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References

- AAAI99. Proceedings of the Sixteenth National Conference on Artificial Intelligence (AAAI-99) and Eleventh Innovative Application of Artificial Intelligence Conference (IAAI-99), 1999. AAAI Press.
- Mark Aagaard and John Harrison, editors. *Theorem Proving in Higher Order Logics: 13th international conference, TPHOLs 2000*, volume 1869 of *Lecture Notes in Computer Science*, Portland, Oregon, USA, 2000. Springer-Verlag.
- W. Ackermann. *Solvable Cases of the Decision Problem*. North-Holland Publishing Co., Amsterdam, 1954.
- Wilhelm Ackermann. Untersuchungen über das Eliminationsproblem der mathematischen Logik. *Mathematische Annalen*, 110:390–413, 1934.
- Wilhelm Ackermann. Zum Eliminationsproblem der mathematischen Logik. *Mathematische Annalen*, 111:61–63, 1935.
- P. E. Allen, S. Bose, E. M. Clarke, and S. Michaylov. Parthenon: A parallel theorem prover for non-Horn clauses. In Lusk and Overbeek [1988], pages 764–765.
- Alan Ross Anderson and Nuel D. Jr. Belnap. *Entailment: The Logic of Relevance and Necessity*. Princeton University Press, 1975.
- Robert Anderson and W. W. Bledsoe. A linear format for resolution with merging and a new technique for establishing completeness. *Journal of the ACM*, 17:525–534, 1970.
- George Andrews. Personal communication, a.
- Peter Andrews. Church's type theory. In Edward N. Zalta, editor, *The Stanford Encyclopedia of Philosophy*. 2006. URL
 - http://plato.stanford.edu/archives/fall2006/entries/type-theory-church/.
- Peter Andrews, Sunil Issar, Dale Miller, and Frank Pfenning. TPS *Software Manual*, 1984a. 107 pp.
- Peter B. Andrews. Classical type theory. In Alan Robinson and Andrei Voronkov, editors, *Handbook of Automated Reasoning*, volume 2, chapter 15, pages 965–1007. Elsevier Science, Amsterdam, 2001a.

- Peter B. Andrews. *An Introduction to Mathematical Logic and Type Theory: To Truth Through Proof.* Kluwer Academic Publishers, second edition, 2002a.
- Peter B. Andrews. Proving theorems automatically and interactively with tps. *Abstracts of Papers Presented to the American Mathematical Society*, 23(2):322, 2002b. Abstract. http://www.math.gatech.edu/~belinfan/research/vitae/2081_session/2081_abstracts/975-03-86.pdf.
- Peter B. Andrews. Herbrand award acceptance speech. Technical Report 03-003, Department of Mathematical Sciences, Carnegie Mellon University, 2003a.
- Peter B. Andrews. A universal automated information system for science and technology. In Simon Colton, Jeremy Gow, Volker Sorge, and Toby Walsh, editors, *Proceedings of the Cade-19 Workshop: Challenges and Novel Applications for Automated Reasoning*, pages 13–18, Miami, USA, 28th July 2003. Available through www.colognet.org; access Colognet, then Publications and Documents, then Grand Challenges.
- Peter B. Andrews. Herbrand award acceptance speech. *Journal of Automated Reasoning*, 31: 169–187, 2003b. URL http://journals.kluweronline.com/article.asp?PIPS=5256402.
- Peter B. Andrews. Some reflections on proof transformations. In D. Hutter and W. Stephan, editors, *Mechanizing Mathematical Reasoning: Essays in Honor of Jörg H. Siekmann on the Occasion of His 60th Birthday*, volume 2605 of *Lecture Notes in Artificial Intelligence*, pages 14–29. Springer-Verlag, 2005a. URL http://www.springeronline.com/sgw/cda/frontpage/0,11855,4-102-22-42171167-0,00.html?changeHeader=true.
- Peter B. Andrews. Proving theorems of type theory automatically with tps. In *Proceedings of the Twentieth National Conference on Artificial Intelligence and the Seventeenth Innovative Applications of Artificial Intelligence Conference (AAAI-05 / IAAI-05)*, pages 1676–1677. AAAI Press, 2005b.
- Peter B. Andrews. A survey of artificial learning and intelligence, b. IBM Research Report RC-612, International Business Machines Research Center, Yorktown Heights, New York, 1962.
- Peter B. Andrews. A reduction of the axioms for the theory of propositional types. *Fundamenta Mathematicae*, 52:345–350, 1963.
- Peter B. Andrews. *A Transfinite Type Theory with Type Variables*. Studies in Logic and the Foundations of Mathematics. North-Holland, 1965.
- Peter B. Andrews. On simplifying the matrix of a wff. *Journal of Symbolic Logic*, 33:180–192, 1968a.
- Peter B. Andrews. On simplifying the matrix of a wff. *Journal of Symbolic Logic*, 33:180–192, 1968b. Reprinted in Siekmann and Wrightson [1983b].

- Peter B. Andrews. Resolution with merging. *Journal of the ACM*, 15:367–381, 1968c.
- Peter B. Andrews. Resolution with merging. *Journal of the ACM*, 15:367–381, 1968d. Reprinted in Siekmann and Wrightson [1983b].
- Peter B. Andrews. Resolution in type theory. *Journal of Symbolic Logic*, 36:414–432, 1971a.
- Peter B. Andrews. Resolution in type theory. *Journal of Symbolic Logic*, 36:414–432, 1971b. Reprinted in Siekmann and Wrightson [1983b].
- Peter B. Andrews. General models, descriptions, and choice in type theory. *Journal of Symbolic Logic*, 37:385–394, 1972a.
- Peter B. Andrews. General models and extensionality. *Journal of Symbolic Logic*, 37:395–397, 1972b.
- Peter B. Andrews. Resolution and the consistency of analysis. *Notre Dame Journal of Formal Logic*, 15(1):73–84, 1974a.
- Peter B. Andrews. Provability in elementary type theory. *Zeitschrift fur Mathematische Logic und Grundlagen der Mathematik*, 20:411–418, 1974b.
- Peter B. Andrews. Refutations by matings. *IEEE Transactions on Computers*, C-25:801–807, 1976.
- Peter B. Andrews. General matings. In *Proceedings of the Fourth Workshop on Automated Deduction*, pages 19–25. Austin, Texas, 1979.
- Peter B. Andrews. Transforming matings into natural deduction proofs. In Bibel and Kowalski [1980], pages 281–292.
- Peter B. Andrews. Theorem proving via general matings. *Journal of the ACM*, 28:193–214, 1981.
- Peter B. Andrews. An Introduction to Mathematical Logic and Type Theory: To Truth Through Proof. Academic Press, 1986a.
- Peter B. Andrews. Connections and higher-order logic. In Siekmann [1986], pages 1–4. abstract.
- Peter B. Andrews. Typed λ-calculus and automated mathematics. In David W. Kueker, Edgar G. K. Lopez-Escobar, and Carl H. Smith, editors, *Mathematical Logic and Theoretical Computer Science*, Lecture Notes in Pure and Applied Mathematics, vol. 106, pages 1–14. Marcel Dekker, 1987a.
- Peter B. Andrews. *An Introduction to Mathematical Logic and Type Theory: To Truth Through Proof.* Japanese translation by Shinako Ogawara, Maruzen Co., 1987b.
- Peter B. Andrews. On connections and higher-order logic. *Journal of Automated Reasoning*, 5: 257–291, 1989.

- Peter B. Andrews. More on the problem of finding a mapping between clause representation and natural-deduction representation. *Journal of Automated Reasoning*, 7:285–286, 1991.
- Peter B. Andrews. Proof search in TPS: A theorem proving system for classical type theory. In Didier Galmiche and Lincoln Wallen, editors, *CADE-12 Workshop on Proof-search in type-theoretic languages*, pages 3–8, 1994a. (abstract).
- Peter B. Andrews. Induction in TPS: A theorem proving system for classical type theory. In Alan Bundy, Michael Rusinowitch, and Toby Walsh, editors, *CADE-12 Workshop on The Automation of Proof by Mathematical Induction*, pages 2–3, 1994b. (abstract).
- Peter B. Andrews. An example of proof search in TPS: A theorem proving system for classical type theory. In P. Baumgartner, R. Hähnle, and J. Posegga, editors, *4th Workshop on Theorem Proving with Analytic Tableaux and Related Methods, Poster Sessions and Short Papers*, pages 1–6, 1995.
- Peter B. Andrews. Classical type theory. In Alan Robinson and Andrei Voronkov, editors, *Handbook of Automated Reasoning*, volume 2, chapter 15, pages 965–1007. Elsevier Science, 2001b.
- Peter B. Andrews and Matthew Bishop. On sets, types, fixed points, and checkerboards. In Miglioli et al. [1996], pages 1–15. URL http://dx.doi.org/10.1007/3-540-61208-4_1.
- Peter B. Andrews and Matthew Bishop. TPS: A tool for proving theorems. In Elsa L. Gunter and Amy Felty, editors, *Supplementary Proceedings of the 10th International Conference on Theorem Proving in Higher Order Logics: TPHOLs'97*, pages 11–15, Murray Hill, NJ, USA, 1997.
- Peter B. Andrews and Chad E. Brown. Tutorial: Using tps for higher-order theorem proving and etps for teaching logic. In McAllester [2000], pages 511–512. URL http://dx.doi.org/10.1007/10721959_44.
- Peter B. Andrews and Chad E. Brown. Tps: A hybrid automatic-interactive system for developing proofs. *Journal of Applied Logic*, 4:367–395, 2006. URL http://dx.doi.org/10.1016/j.jal.2005.10.002.
- Peter B. Andrews and Chad E. Brown. Proving theorems and teaching logic with tps and etps. *Bulletin of Symbolic Logic*, 11:108–109, 2005. (abstract of contributed talk to the 2004 annual meeting of the Association for Symbolic Logic).
- Peter B. Andrews and Eve Longini Cohen. Theorem proving in type theory. In IJCAI-5, page 566.
- Peter B. Andrews and Eve Longini Cohen. Theorem proving in type theory. In *Workshop on Automatic Deduction*, Cambridge, Mass., 1977b. MIT. 5 pp.
- Peter B. Andrews and Eve Longini Cohen. An approach to theorem proving in type theory. *Journal of Symbolic Logic*, 44:477–478, 1979. (abstract).

