

[47] José Meseguer. Conditional rewriting logic as a unified model of concurrency. *Theoretical Computer Science*, 96(1):73–155, 1992.

[48] Josè Meseguer. Rewriting logic as a semantic framework for concurrency: a progress report. In Ugo Montanari and Vladimiro Sassone, editors, *CONCUR '96: Concurrency Theory*, volume 1119 of *Lecture Notes in Computer Science*, pages 331–372. Springer Berlin / Heidelberg, 1996.

[49] José Meseguer. Rewriting logic as a semantic framework for concurrency: a progress report. In Ugo Montanari and Vladimiro Sassone, editors, *CONCUR*, volume 1119 of *Lecture Notes in Computer Science*, pages 331–372. Springer, 1996.

[50] José Meseguer and Christiano Braga. Modular rewriting semantics of programming languages. In Charles Rattray, Savi Maharaj, and Carron Shankland, editors, *Algebraic Methodology and Software Technology, 10th International Conference, AMAST 2004, Stirling, Scotland, UK, July 12-16, 2004, Proceedings*, volume 3116 of *Lecture Notes in Computer Science*, pages 364–378. Springer, 2004.

[51] José Meseguer and Grigore Rosu. Rewriting logic semantics: From language specifications to formal analysis tools. In *Proceedings of the 2nd International Joint Conference on Automated*

Reasoning (IJCAR'04), volume 3097 of *Lecture Notes in Computer Science*, pages 1–44. Springer, 2004.

[52] José Meseguer and Grigore Rosu. Rewriting logic semantics: From language specifications to formal analysis tools. In David A. Basin and Michaël Rusinowitch, editors, *Automated Reasoning - Second International Joint Conference, IJCAR 2004, Cork, Ireland, July 4-8, 2004, Proceedings*, volume 3097 of *Lecture Notes in Computer Science*, pages 1–44. Springer, 2004.

[53] José Meseguer and Grigore Rosu. The rewriting logic semantics project. *J. TCS*, 373(3):213–237, 2007. Also appeared in *SOS '05*, volume 156(1) of *ENTCS*, pages 27–56, 2006.

[54] José Meseguer and Grigore Rosu. The rewriting logic semantics project. *Theoretical Computer Science*, 373(3):213–237, 2007.

[55] Robin Milner. A theory of type polymorphism in programming. *J. Comput. Syst. Sci.*, 17(3):348–375, 1978.

[56] Robin Milner. *Communication and Concurrency*. Prentice-Hall International, Englewood Cliffs, 1989.

[57] Robin Milner. Functions as processes. In Mike Paterson, editor, *ICALP*, volume 443 of *Lecture Notes in Computer Science*, pages 167–180. Springer, 1990.

[58] Robin Milner, Mads Tofte, Robert Harper, and David Macqueen. *The Definition of Standard ML (Revised)*. MIT Press, Cambridge, MA, USA, 1997.

[59] Peter D. Mosses. Denotational semantics. In *Handbook of Theoretical Computer Science, Volume B: Formal Models and Sematics (B)*, pages 575–631. MIT Press / Elsevier, 1990.

[60] Peter D. Mosses. Foundations of modular sos. In Miroslaw Kutylowski, Leszek Pacholski, and Tomasz Wierzbicki, editors, *MFCS*, volume 1672 of *Lecture Notes in Computer Science*, pages 70–80. Springer, 1999.

[61] Peter D. Mosses. Pragmatics of modular SOS. In Hélène Kirchner and Christophe Ringeissen, editors, *Algebraic Methodology and Software Technology, 9th International Conference, AMAST 2002, Saint-Gilles-les-Bains, Reunion Island, France, September 9-13, 2002, Proceedings*, volume 2422 of *Lecture Notes in Computer Science*, pages 21–40. Springer, 2002.

[62] Peter D. Mosses. Modular structural operational semantics. *Journal of Logic and Algebraic Programming*, 60-61:195–228, 2004.