- Peter B. Andrews, Matthew Bishop, Chad E. Brown, Sunil Issar, Dan Nesmith, Frank Pfenning, and Hongwei Xi. TPS *User's Manual*, a. URL http://gtps.math.cmu.edu/tps-mans.html.
- Peter B. Andrews, Matthew Bishop, Sunil Issar, Dan Nesmith, Frank Pfenning, and Hongwei Xi. TPS: A theorem proving system for classical type theory, b. 1993, unpublished.
- Peter B. Andrews, Dale A. Miller, Eve Longini Cohen, and Frank Pfenning. Automating higher-order logic. In W. W. Bledsoe and D. W. Loveland, editors, *Automated Theorem Proving: After 25 Years*, Contemporary Mathematics series, vol. 29, pages 169–192. American Mathematical Society, 1984b. Proceedings of the Special Session on Automatic Theorem Proving, 89th Annual Meeting of the American Mathematical Society, held in Denver, Colorado, January 5–9, 1983.
- Peter B. Andrews, Frank Pfenning, Sunil Issar, and C. P. Klapper. The TPS theorem proving system. In Siekmann [1986], pages 663–664.
- Peter B. Andrews, Sunil Issar, Daniel Nesmith, and Frank Pfenning. The TPS theorem proving system. In Lusk and Overbeek [1988], pages 760–761.
- Peter B. Andrews, Sunil Issar, Dan Nesmith, and Frank Pfenning. The TPS theorem proving system. In Stickel [1990], pages 641–642.
- Peter B. Andrews, Sunil Issar, Dan Nesmith, and Frank Pfenning. The TPS theorem proving system. *Journal of Symbolic Logic*, 57:353–354, 1992. (abstract).
- Peter B. Andrews, Matthew Bishop, Sunil Issar, Dan Nesmith, Frank Pfenning, and Hongwei Xi. TPS: An interactive and automatic tool for proving theorems of type theory. In Joyce and Seger [1994], pages 366–370. URL http://dx.doi.org/10.1007/3-540-57826-9_148.
- Peter B. Andrews, Matthew Bishop, Sunil Issar, Dan Nesmith, Frank Pfenning, and Hongwei Xi. TPS: A theorem proving system for classical type theory. Technical Report 94-166, Department of Mathematics, Carnegie Mellon University, 1994b.
- Peter B. Andrews, Matthew Bishop, Sunil Issar, Dan Nesmith, Frank Pfenning, and Hongwei Xi. TPS: A theorem proving system for classical type theory. Technical Report 94-166A, Department of Mathematics, Carnegie Mellon University, 1995.
- Peter B. Andrews, Matthew Bishop, Sunil Issar, Dan Nesmith, Frank Pfenning, and Hongwei Xi. TPS: A theorem proving system for classical type theory. *Journal of Automated Reasoning*, 16:321–353, 1996. URL http://dx.doi.org/10.1007/BF00252180.
- Peter B. Andrews, Matthew Bishop, and Chad E. Brown. System description: Tps: A theorem proving system for type theory. In McAllester [2000], pages 164–169. URL http://dx.doi.org/10.1007/10721959_11.
- Peter B. Andrews, Matthew Bishop, Chad E. Brown, Sunil Issar, Frank Pfenning, and Hongwei Xi. Etps: A system to help students write formal proofs. Technical Report 03-002, Department of Mathematical Sciences, Carnegie Mellon University, 2003.

- Peter B. Andrews, Matthew Bishop, Chad E. Brown, Sunil Issar, Dan Nesmith, Frank Pfenning, and Hongwei Xi. TPS *User's Manual*, 2004a. URL http://gtps.math.cmu.edu/tps-mans.html. 112+iv pp.
- Peter B. Andrews, Chad E. Brown, Frank Pfenning, Matthew Bishop, Sunil Issar, and Hongwei Xi. Etps: A system to help students write formal proofs. *Journal of Automated Reasoning*, 32: 75–92, 2004b. URL http://journals.kluweronline.com/article.asp?PIPS=5264938.
- Peter B. Andrews, Sunil Issar, Dan Nesmith, Frank Pfenning, Hongwei Xi, Matthew Bishop, and Chad E. Brown. TPS3 Facilities Guide for Programmers and Users, 2004c. URL http://gtps.math.cmu.edu/tps-mans.html. 364+x pp.
- Peter B. Andrews, Sunil Issar, Dan Nesmith, Frank Pfenning, Hongwei Xi, Matthew Bishop, and Chad E. Brown. TPS3 *Facilities Guide for Users*, 2004d. URL http://gtps.math.cmu.edu/tps-mans.html. 199+vi pp.
- Peter B. Andrews, Dan Nesmith, Frank Pfenning, Sunil Issar, Hongwei Xi, Matthew Bishop, and Chad E. Brown. TPS3 *Programmer's Guide*, 2004e. 260+x pp.
- Peter B. Andrews, Chad E. Brown, Matthew Bishop, Sunil Issar, Dan Nesmith, Frank Pfenning, Hongwei Xi, and Mark Kaminski. TPS *User's Manual*, 2007. URL http://gtps.math.cmu.edu/tps-mans.html. 133+vi pp.
- K. Appel and W. Haken. Every planar map is four colorable. *Bulletin of the American Mathematical Society*, 82:711–712, 1976.
- Andrea Asperti, Luca Padovani, Claudio Sacerdoti Coen, and Irene Schena. Helm and the semantic math-web. In Boulton and Jackson [2001], pages 59–74.
- Franz Baader, editor. *Proceedings of the 19th International Conference on Automated Deduction*, volume 2741 of *Lecture Notes in Artificial Intelligence*, Miami Beach, FL, USA, 2003. Springer-Verlag.
- Franz Baader and Jörg Siekmann. Unification theory. In Dov M. Gabbay, C.J. Hogger, and J.A. Robinson, editors, *Handbook of Logic in Artificial Intelligence and Logic Programming*, pages 41–125. Oxford University Press, 1994.
- Franz Baader and Wayne Snyder. Unification theory. In Alan Robinson and Andrei Voronkov, editors, *Handbook of Automated Reasoning*, pages 445–533. Elsevier Science, 2001.
- M. Baas and A. Leitsch. On skolemisation and proof complexity. *Fundamenta Informaticæ*, 20: 353–379, 1994.
- L. Bachmair, H. Ganzinger, H. Lynch, and W. Snyder. Basic paramodulation and superposition. In Kapur [1992], pages 462–476.
- Leo Bachmair. Canonical Equational Proofs. Birkhäuser, Boston, 1991.

- Leo Bachmair, Nachum Dershowitz, and Jieh Hsiang. Orderings for equational proofs. In LICS-1, pages 346–357.
- Leo Bachmair, Nachum Dershowitz, and David Plaisted. Completion without failure. In *Proceedings of the Colloquium on the Resolution of Equations in Algebraic Structures* (CREAS), Lakeway, Texas, 1987.
- Leo Bachmair, Ashish Tiwari, and Laurent Vigneron. Abstract congruence closure. *Journal of Automated Reasoning*, 31:129–168, 2003.
- Sidney C. Bailin. A λ -unifiability test for set theory. *Journal of Automated Reasoning*, 4: 269–286, 1988.
- Sidney C. Bailin and Dave Barker-Plummer. Z-match: An inference rule for incrementally elaborating set instantiations. *Journal of Automated Reasoning*, 11:391–428, 1993. Errata: JAR 12 (1994), 411–412.
- R. Bajscy, editor. *Proceedings of the Thirteenth International Joint Conference on Artificial Intelligence*, Chambery, France, 1993. IJCAI.
- Grzegorz Bancerek. The mutilated chessboard problem checked by Mizar. In Roman Matuszewski, editor, *The QED Workshop II*, pages 43–45, 1995. URL http://www.mcs.anl.gov/qed/index.html.
- H. P. Barendregt. *The* λ -*Calculus*. Studies in logic and the foundations of mathematics, North-Holland, 1984.
- Dave Barker-Plummer. Gazing: An approach to the problem of definition and lemma use. *Journal of Automated Reasoning*, 8:311–344, 1992.
- F. Bartels, A. Dold, F. W. v. Henke, H. Pfeifer, and H. Rueß. Formalizing Fixed-Point Theory in PVS. Ulmer Informatik-Berichte 96-10, Universität Ulm, Fakultät für Informatik, 1996.
- Jon Barwise and John Etchemendy. Visual information and valid reasoning. In Zimmermann and Cunningham [1991], pages 9–24.
- David Basin and Burkhart Wolff, editors. *Theorem proving in higher order logics : 16th international conference, TPHOLs 2003*, volume 2758 of *Lecture Notes in Computer Science*, Rome, Italy, 2003. Springer-Verlag.
- Andrej Bauer, Edmund Clarke, and Xudong Zhao. Analytica an experiment in combining theorem proving and symbolic computation. *Journal of Automated Reasoning*, 21:295–325, 1998.
- Peter Baumgartner. Hyper tableaux the next generation. Technical Report 32/97, Fachbereich Informatik, Universität Koblenz-Landau, 1997.