[63] Peter D. Mosses and Mark J. New. Implicit propagation in structural operational semantics. *Electronic Notes in Theoretical Computer Science*, 229(4):49–66, 2009.

[64] Tobias Nipkow. Winskel is (almost) right: Towards a mechanized semantics. *Formal Asp. Comput.*, 10(2):171–186, 1998.

[65] Tobias Nipkow, Lawrence C. Paulson, and Markus Wenzel. *Isabelle/HOL - A Proof Assistant for Higher-Order Logic*, volume 2283 of *Lecture Notes in Computer Science*. Springer, 2002.

[66] Enno Ohlebusch. Transforming conditional rewrite systems with extra variables into unconditional systems. In *LPAR'99*, pages 111–130, 1999.

[67] Nikolaos S. Papaspyrou. Denotational semantics of ANSI C. *Computer Standards and Interfaces*, 23(3):169–185, 2001.

[68] Gheorghe Paun. Computing with membranes. *Journal of Computer and System Sciences*, 61:108–143, 2000.

[69] G. D. Plotkin. A powerdomain construction. *SIAM J. of Computing*, 5(3):452–487, September 1976.

[70] Gordon D. Plotkin. A structural approach to operational semantics. Technical Report DAIMI FN-19, University of Aarhus, 1981. Republished in Journal of Logic and Algebraic Programming, Volume 60-61, 2004.

[71] Gordon D. Plotkin. A structural approach to operational semantics. *Journal of Logic and Algebraic Programming*, 60-61:17–139, 2004.

[72] Emil L. Post. Finite combinatory processes—formulation 1. *The Journal of Symbolic Logic*, 1(3):pp. 103–105, 1936.

[73] John C. Reynolds. The discoveries of continuations. *Lisp Symbolic Computation*, 6:233–248, November 1993.

[74] Grigore Rosu. Cs322, fall 2003 - programming language design: Lecture notes. Technical Report UIUCDCS-R-2003-2897, University of Illinois at Urbana-Champaign, Department of Computer Science, December 2003. Lecture notes of a course taught at UIUC.

[75] Grigore Rosu. Equality of streams is a pi_2^0-complete problem. In *Proceedings of the 11th ACM SIGPLAN International Conference on Functional Programming (ICFP'06)*. ACM, 2006.

[76] Grigore Rosu. K: a Rewrite-based Framework for Modular Language Design, Semantics, Analysis and Implementation. Technical Report UIUCDCS-R-2006-2802, Computer Science Department, University of Illinois at Urbana-Champaign, 2006. A previous version of this work has been published as technical report UIUCDCS-R-2005-2672 in 2005. K was first introduced in 2003, in the technical report UIUCDCS-R-2003-2897: lecture notes of CS322 (programming language design).

[77] Hartley Rogers Jr. *Theory of Recursive Functions and Effective Computability*. MIT press, Cambridge, MA, 1987.

[78] Grigore Rosu and Traian Florin Serbănuță. An overview of the K semantic framework. *Journal of Logic and Algebraic Programming*, 79(6):397–434, 2010.

[79] David A. Schmidt. *Denotational semantics: a methodology for language development*. William C. Brown Publishers, Dubuque, IA, USA, 1986.

[80] Dana Scott and Christopher Strachey. Toward a mathematical semantics for computer languages. Programming Research Group Technical Monograph PRG-6, Oxford University Computing Laboratory, 1971.

[81] Dana S. Scott. Outline of a mathematical theory of computation. Technical Monograph PRG–2, Oxford University Computing Laboratory, Oxford, England, November 1970.

[82] R. C. Sekar, R. Ramesh, and I. V. Ramakrishnan. Adaptive pattern matching. In Werner Kuich, editor, *ICALP*, volume 623 of *Lecture Notes in Computer Science*, pages 247–260. Springer, 1992.

[83] R. C. Sekar, R. Ramesh, and I. V. Ramakrishnan. Adaptive pattern matching. *SIAM J. Comput.*, 24(6):1207–1234, 1995.