- Peter Baumgartner, Reiner Hähnle, and Joachim Posegga, editors. *Theorem Proving with Analytic Tableaux and Related Methods. 4th International Workshop. (TABLEAUX '95)*, volume 918 of *Lecture Notes in Artificial Intelligence*, Schloß Rheinfels, St. Goar, Germany, May 1995. Springer-Verlag.
- Peter Baumgartner, Ulrich Furbach, and Ilkka Niemelä. Hyper tableaux. In *Proceedings of JELIA-96*, *European Workshop on Logic in AI*, volume 1126 of *Lecture Notes in Artificial Intelligence*. Springer-Verlag, 1996.
- Lewis D. Baxter. *The Complexity of Unification*. PhD thesis, Dept. of Math. Univ. of Waterloo, 1977. CS-77-25.
- Bernhard Beckert. A completion-based method for mixed universal and rigid *E*-unification. In Bundy [1994], pages 678–692.
- Michael Beeson. Lambda logic. In David Basin [2004], pages 460–474.
- Michael Beeson. Unification in lambda-calculi with if-then-else. In Kirchner and Kirchner [1998], pages 103–118.
- Heinrich Behmann. Beitrage zur algebra der Logik, insbesondere zum Entscheidungsproblem. *Mathematische Annalen*, 86:163–229, 1922.
- J. G. F. Belinfante. Computer proofs in Gödel's class theory with equational definitions for composite and cross. *Journal of Automated Reasoning*, 22:311–339, 1999a.
- J. G. F. Belinfante. On computer-assisted proofs in ordinal number theory. *Journal of Automated Reasoning*, 22:341–378, 1999b.
- Johan G. F. Belinfante. On a modification of Gödel's algorithm for class formation. *Association for Automated Reasoning Newsletter*, 34:10–15, October 1996.
- Johan Gijsbertus Frederik Belinfante. Gödel's algorithm for class formation. In McAllester [2000], pages 132–147.
- John Lane Bell and A. B. Slomson. *Models and Ultraproducts: An Introduction*. North-Holland, Amsterdam, 1971.
- C. Benzmüller, L. Cheikhrouhou, D. Fehrer, A. Fiedler, X. Huang, M. Kerber, M. Kohlhase, K. Konrad, E. Melis, A. Meier, W. Schaarschmidt, J. Siekmann, and V. Sorge. ΩMEGA: Towards a mathematical assistant. In McCune [1997b], pages 252–255.
- C. Benzmüller, V. Sorge, M. Jamnik, and M. Kerber. Can a higher-order and a first-order theorem prover cooperate? In F. Baader and A. Voronkov, editors, *Proceedings of the 11th International Conference on Logic for Programming, Artificial Intelligence, and Reasoning (LPAR 2004)*, volume 3452 of *LNAI*, pages 415–431. Springer, 2005. URL http://www.ags.uni-sb.de/~chris/papers/C16.pdf.

- C.E. Benzmüller and C.E. Brown. A structured set of higher-order problems. In J. Hurd and T. Melham, editors, *Proceedings of the 18th International Conference on Theorem Proving in Higher Order Logics (TPHOLs 2005)*, number 3606 in LNAI, pages 66–81. Springer, 2005. URL www.ags.uni-sb.de/~chris/papers/C17.pdf.
- C.E. Benzmüller and Q.B. Vo. Mathematical domain reasoning tasks in natural language tutorial dialog on proofs. In M. Veloso and S. Kambhampati, editors, *Proceedings of the Twentieth National Conference on Artificial Intelligence (AAAI-05)*, pages 516–522, Pittsburgh, Pennsylvania, USA, 2005. AAAI Press / The MIT Press. URL www.ags.uni-sb.de/~chris/papers/C18.pdf.
- Christoph Benzmüller. Comparing approaches to resolution based higher-order theorem proving. Synthese, An International Journal for Epistemology, Methodology and Philosophy of Science, 133(1-2):203–235, 2002. ISSN 0039-7857. URL www.ags.uni-sb.de/~chris/papers/J5.pdf.
- Christoph Benzmüller. Case for support. aλonzo: Higher-order reasoning agents for mathematics. Available in German from www.ags.uni-sb.de/ chris/papers/R23.pdf, 2004.
- Christoph Benzmüller. System description: Leo a resolution based higher-order theorem prover. In *Proceedings of the LPAR-05 Workshop: Empirically Successfull Automated Reasoning in Higher-Order Logic (ESHOL)*, pages 25–44, Wexford Hotel, Montego Bay, Jamaica, 2005. URL http://arxiv.org/abs/cs/0601042.
- Christoph Benzmüller. A calculus and a system architecture for extensional higher-order resolution. Technical Report 97-198, Department of Mathematical Sciences, Carnegie Mellon University, June 1997.
- Christoph Benzmüller. An adaptation of paramodulation and RUE-resolution to higher-order logic. SEKI Report SR-98-07, Universität des Saarlandes, 1998.
- Christoph Benzmüller. *Equality and Extensionality in Automated Higher-Order Theorem Proving*. PhD thesis, Universität des Saarlandes, 1999a.
- Christoph Benzmüller. Extensional higher-order paramodulation and rue-resolution. In Ganzinger [1999], pages 399–413.
- Christoph Benzmüller and Michael Kohlhase. Model existence for higher-order logic. Seki-Report SR-97-09, Department of Computer Science, Saarland University, 1997. URL www.ags.uni-sb.de/~chris/papers/R5.pdf.
- Christoph Benzmüller and Michael Kohlhase. Extensional higher-order resolution. In Kirchner and Kirchner [1998], pages 56–71.
- Christoph Benzmüller and Michael Kohlhase. System description: LEO a higher-order theorem prover. In Kirchner and Kirchner [1998], pages 139–143.

- Christoph Benzmüller and Volker Sorge. OANTS an open approach at combining interactive and automated theorem proving. In Manfred Kerber and Michael Kohlhase, editors, *Symbolic Computation and Automated Reasoning*, pages 81–97. A.K.Peters, 2000. URL www.ags.uni-sb.de/~chris/papers/C8.pdf.
- Christoph Benzmüller and Volker Sorge. Integrating TPS with Ω MEGA. Technical report, Universität des Saarlandes, 1998.
- Christoph Benzmüller, Matthew Bishop, and Volker Sorge. Integrating TPS and ΩMEGA. Journal of Universal Computer Science, 5(3):188–207, March 1999. URL http://www.iicm.edu/jucs_5_3/integrating_tps_and_omega.
- Christoph Benzmüller, Chad E. Brown, and Michael Kohlhase. Higher order semantics and extensionality. Technical Report 03-001, Department of Mathematical Sciences, Carnegie Mellon University, 2003.
- Christoph Benzmüller, Chad E. Brown, and Michael Kohlhase. Higher-order semantics and extensionality. *Journal of Symbolic Logic*, 69:1027–1088, 2004.
- Christoph Benzmüller, Chad E. Brown, and Michael Kohlhase. Cut-simulation in impredicate logics. In *Third International Joint Conference on Automated Reasoning (IJCAR'06)*, volume 4130 of *LNAI*, pages 220–234. Springer, 2006a. URL www.ags.uni-sb.de/~chris/papers/C23.pdf.
- Christoph Benzmüller, Helmut Horacek, Henri Lesourd, Ivana Kruijff-Korbayova, Marvin Schiller, and Magdalena Wolska. Diawoz-ii a tool for wizard-of-oz experiments in mathematics. In *KI 2006: Advances in Artificial Intelligence: 29th Annual German Conference on AI*, LNAI. Springer, 2006b. URL www.ags.uni-sb.de/~chris/papers/C22.pdf. To appear.
- Christoph Benzmüller, Frank Theiss, Lawrence C. Paulson, and Arnaud Fietzke. LEO-II a cooperative automatic theorem prover for higher-order logic. In Alessandro Armando, Peter Baumgartner, and Gilles Dowek, editors, *Automated Reasoning, 4th International Joint Conference, IJCAR 2008, Sydney, Australia, August 12-15, 2008, Proceedings*, volume 5195 of *Lecture Notes in Computer Science*, pages 162–170. Springer, 2008. URL www.ags.uni-sb.de/~chris/papers/C26.pdf.
- P. Bernays and M. Schönfinkel. Zum Entscheidungsproblem der mathematischen Logik. *Mathematische Annalen*, 99:342–372, 1928.
- Paul Bernays. Logical calculus, lecture notes 1935-36. The Institute for Advanced Study, Princeton, N.J., 1936.
- Y. Bertot, G. Dowek, A. Hirschowitz, C. Paulin, and L. Théry, editors. *Proceedings of the 12th International Conference on Theorem Proving in Higher Order Logics (TPHOLs'99)*, volume 1690 of *Lecture Notes in Computer Science*, Nice, France, September 1999. Springer-Verlag.
- E. W. Beth. *The Foundations of Mathematics*. North-Holland Publishing Co., 1959.

- Evert W. Beth. On Padoa's method in the theory of definition. *Indag. Math.*, 15:330–339, 1953.
- W. Bibel. Let's plan it deductively! In Pollack [1997], pages 1549–1562.
- W. Bibel and R. Kowalski, editors. *Proceedings of the 5th International Conference on Automated Deduction*, volume 87 of *Lecture Notes in Computer Science*, Les Arcs, France, 1980. Springer-Verlag.
- W. Bibel, R. Letz, and J. Schumann. Bottom-up enhancements of deductive systems. In
 I. Plander, editor, *Proceedings of 4th International Conference on Artificial Intelligence and Information-Control Systems of Robots*, pages 1–10, Smolenice, CSSR, October 1987.
 North-Holland.
- W. Bibel, S. Bruning, U. Egly, and T. Rath. KOMET. In Bundy [1994], pages 783–787.
- W. Bibel, S. Bruning, U. Egly, D. Korn, and T. Rath. Issues in theorem proving based on the connection method. In Baumgartner et al. [1995], pages 1–16.
- Wolfgang Bibel. Tautology testing with a generalized matrix reduction method. *Theoretical Computer Science*, 8:31–44, 1979.
- Wolfgang Bibel. A theoretical basis for the systematic proof method. In P. Dembinski, editor, *Mathematical Foundations of Computer Science 1980, Proceedings of the 9th Symposium*, volume 88 of *Lecture Notes in Computer Science*, pages 154–167, Rydzyna, Poland, 1980. Springer-Verlag.
- Wolfgang Bibel. On matrices with connections. *Journal of the ACM*, 28(4):633–645, October 1981.
- Wolfgang Bibel. Automated Theorem Proving. Vieweg, Braunschweig, 1982a.
- Wolfgang Bibel. A comparative study of several proof procedures. *Artificial Intelligence*, 18: 269–293, 1982b.
- Wolfgang Bibel. Matings in matrices. Communications of the ACM, 26:844–852, 1983.
- Wolfgang Bibel. Automated Theorem Proving. Vieweg, Braunschweig, second edition, 1987.
- Wolfgang Bibel. Deduction: Automated Logic. Academic Press, 1993.
- Wolfgang Bibel and Bruno Buchberger. Towards a connection machine for logical inference. *Future Generations Computer Systems*, 1:177–185, 1984–1985.
- Wolfgang Bibel and Peter Schmitt, editors. *Automated Deuction A Basis for Applications*. Kluwer, 1998.
- Wolfgang Bibel and J. Schreiber. Proof search in a Gentzen-like system of first-order logic. In E. Gelenbe and D. Potier, editors, *International Computing Symposium 1975*, pages 205–212. North-Holland, Amsterdam, 1975.

- Jean-Paul Billon. The disconnection method. In Miglioli et al. [1996].
- G. Birkhoff. Applications of lattice algebra. *Proc. Camb. Phil. Soc.*, 30:115–122, 1934.
- Matthew Bishop. A breadth-first strategy for mating search. In Ganzinger [1999], pages 359–373.
- Matthew Bishop. *Mating Search Without Path Enumeration*. PhD thesis, Department of Mathematical Sciences, Carnegie Mellon University, April 1999b. URL http://gtps.math.cmu.edu/tps.html. Department of Mathematical Sciences Research Report No. 99–223.
- Matthew Bishop and Peter B. Andrews. Selectively instantiating definitions. In Kirchner and Kirchner [1998], pages 365–380. URL http://dx.doi.org/10.1007/BFb0054272.
- K. Blasius, N. Eisinger, J. Siekmann, G. Smolka, A. Herold, and C. Walther. The Markgraph Karl refutation procedure. In IJCAI-7, pages 511–518.
- K. H. Blasius and H. J. Burckert, editors. *Deduction Systems in Artificial Intelligence*. Ellis Horwood Series in AI, 1989.
- K. H. Blasius and J. Siekmann. Partial unification for graph based equational reasoning. In Lusk and Overbeek [1988], pages 397–414.
- W. W. Bledsoe. Set variables. In IJCAI-5, pages 501–510.
- W. W. Bledsoe. Non-resolution theorem proving. Artificial Intelligence, 9(1):1–35, 1977b.
- W. W. Bledsoe. A maximal method for set variables in automatic theorem proving. In J. E. Hayes, Donald Michie, and L. I. Mikulich, editors, *Machine Intelligence 9*, pages 53–100. Ellis Harwood Ltd., Chichester, and John Wiley & Sons, 1979.
- W. W. Bledsoe. Using examples to generate instantiations of set variables. In IJCAI-8, pages 892–901.
- W. W. Bledsoe and Peter Bruell. A man-machine theorem-proving system. *Artificial Intelligence*, 5(1):51–72, 1974.
- W. W. Bledsoe and Guohui Feng. Set-Var. Journal of Automated Reasoning, 11:293–314, 1993.
- C. Bohm and M. Dezani-Cancaglini. Combinatorial problems, combinator equations, and normal forms. In J. Loeckx, editor, *Automata, Languages, and Programming*, volume 14 of *Lecture Notes in Computer Science*, pages 185–199. Springer-Verlag, 1974.
- R.N. Bol, K.R. Apt, and J.W. Klop. An analysis of loop checking mechanisms for logic programming. *Theoretical Computer Science*, 85:35–79, 1991.
- George Boolos. Logic, logic, and logic. Harvard University Press, 1998.
- Soumitra Bose, Edmund M. Clarke, David E. Long, and S. Michaylov. Parthenon: A parallel theorem prover for non-Horn clauses. In LICS-4, pages 80–89.

- Richard J. Boulton and Paul B. Jackson, editors. *Theorem Proving in Higher Order Logics: 14th international conference, TPHOLs 2001*, volume 2152 of *Lecture Notes in Computer Science*, Edinburgh, Scotland, UK, 2001. Springer-Verlag.
- Nicolas Bourbaki. *Elements of mathematics*. Hermann, 1966. 10 volumes. Translation of *Elements de mathematique*.
- Kenneth A. Bowen. Cut elimination in transfinite type theory. *Zeitschrift fur Mathematische Logic und Grundlagen der Mathematik*, 19:141–162, 1973.
- Robert Boyer, Ewing Lusk, William McCune, Ross Overbeek, Mark Stickel, and Lawrence Wos. Set theory in first-order logic: Clauses for Gödel's axioms. *Journal of Automated Reasoning*, 2: 287–327, 1986.
- Chad E. Brown. Solving for set variables in higher-order theorem proving. In Voronkov [2002], pages 408–422. URL http://www.springeronline.com/sgw/cda/frontpage/0,11855, 5-147-22-2247523-0,00.html?changeHeader=true.
- Chad E. Brown. *Set Comprehension in Church's Type Theory*. PhD thesis, Department of Mathematical Sciences, Carnegie Mellon University, 2004.
- Chad E. Brown. Set comprehension in Church's type theory. *Bulletin of Symbolic Logic*, 11:109, 2005. (abstract of contributed talk to the 2004 annual meeting of the Association for Symbolic Logic).
- Chad E. Brown. *Automated Reasoning in Higher-Order Logic: Set Comprehension and Extensionality in Church's Type Theory*, volume 10 of *Studies in Logic: Logic and Cognitive Systems*. College Publications, 2007. ISBN 978-1-904987-57-4.
- S. Brüning. *Techniques for Avoiding Redundancy in Theorem Proving Based on the Connection Method.* PhD thesis, TH Darmstadt, 1994.
- M. Bruynooghe and L. M. Pereira. Deduction revision by intelligent backtracking. In J. A. Campbell, editor, *Implementations of Prolog*, pages 194–215. Ellis Horwood, 1984.
- R.E. Bryant. Graph-based algorithms for boolean function manipulation. *IEEE Transactions on Computers*, C-35(8):677–691, 1986.
- B.G. Buchanan, editor. *Proceedings of the Sixth International Joint Conference on Artificial Intelligence*, Tokyo, Japan, 1979. IJCAI.
- J. Richard Büchi. Investigation of the equivalence of the axiom of choice and zorn's lemma from the viewpoint of the hierarchy of types. *Journal of Symbolic Logic*, 18:125–135, 1953.
- Mark Buckley and Christoph Benzmüller. An agent-based architecture for dialogue systems. In *Proceedings of the Sixth International Andrei Ershov Memorial Conference 'Perspectives of System Informatics' (PSI'06)*, volume 4837 of *lncs*, pages 135–147. Springer, 2006. URL www.ags.uni-sb.de/~chris/papers/C21.pdf.

- Alan Bundy, editor. *Proceedings of the 12th International Conference on Automated Deduction*, volume 814 of *Lecture Notes in Artificial Intelligence*, Nancy, France, 1994. Springer-Verlag.
- Samuel R. Buss. On Gödel's theorem on lengths of proofs I: Number of lines and speedup for arithmetic. *Journal of Symbolic Logic*, 59:737–756, 1994.
- Domenico Cantone. A fast saturation strategy for set-theoretic tableaux. In Galmiche [1997], pages 122–137.
- Domenico Cantone and Calogero G. Zarba. A tableau calculus for integrating first-order reasoning with elementary set theory reasoning. In Dyckhoff [2000], pages 143–159.
- Domenico Cantone and Calogero G. Zarba. A tableau-based decision procedure for a fragment of set theory involving a restricted form of quantification. In Murray [1999], pages 97–112.
- Victor A. Carreño, César A. Muñoz, and Sofiène Tahar, editors. *Theorem Proving in Higher Order Logics: 15th international conference, TPHOLs 2002*, volume 2410 of *Lecture Notes in Computer Science*, Hampton, Va., USA, 2002. Springer-Verlag.
- C. Chang and R.C. Lee. *Symbolic Logic and Mechanical Theorem Proving*. Academic Press, 1973.
- Daniel Chester. Formal Logic and the Representation of Lingistic Deep Structure. PhD thesis, University of California, Berkeley, 1973.
- Daniel Chester. The translation of formal proofs into English. *Artificial Intelligence*, 7:261–278, 1976.
- Alonzo Church. A set of postulates for the foundation of logic (1). *Annals of Mathematics*, 33: 346–366, 1932.
- Alonzo Church. A set of postulates for the foundation of logic (2). *Annals of Mathematics*, 34: 839–864, 1933.
- Alonzo Church. An unsolvable problem of elementary number theory. *Amer. J. Math.*, 58: 345–363, 1936a. Reprinted in Davis [1965].
- Alonzo Church. A note on the Entscheidungsproblem. *Journal of Symbolic Logic*, 1:40–41, 1936b. Correction ibid., 101–102.
- Alonzo Church. A formulation of the simple theory of types. *Journal of Symbolic Logic*, 5: 56–68, 1940.
- Alonzo Church. *The Calculi of Lambda-Conversion*. Number 6 in Annals of Mathematics Studies. Princeton University Press, 1941. 77 pp.
- Alonzo Church. *Introduction to Mathematical Logic*. Princeton University Press, Princeton, N.J., 1956.

- Alonzo Church. Comparison of russell's resolution of the semantical antinomies with that of tarski. *Journal of Symbolic Logic*, 41:747–760, 1976.
- Alonzo Church and J.B. Rosser. Some properties of conversion. *Transactions of the American Mathematical Society*, 3:472–482, 1936.
- Edmund Clarke and Xudong Zhao. Analytica a theorem prover for mathematica, 1991. unpublished.
- Edmund Clarke and Xudong Zhao. Combining symbolic computation and theorem proving: Some problems of Ramanujan. In Bundy [1994], pages 758–763.
- P. Cohen. Set Theory and the Continuum Hypothesis. W. A. Benjamin, Inc., New York, 1966.
- Stephen A. Cook and Robert A. Reckhow. The relative efficiency of propositional proof systems. *Journal of Symbolic Logic*, 44:36–50, 1979.
- Coq. The Coq proof assistant. URL http://coq.inria.fr/.
- Thierry Coquand and Gérard Huet. Constructions: A higher order proof system for mechanizing mathematics. In Bruno Buchberger, editor, *EUROCAL* '85: European Conference on Computer Algebra, volume 203 of Lecture Notes in Computer Science, pages 151–184, Linz, Austria, April 1985. Springer-Verlag.
- Thierry Coquand and Gérard Huet. The calculus of constructions. *Information and Computation*, 76:95–120, 1988.
- Yann Coscoy, Gilles Kahn, and Laurent Théry. Extracting text from proofs. In Mariangiola Dezani-Ciancaglini and Gordon Plotkin, editors, *Typed Lambda Calculi and Applications:* Second International Conference on Typed Lambda Calculi and Applications, TLCA '95, volume 902 of Lecture Notes in Computer Science, pages 109–123, Edinburgh, United Kingdom, 1995. Springer-Verlag.
- Roberto Di Cosmo and Stefano Guerrini. Strong normalization of proof nets modulo structural congruences. In Narendran and Rusinowitch [1999], pages 75–91.
- Richard Courant and Herbert Robbins. What is Mathematics? Oxford University Press, 1941.
- Philip T. Cox. *Deduction Plans: A Graphical Proof Procedure for the First-Order Predicate Calculus.* PhD thesis, University of Waterloo, 1977.
- Philip T. Cox and Tomasz Pietrzykowski. Deduction plans: A basis for intelligent backtracking. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 3:52–65, 1981.
- W. Craig. Linear reasoning. a new form of the Herbrand-Gentzen theorem. *Journal of Symbolic Logic*, 22:250–268, 1957.
- Haskell B. Curry and Robert Feys. *Combinatory Logic*. Studies in logic and the foundations of mathematics, North-Holland, 1958.