[84] Traian Florin Serbănută and Grigore Rosu. Computationally equivalent elimination of conditions - extended abstract. In *Proceedings of Rewriting Techniques and Applications (RTA'06)*, volume 4098 of *Lecture Notes in Computer Science*, pages 19–34. Springer, 2006. also appeared as Technical Report UIUCDCS-R-2006-2693, February 2006.

[85] Traian Florin Serbănută, Grigore Rosu, and José Meseguer. A rewriting logic approach to operational semantics. *Information and Computation*, 207:305–340, 2009.

[86] Traian Florin Serbănută, Gheorghe Stefănescu, and Grigore Rosu. Defining and executing P systems with structured data in K. In David W. Corne, Pierluigi Frisco, Gheorghe Paun, Grzegorz Rozenberg, and Arto Salomaa, editors, *Workshop on Membrane Computing (WMC'08)*, volume 5391 of *Lecture Notes in Computer Science*, pages 374–393. Springer, 2009.

[87] Michael Sipser. *Introduction to the Theory of Computation*. International Thomson Publishing, 1996.

[88] Christopher Strachey. Towards a formal semantics. In *Proceedings of IFIP TC2 Working Conference on Formal Language Description Languages for Computer Programming*, pages 198–220. North Holland, Amsterdam, 1966.

[89] Christopher Strachey. Fundamental concepts in programming languages. *Higher-Order and Symbolic Computation*, 13:11–49, 2000. Lecture Notes for a 1967 NATO International Summer School in Computer Programming, Copenhagen; also available from Programming Research Group, University of Oxford, August 1967.

[90] Christopher Strachey and Christopher P. Wadsworth. Continuations: A mathematical semantics for handling full jumps. *Higher-Order and Symbolic Computation*, 13:135–152, 2000. Reprinted version of 1974 Programming Research Group Technical Monograph PRG-11, Oxford University Computing Laboratory.

[91] Alan M. Turing. On computable numbers, with an application to the entscheidungsproblem. *Proceedings of the London Mathematical Society*, 2(42):230–265, 1937.

[92] Mark van den Brand, Jan Heering, Paul Klint, and Pieter A. Olivier. Compiling language definitions: the asf+sdf compiler. *ACM Transactions on Programming Languages and Systems (TOPLAS)*, 24(4):334–368, 2002.

[93] Mark G. J. van den Brand, J. Heering, P. Klint, and P. A. Olivier. Compiling language definitions: the ASF+SDF compiler. *ACM TOPLAS*, 24(4):334–368, 2002.

[94] Alberto Verdejo and Narciso Martí-Oliet. Executable structural operational semantics in Maude. Technical Report 134-03, Departamento de Sistemas Informàticos y Programaciòn, Universidad Complutense de Madrid, 2003.

[95] Alberto Verdejo and Narciso Martí-Oliet. Executable structural operational semantics in maude. *J. Log. Algebr. Program.*, 67(1-2):226–293, 2006.

[96] Eelco Visser. Program Transf. with Stratego/XT: Rules, Strategies, Tools, and Systems. In *Domain-Specific Program Generation*, pages 216–238, 2003.

[97] Philip Wadler. The essence of functional programming. In *"Proceedings of the 19th ACM SIGPLAN-SIGACT symposium on Principles of Programming Languages"*, ACM, pages 1–14, 1992.

[98] Glynn Winskel. *The formal semantics of programming languages: an introduction.* MIT Press, Cambridge, MA, USA, 1993.

[99] Andrew K. Wright and Matthias Felleisen. A syntactic approach to type soundness. *Information and Computation*, 115(1):38–94, 1994.

[100] Yong Xiao, Zena M. Ariola, and Michael Mauny. From syntactic theories to interpreters: A specification language and its compilation. In *First International Workshop on Rule-Based Programming (RULE 2000)*, 2000.

[101] Yong Xiao, Amr Sabry, and Zena M. Ariola. From syntactic theories to interpreters: Automating the proof of unique decomposition. *Higher Order and Symbolic Computation*, 14(4):387–409, 2001.