- B. I. Dahn, J. Gehne, T. Honigmann, and A. Wolf. Integration of automated and interactive theorem proving in ILF. In McCune [1997b], pages 57–60.
- Bernd I. Dahn and Andreas Wolf. A calculus supporting structured proofs. *Journal for Information Processing and Cybernetics (EIK)*, 30:261–276, 1994.
- Bernd I. Dahn and Andreas Wolf. Natural language representation and combination of automatically generated proofs. In F. Baader and K. U. Schulz, editors, *Frontiers of Combining Systems: Proceedings of the 1st International Workshop, Munich (Germany)*, Applied Logic, pages 175–192. Kluwer Academic Publishers, March 1996.
- Robert Dale, Eduard Hovy, Dietmar Rösner, and Oliviero Stock, editors. *Aspects of Automated Natural Language Generation*, volume 587 of *Lecture Notes in Artifical Intelligence*, 1992. Springer Verlag.
- Michael Rusinowitch David Basin, editor. *Automated Reasoning, Second International Joint Conference, IJCAR 2004*, volume 3097 of *Lecture Notes in Artificial Intelligence*, Cork, Ireland, 2004. Springer-Verlag.
- M. Davis. The Undecidable. Raven Press, Hewlett, N. Y., 1965.
- M. Davis. Applied Nonstandard Analysis. John Wiley & Sons, New York, 1977.
- M. Davis and H. Putnam. A computing procedure for quantification theory. *Journal of the ACM*, 7:201–215, 1960.
- M. Davis, Y. Matijasevic, and J. Robinson. Hilbert's tenth problem Diophantine equations: Positive aspects of a negative solution. In *Proc. Sympos. Pure Math*, volume 28, pages 323–378, 1976.
- Martin Davis. Eliminating the irrelevant from mechanical proofs. In *Experimental Arithmetic, High Speed Computing and Mathematics*, Proceedings of Symposia in Applied Mathematics XV, pages 15–30. American Mathematical Society, 1963.
- N.G. de Bruijn. A survey of the project AUTOMATH. In J. P. Seldin and J. R. Hindley, editors, *To H. B. Curry: Essays on Combinatory Logic, Lambda Calculus, and Formalism*, pages 579–606. Academic Press, 1980.
- Philippe de Groote. On the strong normalization of natural deduction with permutation-conversions. In Narendran and Rusinowitch [1999], pages 45–59.
- Harrie de Swart, editor. *Theorem Proving with Analytic Tableaux and Related Methods.* (*TABLEAUX '98*), volume 1397 of *Lecture Notes in Artificial Intelligence*, Oisterwijk, The Netherlands, May 1998. Springer-Verlag.
- Thomas Dean, editor. *Proceedings of the 16th International Joint Conference on Artificial Intelligence (IJCAI)*, Stockholm, SWEDEN, 1999. Morgan Kaufmann.

- R. Dedekind. Über die von drei Moduln erzeugte Dualgruppe. *Mathematische Annalen*, 53: 371–403, 1900.
- Anatoli Degtyarev and Andrei Voronkov. General connections via equality elimination. Technical Report UPMAIL-93, Computing Science Department, Uppsala University, Sweden, 1995a.
- Anatoli Degtyarev and Andrei Voronkov. General connections via equality elimination. In M. De Glas and Z. Pawlak, editors, *Second World Conference on the Fundamentals of Artificial Intelligence*, pages 109–120. Paris, France, 1995b.
- Anatoli Degtyarev and Andrei Voronkov. Simultaneous rigid *E*-unification is undecidable. Technical Report UPMAIL-105, Computing Science Department, Uppsala University, Sweden, 1995c.
- Anatoli Degtyarev and Andrei Voronkov. The undecidability of simultaneous rigid e-unification. *Theoretical Computer Science*, 166:291–300, 1996.
- Anatoli Degtyarev and Andrei Voronkov. What you always wanted to know about rigid *E*-unification. Technical Report UPMAIL-143, Computing Science Department, Uppsala University, Sweden, 1997.
- Anatoli Degtyarev and Andrei Voronkov. What you always wanted to know about rigid e-unification. *Journal of Automated Reasoning*, 20:47–80, 1998.
- Anatoli Degtyarev, Yuri Gurevich, Paliath Narendran, Margus Veanes, and Andrei Voronkov. The decidability of simultaneous rigid *E*-unification with one variable. Technical Report UPMAIL-139, Computing Science Department, Uppsala University, Sweden, 1997. (to appear in Theoretical Computer Science).
- Anatoli Degtyarev, Yuri Gurevich, Paliath Narendran, Margus Veanes, and Andrei Voronkov. The decidability of simultaneous rigid E-unification with one variable. In Nipkow [1998], pages 181–195.
- Mary DeMarco. *Intuitionistic Semantics for Heriditarily Harrop Logic Programming*. PhD thesis, Wesleyan University, 1999.
- Mary DeMarco and James Lipton. Uniform algebras: A complete semantics for higher order logic programming with HOHH formulae., 2001. URL citeseer.ist.psu.edu/497979.html.
- Nachum Dershowitz. A taste of rewriting. In P.E. Lauer, editor, *Functional Programming*, *Concurrency, Simulation and Automated Reasoning. International Lecture Series 1991–92*, pages 199–228. Springer-Verlag, 1993.
- Vincent J. Digricoli. Resolution by unification and equality. In William H. Joyner, editor, *4th Workshop on Automated Deduction*, Austin, Texas, 1979.
- Gilles Dowek. Higher-order unification and matching. In Alan Robinson and Andrei Voronkov, editors, *Handbook of Automated Reasoning*, volume 2, chapter 16, pages 1009–1062. Elsevier Science, Amsterdam, 2001.

- Gilles Dowek and Benjamin Werner. Theorem proving modulo. *Journal of Symbolic Logic*, 68: 1289–1316, 2003.
- Gilles Dowek, Thérèse Hardin, and Claude Kirchner. Proof normalization modulo. *Journal of Automated Reasoning*, 31:32–72, 2003.
- Burton Dreben and John Denton. A supplement to Herbrand. *Journal of Symbolic Logic*, 31: 393–398, 1966.
- Burton Dreben and Warren D. Goldfarb. *The Decision Problem: Solvable Classes of Quantificational Formulas*. Addison-Wesley Publishing Company, Reading, Massachusetts, 1979.
- Burton Dreben, Peter Andrews, and Stål Aanderaa. False lemmas in Herbrand. *Bulletin of the American Mathematical Society*, 69:699–706, 1963a.
- Burton Dreben, Peter Andrews, and Stål Aanderaa. False lemmas in Herbrand. *Bulletin of the American Mathematical Society*, 69:699–706, 1963b.
- Roy Dyckhoff, editor. *Theorem Proving with Analytic Tableaux and Related Methods.* (*TABLEAUX 2000*), volume 1847 of *Lecture Notes in Artificial Intelligence*, St Andrews, Scotland, UK, July 2000. Springer-Verlag.
- Elmar Eder. A comparison of the resolution calculus and the connection method, and a new calculus generalizing both methods. In E. Borger, H. Kleine Buning, and M. M. Richter, editors, *CSL'88 2nd Workshop on Computer Science Logic*, volume 385 of *Lecture Notes in Computer Science*, pages 80–98, Berlin, 1989. Springer-Verlag.
- Elmar Eder. Relative Complexities of First Order Calculi. Vieweg Verlag, Braunschweig, 1992.
- A. Edgar and F.J. Pelletier. Natural language explanations of natural deduction proofs. In *Proceedings of the First Pacific Rim Conference on Computational Linguistics*, pages 269–278, Vancouver, 1993.
- Uwe Egli and Stephan Schmitt. Intuitionistic proof transformations and their application to constructive program synthesis. In Jaques Calmet and Jan Plaza, editors, *Proceedings of the International Conference on Artificial Intelligence and Symbolic Computation (AISC-98)*, volume 1476 of *Lecture Notes in Artificial Intelligence*, pages 132–144, Berlin, 1998. Springer-Verlag. ISBN 3-540-64960-3.
- Uwe Egly. On the value of antiprenexing. In Frank Pfenning, editor, *Logic programming and automated reasoning : 5th International Conference, LPAR '94, Kiev, Ukraine*, volume 822 of *Lecture Notes in Computer Science*, pages 69–83. Springer-Verlag, 1994.
- Uwe Egly and Stephan Schmitt. On intuitionistic proof transformations, their complexity, and application to constructive program synthesis. *Fundamenta Informaticae*, 39:59–83, 1999.
- N. Eisinger. What you always wanted to know about clause graph resolution. In Siekmann [1986], pages 316–336.

- N. Eisinger and H. J. Ohlbach. The Markgraph Karl refutation procedure (MKRP). In Siekmann [1986], pages 681–682.
- Norbert Eisinger, Hans-Jürgen Ohlbach, and Axel Präcklein. Reduction rules for resolution-based systems. *Artificial Intelligence*, 50(2):141–181, 1991.
- G.W. Ernst. A definition-driven theorem prover. In IJCAI-3, pages 51–55.
- R. L. Constable et al. *Implementing Mathematics with the Nuprl Proof Development System*. Prentice Hall, 1986.
- W. M. Farmer. A partial functions version of Church's simple theory of types. *Journal of Symbolic Logic*, 55:1269–91, 1990.
- W. M. Farmer. A simple type theory with partial functions and subtypes. *Annals of Pure and Applied Logic*, 64:211–240, 1993.
- William M. Farmer. An infrastructure for intertheory reasoning. In McAllester [2000], pages 115–131.
- William M. Farmer, Joshua D. Guttman, and F. Javier Thayer. IMPS: An interactive mathematical proof system. In Stickel [1990], pages 653–654.
- William M. Farmer, Joshua D. Guttman, and F. Javier Thayer. Little theories. In Kapur [1992], pages 567–581.
- William M. Farmer, Joshua D. Guttman, and F. Javier Thayer. IMPS: An interactive mathematical proof system. *Journal of Automated Reasoning*, 11:213–248, 1993.
- M. Fay. First-order unification in an equational theory. In William H. Joyner, editor, *4th Workshop on Automated Deduction*, Austin, Texas, 1979.
- Solomon Feferman. Systems of predicative analysis. *Journal of Symbolic Logic*, 29:1–30, 1964.
- Detlef Fehrer and Helmut Horacek. Exploiting the addressee's inferential capabilities in presenting mathematical proofs. In Pollack [1997], pages 959–964.
- Amy Felty. The calculus of constructions as a framework for proof search with set variable instantiation. *Theoretical Computer Science*, 232:187–229, 2000.
- Amy Felty. Proof search with set variable instantiation in the calculus of constructions. In M. A. McRobbie and J. K. Slaney, editors, *Automated Deduction: CADE-13*, volume 1104 of *Lecture Notes in Artificial Intelligence*, pages 658–672. Springer, 1996.
- Amy P. Felty. Using extended tactics to do proof transformations. Technical Report MS-CIS-86-89, Department of Computer and Information Science, University of Pennsylvania, 1986.

- Armin Fiedler. Dialog-driven adaptation of explanations of proofs. In Bernhard Nebel, editor, *Proceedings of the 17th International Joint Conference on Artificial Intelligence (IJCAI)*, pages 1295–1300, Seattle, WA, 2001a. Morgan Kaufmann.
- Armin Fiedler. P.rex: An interactive proof explainer. In Goré et al. [2001], pages 416–420.
- Armin Fiedler. *User-Adaptive Proof Explanation*. PhD thesis, Naturwissenschaftlich-Technische Fakultät I, Universität des Saarlandes, Saarbrücken, Germany, 2001c.
- Armin Fiedler. Using a cognitive architecture to plan dialogs for the adaptive explanation of proofs. In Dean [1999], pages 358–363.
- M. Fitting. Types, Tableaus, and Gödel's God. Kluwer Academic Publishers, 2002.
- M. Fitting. First-Order Logic and Automated Theorem Proving. Springer-Verlag, 1990.
- Andreas Franke and Michael Kohlhase. System description: Mathweb, an agent-based communication layer for distributed automated theorem proving. In Ganzinger [1999], pages 217–221.
- Gottlob Frege. *Begriffsschrift, eine der arithmetischen nachgebildete Formelsprache des reinen Denkens.* Halle, 1879. Translated in [van Heijenoort, 1967a, pp. 1–82].
- Peter Freyd. Personal communication.
- Dov M. Gabbay and Hans Jürgen Ohlbach. Quantifier elimination in second-order predicate logic. In Bernhard Nebel, Charles Rich, and William Swartout, editors, *Principles of Knowledge Representation and Reasoning (KR92)*, pages 425–435. Morgan Kaufmann, 1992. Also published as a Technical Report MPI-I-92-231, Max-Planck-Institut für Informatik, Saarbrücken, and in the *South African Computer Journal*, 1992.
- Jean H. Gallier. Logic for Computer Science. Foundations of Automatic Theorem Proving. Harper & Row, 1986.
- Jean H. Gallier and Wayne Snyder. A general complete *E*-unification procedure. In *RTA* '87, pages 216–227, Bordeaux, France, 1987.
- Jean H. Gallier and Wayne Snyder. Complete sets of transformations for general *E*-unification. *Theoretical Computer Science*, 67:203–260, 1989.
- Jean H. Gallier, David Plaisted Paliath Narendran, Stan Raatz, and Wayne Snyder. An algorithm for finding canonical sets of ground rewrite rules in polynomial time. Submitted to Journal of the ACM.
- Jean H. Gallier, Stan Raatz, and Wayne Snyder. Theorem proving using rigid *E*-unification: Equational matings. In LICS-2, pages 338–346.
- Jean H. Gallier, Stan Raatz, and Wayne Snyder. Rigid *E*-unification and its applications to equational matings. In Nivat and Aït-Kaci, editors, *Resolution of Equations in Algebraic Structures: Vol. 1, Algebraic Techniques*, pages 151–216. Academic Press, San Diego, 1989.

- Jean H. Gallier, P. Narendran, David Plaisted, and Wayne Snyder. Rigid *E*-unification: NP-completeness and applications to theorem proving. *Information and Computation*, 87: 129–195, 1990.
- Jean H. Gallier, Paliath Narendran, Stan Raatz, and Wayne Snyder. Theorem proving using equational matings and rigid *E*-unification. *Journal of the ACM*, 39:377–429, 1992.
- Daniel Gallin. Intensional and Higher-Order Modal Logic. North Holland, 1975.
- Didier Galmiche, editor. *Theorem Proving with Analytic Tableaux and Related Methods*. (*TABLEAUX '97*), volume 1227 of *Lecture Notes in Artificial Intelligence*, Pont-a-Mousson, France, May 1997. Springer-Verlag.
- R. O. Gandy. On the axiom of extensionality part i. *Journal of Symbolic Logic*, 21:36–48, 1956.
- R. O. Gandy. An early proof of normalization by A.M. Turing. In J. P. Seldin and J. R. Hindley, editors, *To H. B. Curry: Essays on Combinatory Logic, Lambda Calculus and Formalism*, pages 453–455. Academic Press, 1980a.
- R. O. Gandy. Proofs of strong normalization. In J. P. Seldin and J. R. Hindley, editors, *To H. B. Curry: Essays on Combinatory Logic, Lambda Calculus and Formalism*, pages 457–477. Academic Press, 1980b.
- Harald Ganzinger, editor. *Proceedings of the 16th International Conference on Automated Deduction*, volume 1632 of *Lecture Notes in Artificial Intelligence*, Trento, Italy, 1999. Springer-Verlag.
- James W. Garson and Paul Mellema. Computer-assisted instruction in logic: EMIL. *Teaching Philosophy*, 3:453–478, 1980.
- G. Gentzen. Investigations into logical deductions. In M. E. Szabo, editor, *The Collected Papers of Gerhard Gentzen*, pages 68–131. North-Holland Publishing Co., Amsterdam, 1969a.
- G. Gentzen. Untersuchungen über das Logische Schließen I und II. *Mathematische Zeitschrift*, 39:176–210,405–431, 1935. Translated in Gentzen [1969a].
- G. Gentzen. The consistency of elementary number theory. In M. E. Szabo, editor, *The Collected Papers of Gerhard Gentzen*, pages 132–213. North-Holland Publishing Co., Amsterdam, 1969b.
- Gerhard Gentzen. *The Collected Papers of Gerhard Gentzen*. North-Holland Publishing Co., Amsterdam, 1969c. Edited by M. E. Szabo.
- J. H. Geuvers. The calculus of constructions and higher order logic. In Ph. de Groote, editor, *The Curry-Howard Isomorphism*, pages 139–191. Academia, Louvain-la-Neuve (Belgium), 1995.
- P.C. Gilmore. A proof method for quantification theory. *IBM Journal of Research and Development*, 4:28–35, 1960.

- J. Y. Girard. Proof Theory and Logical Complexity. Bibliopolis, 1987.
- Fausto Giunchiglia and Adolfo Villafiorita. ABSFOL: a proof checker with abstraction. In McRobbie and Slaney [1996], pages 136–140.
- Fausto Giunchiglia and Toby Walsh. Theorem proving with definitions. In *Proceedings of AISB* 89, Society for the Study of Artificial Intelligence and Simulation of Behaviour, 1989.
- Fausto Giunchiglia and Toby Walsh. A theory of abstraction. *Artificial Intelligence*, 57(2–3): 323–389, 1992.
- James Glanz. Computer scientists rethink their discipline's foundations. *Science*, 269:1363–1364, September 1995.
- Andrew M. Gleason. Fundamentals of Abstract Analysis. Addison Wesley, 1966.
- Christopher Alan Goad. *Computational Uses of the Manipulation of Formal Proofs*. PhD thesis, Stanford, August 1980.
- Kurt Gödel. *Collected Works, Volume IV*. Clarendon Press, 2003. Edited by Solomon Feferman, John W. Dawson, Jr., Warren Goldfarb, Charles Parsons, and Wilfried Sieg.
- Kurt Gödel. Die Vollstandigkeit der Axiome des logischen Funktionenkalküls. *Monatsh. Math. Phys.*, 37:349–360, 1930.
- Kurt Gödel. Über formal unentscheidbare Sätze der Principia Mathematica und verwandter Systeme I. *Monatsh. Math. Phys.*, 38:173–198, 1931.
- Kurt Gödel. Über die Länge von Beweisen. *Ergebnisse eines Mathematischen Kolloquiums*, 7: 23–24, 1936. Translated in Gödel [1986], pp. 396–399.
- Kurt Gödel. The Consistency of the Axiom of Choice and of the Generalized Continuum Hypothesis with the Axioms of Set Theory. Princeton University Press, Princeton, 1940.
- Kurt Gödel. Collected Works, Volume I. Oxford University Press, 1986.
- Warren D. Goldfarb. The undecidability of the second-order unification problem. *Theoretical Computer Science*, 13:225–230, 1981.
- Warren D. Goldfarb. Herbrand's error and Gödel's correction. *Modern Logic*, 3(2):103–118, February 1993.
- Doug Goldson and Steve Reeves. Using programs to teach logic to computer scientists. *Notices of the American Mathematical Society*, 40:143–148, 1993.
- Douglas Goldson, Steve Reeves, and Richard Bornat. A review of several programs for the teaching of logic. Department of Computer Science, Queen Mary and Westfield College, University of London, 1992.

- Douglas Goldson, Steve Reeves, and Richard Bornat. A review of several programs for the teaching of logic. *The Computer Journal*, 36:373–386, 1993.
- Chr. Goller, R. Letz, K. Mayr, and J. Schumann. SETHEO V3.2: Recent developments. In Bundy [1994], pages 778–782.
- Michael J. Gordon, Arthur J. Milner, and Christopher P. Wadsworth. *Edinburgh LCF. A Mechanised Logic of Computation*, volume 78 of *Lecture Notes in Computer Science*. Springer-Verlag, 1979.
- Michael J. C. Gordon. HOL: A proof generating system for higher-order logic. In Graham Birtwistle and P.A. Subrahmanyam, editors, *VLSI Specification, Verification, and Synthesis*, pages 73–128. Kluwer Academic Publishers, 1988.
- Mike Gordon. Why higher-order logic is a good formalism for specifying and verifying hardware. In G. J. Milne and P. A. Subrahmanyam, editors, *Formal Aspects of VLSI Design*, pages 153–177. North-Holland, 1986.
- Mike Gordon. Set theory, higher order logic or both? In von Wright et al. [1996], pages 191–201.
- M.J. Gordon and T.F. Melham. *Introduction to HOL: A Theorem-Proving Environment for Higher-Order Logic*. Cambridge University Press, 1993.
- Rajeev Goré, Alexander Leitsch, and Tobias Nipkow, editors. *Automated Reasoning, First International Joint Conference, IJCAR 2001*, volume 2083 of *Lecture Notes in Artificial Intelligence*, Siena, Italy, 2001. Springer-Verlag.
- Jean Goubault. Higher-order rigid E-unification. In Frank Pfenning, editor, *Logic programming* and automated reasoning: 5th International Conference, LPAR '94, Kiev, Ukraine, volume 822 of Lecture Notes in Computer Science, pages 129–143. Springer-Verlag, 1994.
- William Eben Gould. A Matching Procedure for ω-order Logic. PhD thesis, Princeton University, 1966.
- Peter Graf. *Term Indexing*, volume 1053 of *Lecture Notes in Artificial Intelligence*. Springer-Verlag, 1995.
- Cordell Green. Application of theorem proving to problem solving. In Donald E. Walker and Lewis M. Norton, editors, *Proceedings of the International Joint Conference on Artificial Intelligence*, pages 219–239, Washington, D.C., 1969.
- Jim Grundy and Malcolm Newey, editors. *Theorem Proving in Higher Order Logics.* 11th *International Conference, TPHOLs*'98, volume 1479 of *Lecture Notes in Computer Science*, Canberra, Australia, 1998. Springer-Verlag.
- Elsa L. Gunter and Amy Felty, editors. *Theorem Proving in Higher Order Logics. 10th International Conference, TPHOLs*'97, volume 1275 of *Lecture Notes in Computer Science*, Murray Hill, NJ, USA, 1997. Springer-Verlag.

- Yuri Gurevich and Andrei Voronkov. Monadic simultaneous rigid *E*-unification and related problems. In *ICALP '97: 24th International Colloquium on Automata, Languages and Programming, Bologna, Italy*, volume 1256 of *Lecture Notes in Computer Science*, pages 154–165. Springer-Verlag, July 1997. (to appear in Theoretical Computer Science).
- Reiner Hähnle and Stefan Klingenbeck. A-ordered tableaux. Interner Bericht 26/95, Universität Karlsruhe, Fakultät für Informatik, 1995.
- P. R. Halmos. Naive Set Theory. D. Van Nostrand Company Ltd., Princeton, N.J., 1960.
- Eric M. Hammer. *Logic and Visual Information*. CSLI Publications & FoLLI, Stanford, California, 1995.
- F. K. Hanna and N. Daeche. Specification and verification using higher-order logic. In Koomen and Moto-oka, editors, *Computer Hardware Description Languages and their Applications*, pages 418–433. North Holland, 1985. URL http://www.cs.ukc.ac.uk/pubs/1985/416.
- F. K. Hanna and N. Daeche. Specification and verification using higher-order logic: A case study. In G. J. Milne and P. A. Subrahmanyam, editors, *Formal Aspects of VLSI Design*, pages 179–213. North-Holland, 1986.
- John Robert Harrison. *Theorem Proving with the Real Numbers*. PhD thesis, Churchill College, Cambridge, 1996. Revised version available as Technical Report TR408, Computer Laboratory, Cambridge University.
- Jr. Hartley Rogers. *Theory of Recursive Functions and Effective Computability*. MIT Press, Massachusetts, 1987.
- William S. Hatcher. Foundations of Mathematics. W. B. Saunders Co., 1968.
- A.P. Hazen. Predicative logics. In D.M. Gabbay and F. Guenthner, editors, *Handbook of Philosophical Logic*, volume I, pages 331–407. Reidel, Dordrecht, 1983.
- Leen Helmink and Rene Ahn. Goal directed proof construction in type theory. In Gérard Huet and Gordon Plotkin, editors, *Logical Frameworks*, pages 120–148. Cambridge University Press, 1991.
- Leon Henkin. The completeness of the first-order functional calculus. *Journal of Symbolic Logic*, 14:159–166, 1949.
- Leon Henkin. Completeness in the theory of types. *Journal of Symbolic Logic*, 15:81–91, 1950.
- Leon Henkin. A problem concerning provability. *Journal of Symbolic Logic*, 17:160, 1952.
- Leon Henkin. On mathematical induction. *American Mathematical Monthly*, 67:323–338, 1960.
- Leon Henkin. An extension of the Craig-Lyndon interpolation theorem. *Journal of Symbolic Logic*, 28:201–216, 1963a.
- Leon Henkin. A theory of propositional types. Fundamenta Mathematicae, 52:323–344, 1963b.

- Leon Henkin. Identity as a logical primitive. *Philosophia*, 5:31–45, 1975.
- Leon Henkin. The discovery of my completeness proofs. *Bulletin of Symbolic Logic*, 2:127–158, 1996.
- Lawrence J. Henschen. N-sorted logic for automated theorem proving in higher-order logic. In *Proceedings of the ACM Conference, Boston*, pages 71–81, 1972.
- Jacques Herbrand. Recherches sur la théorie de la démonstration. *Travaux de la Société des Sciences et des Lettres de Varsovie, Classe III Sciences Mathematiques et Physiques*, 33, 1930. Translated in Herbrand [1971].
- Jacques Herbrand. *Logical Writings*. Harvard University Press, 1971. Edited by Warren D. Goldfarb.
- David Hilbert. Die grundlagen der mathematik. *Abhandlungen aus dem mathematischen Seminar der Hamburgischen Universität*, 6:65–85, 1928. Translated in [van Heijenoort, 1967a, pp. 464–479].
- David Hilbert and Paul Bernays. Grundlagen der Mathematik, volume 2. Springer, 1939.
- J. R. Hindley and J. P. Seldin. *An Introduction to Combinators and the* λ*-Calculus*. Cambridge University Press, 1986.
- J. R. Hindley, B. Lercher, and J. P. Seldin. *Introduction to Combinatory Logic*. Cambridge University Press, London, 1972.
- J. Roger Hindley. Basic Simple Type Theory. Cambridge University Press, 1997.
- K. J. J. Hintikka. Notes on quantification theory. Soc. Sci. Fenn. Comment. Phys. Math, 17, 1955.
- Wilfrid Hodges. *Model theory*. Cambridge University Press, 1993.
- Amanda M. Holland-Minkley, Regina Barzilay, and Robert L. Constable. Verbalization of high-level formal proofs. In AAAI99, pages 277–284.
- Furio Honsell and Marina Lenisa. Coinductive characterizations of applicative structures. *Mathematical Structures in Computer Science*, 9:403–435, 1999.
- Furio Honsell and Donald Sannella. Pre-logical relations. In Jörg Flum and Mario Rodríguez-Artalejo, editors, *Proceedings of Computer Science Logic (CSL'99)*, volume 1683 of *Lecture Notes in Computer Science*, pages 546–561. Springer-Verlag, 1999.
- Helmut Horacek. An integrated view of text planning. In Dale et al. [1992], pages 29–44.
- Helmut Horacek. A model for adapting explanations to the user's likely inferences. *User Modeling and User-Adapted Interaction*, 7:1–55, 1997.
- Helmut Horacek. Presenting proofs in a human-oriented way. In Ganzinger [1999], pages 142–156.

- K.M. Hörnig and W. Bibel. Improvements of a tautology-testing algorithm. In Loveland [1982], pages 326–341.
- W. A. Howard. The formula-as-types notion of construction. In J. P. Seldin and J. R. Hindley, editors, *To H. B. Curry: Essays on Combinatory Logic, Lambda Calculus and Formalism*, pages 480–490. Academic Press, 1980.
- Xiaorong Huang. Proof transformation towards human reasoning style. In D. Metzing, editor, *Proceedings of the 13th German Workshop on Artificial Intelligence*, Informatik-Fachberichte 216, pages 37–42. Springer-Verlag, 1989a.
- Xiaorong Huang. A human oriented proof presentation model. SEKI Report SR–89–11, Kaiserslautern University, 1989b.
- Xiaorong Huang. Reference choices in mathematical proofs. In Luigia Carlucci Aiello, editor, *Proceedings of the 9th European Conference on Artificial Intelligence*, pages 720–725. Pitman Publishing, 1990.
- Xiaorong Huang. Translating machine-generated resolution proofs into ND-Proofs at the assertion level. In Norman Foo and Randy Goebel, editors, *Proceedings of the Fourth Rim International Conference on Artificial Intelligence (PRICAI-96)*, volume 1114 of *Lecture Notes in Artificial Intelligence*, pages 399–410, Berlin, 1996. Springer-Verlag. ISBN 3-540-61532-6.
- Xiaorong Huang. Reconstructing proofs at the assertion level. In Bundy [1994], pages 738–752. URL http://js-sfbsun.cs.uni-sb.de/pub/www/deduktion.html.
- Xiaorong Huang. Proverb: A system explaining machine-found proofs. In Ashwin Ram and Kurt Eiselt, editors, *Proceedings of Sixteenth Annual Conference of the Cognitive Science Society*, pages 427–432, Atlanta, USA, 1994b. Lawrence Erlbaum Associates. URL http://js-sfbsun.cs.uni-sb.de/pub/www/deduktion.html.
- Xiaorong Huang. *Human Oriented Proof Presentation: A Reconstructive Approach*. PhD thesis, Fachbereich Informatik, Universität des Saarlandes, Saarbrücken, Germany, 1994c. URL http://js-sfbsun.cs.uni-sb.de/pub/www/deduktion.html.
- Xiaorong Huang and Armin Fiedler. Presenting machine-found proofs. In McRobbie and Slaney [1996], pages 221–225.
- Xiaorong Huang and Armin Fiedler. Proof verbalization as an application of NLG. In Pollack [1997], pages 965–971.
- Xiaorong Huang, Manfred Kerber, Michael Kohlhase, Erica Melis, Dan Nesmith, Jorn Richts, and Jörg Siekmann. ω-MKRP: A proof development environment. In Bundy [1994], pages 788–792.
- Xiaorong Huang, Manfred Kerber, Michael Kohlhase, Erica Melis, Dan Nesmith, Jorn Richts, and Jörg Siekmann. KEIM: A toolkit for automated deduction. In Bundy [1994], pages 807–810.

- Xiaorong Huang, Manfred Kerber, Jörn Richts, and Arthur Sehn. Planning mathematical proofs with methods. *Journal of Information Processing and Cybernetics*, *EIK*, 30(5-6):277–291, 1994c. URL http:
 - //www.ags.uni-sb.de/publications/deduktion/papers/HuKeRiSe-EIK94.ps.gz.
- Gérard Huet. *Resolution d'Equations dans les Languages d'Ordre 1,2,...*,ω. These de Doctorat D'Etat, Universite Paris VII, 1976.
- Gérard Huet, editor. Logical Foundations of Functional Programming. Addison Wesley, 1990.
- Gérard Huet and D. C. Oppen. Equations and rewrite rules: a survey. In Ronald V. Book, editor, *Formal Language Theory: Perspectives and Open Problems*, pages 349–405. Academic Press, 1980.
- Gérard P. Huet. *Constrained Resolution: A Complete Method for Higher Order Logic*. PhD thesis, Case Western Reserve University, 1972.
- Gérard P. Huet. A mechanization of type theory. In IJCAI-3, pages 139–146.
- Gérard P. Huet. The undecidability of unification in third-order logic. *Information and Control*, 22:257–267, 1973b.
- Gérard P. Huet. A unification algorithm for typed λ -calculus. *Theoretical Computer Science*, 1: 27–57, 1975a.
- Gérard P. Huet. A unification algorithm for typed λ -calculus. *Theoretical Computer Science*, 1: 27–57, 1975b.
- Gérard P. Huet. A complete proof of correctness of the Knuth and Bendix completion algorithm. *Journal of Computer and System Sciences*, 23:11–21, 1981.
- G. E. Hughes and M. J. Cresswell. *An Introduction to Modal Logic*. Methuen & Co., Ltd., New York, 1968.
- Thomas W. Hungerford. *Algebra*. Springer-Verlag New York, Inc., 1974.
- Dieter Hutter and Michael Kohlhase. A coloured version of the λ -calculus. In McCune [1997b], pages 291–305.
- Dieter Hutter and Michael Kohlhase. Managing structural information by higher-order colored unification. *Journal of Automated Reasoning*, 25:123–164, 2000.
- IJCAI-10. Proceedings of the Tenth International Joint Conference on Artificial Intelligence, Los Altos, California, 1987. IJCAI.
- IJCAI-12. *Proceedings of the Twelfth International Joint Conference on Artificial Intelligence*, Darling Harbour, Sydney, Australia, 1991. IJCAI.
- IJCAI-3. *Proceedings of the Third International Joint Conference on Artificial Intelligence*, Stanford University, California, USA, 1973. IJCAI.

- IJCAI-5. Proceedings of the 5th International Joint Conference on Artificial Intelligence, IJCAI-77, MIT, Cambridge, MA, 1977. IJCAI.
- IJCAI-7. Proceedings of the Seventh International Joint Conference on Artificial Intelligence, Vancouver, B.C., Canada, 1981. IJCAI.
- IJCAI-8. *Proceedings of the Eighth International Joint Conference on Artificial Intelligence*, Karlsruhe, Germany, 1983. IJCAI.
- IJCAI-9. *Proceedings of the Ninth International Joint Conference on Artificial Intelligence*, Los Angeles, California, 1985. IJCAI.
- IJCAI-4. *Proceedings of the Fourth International Joint Conference on Artificial Intelligence*, Tbilisi, Georgia, 1975.
- Sunil Issar. Path-focused duplication: A search procedure for general matings. In *AAAI–90*. *Proceedings of the Eighth National Conference on Artificial Intelligence*, volume 1, pages 221–226. AAAI Press/The MIT Press, 1990.
- Sunil Issar. *Operational Issues in Automated Theorem Proving Using Matings*. PhD thesis, Carnegie Mellon University, 1991. 147 pp.
- Sunil Issar, Peter B. Andrews, Frank Pfenning, and Dan Nesmith. *GRADER Manual*, 2004. URL http://gtps.math.cmu.edu/tps-mans.html. 24+i pp.
- Bart Jacobs. Categorical Logic and Type Theory. Elsevier, 1999.
- Predrag Janičić, Ian Green, and Alan Bundy. A comparison of decision procedures in presburger arithmetic. In *Proceedings of the VIII International Conference on Logic and Computer Science (LIRA 97)*, pages 99–101, Novi Sad, Yugoslavia, September 1997. Also available as Research Report 872, Department of AI, University of Edinburgh.
- D.C. Jensen and T. Pietrzykowski. Mechanizing ω-order type theory through unification. *Theoretical Computer Science*, 3:123–171, 1976.
- Patricia Johann and Michael Kohlhase. Unification in an extensional lambda calculus with ordered function sorts and constant overloading. In Bundy [1994], pages 620–634.
- R. Johnson. A blackboard approach to parallel temporal tableaux. In P. Jorrand and V. Sgurev, editors, *Artificial Intelligence, Methodologies, Systems and Applications (AIMSA '94)*, pages 183–192, Sofia, Bulgaria, 1994. World Scientific, Singapore.
- C.B. Jones and C.A. Middelburg. A typed logic of partial functions reconstructed classically. *Acta Informatica*, 31(5):399–430, 1994.
- P. Jordan. Zum Dedekindschen axiom in der Theorie der Verbände. *Abhandl. Hamburg*, 16: 71–73, 1949.

- J.-P. Jouannaud and C. Kirchner. Solving equations in abstract algebras: A rule-based survey of unification. In J.-L. Lassez and G. Plotkin, editors, *Computational logic: essays in honor of Alan Robinson*. MIT Press, Cambridge, MA, 1991.
- Jeffrey J. Joyce and Carl-Johan H. Seger, editors. *Higher Order Logic Theorem Proving and Its Applications: 6th International Workshop, HUG '93*, volume 780 of *Lecture Notes in Computer Science*, Vancouver, B.C., Canada, August 1994. Springer-Verlag.
- Fairouz Kamareddine, Twan Laan, and Rob Nederpelt. Types in logic and mathematics before 1940. *Bulletin of Symbolic Logic*, 8:185–245, 2002.
- D. Kapur, editor. *Proceedings of the 11th International Conference on Automated Deduction*, volume 607 of *Lecture Notes in Artificial Intelligence*, Saratoga Springs, NY, USA, 1992. Springer-Verlag.
- D. Kapur and H. Zhang. An overview of RRL (Rewrite Rule Laboratory). *Computers and Mathematics with Applications*, 29:91–114, 1995.
- John G. Kemeny. *Type Theory vs. Set Theory*. PhD thesis, Princeton University, 1949. (abstract in Kemeny [1950]).
- John G. Kemeny. Type theory vs. set theory. *Journal of Symbolic Logic*, 15:78, 1950. (abstract).
- Manfred Kerber, Michael Kohlhase, and Volker Sorge. Integrating computer algebra into proof planing. *Journal of Automated Reasoning*, 21:327–355, 1998.
- Claude Kirchner and Hélène Kirchner, editors. *Proceedings of the 15th International Conference on Automated Deduction*, volume 1421 of *Lecture Notes in Artificial Intelligence*, Lindau, Germany, 1998. Springer-Verlag.
- S. C. Kleene. *Introduction to Metamathematics*. Van Nostrand, 1952.
- B. Knaster. Une théorème sur les fonctions d'ensembles. *Annales Soc. Polonaise Math.*, 6: 133–134, 1927.
- G. T. Kneebone. *Mathematical Logic and the Foundation of Mathematics*. D. Van Nostrand Company Ltd., London, 1963.
- D.E. Knuth and P.B. Bendix. Simple word problems in universal algebra. In J. Leech, editor, *Computational Word Problems in Abstract Algebra*, pages 263–297. Pergamon Press, 1970.
- Michael Kohlhase. Omdoc: Towards an internet standard for the administration, distribution, and teaching of mathematical knowledge. In John A. Campbell and Eugenio Roanes-Lozano, editors, *Artificial Intelligence and Symbolic Computation: International Conference AISC 2000*, volume 1930 of *Lecture Notes in Artificial Intelligence*, pages 32–52. Springer-Verlag, 2001.
- Michael Kohlhase. A unifying principle for extensional higher-order logic. Technical Report 93–153, Department of Mathematics, Carnegie Mellon University, January 1993.

- Michael Kohlhase. *A Mechanization of Sorted Higher-Order Logic Based on the Resolution Principle*. PhD thesis, Universität des Saarlandes, 1994a.
- Michael Kohlhase. Higher-order tableaux. In Baumgartner et al. [1995], pages 294–309.
- Michael Kohlhase. Higher-order automated theorem proving. In Wolfgang Bibel and Peter Schmitt, editors, *Automated Deduction A Basis for Applications*, volume 1, pages 431–462. Kluwer, 1998.
- Michael Kohlhase. Higher-order order-sorted resolution. SEKI Report SR–94-01, Fachbereich Informatik, Universität des Saarlandes, 1994b.
- Ignace I. Kolodner. Fixed points. American Mathematical Monthly, 71:906, 1964.
- Karsten Konrad. *Model Generation for Natural Language Interpretation and Analysis*, volume 2953 of *Lecture Notes in Artificial Intelligence*. Springer-Verlag, 2004.
- Karsten Konrad. HOT: Implementing higher-order tableaux. SEKI Report SR-98-03, Fachbereich Informatik, Universität Saarbrücken, 1998a. URL http://www.ags.uni-sb.de/~konrad/papers/hot.ps.gz.
- Karsten Konrad. HOT: A concurrent automated theorem prover based on higher-order tableaux. In Grundy and Newey [1998], pages 245–261.
- Robert Kowalski. A proof procedure using connection graphs. *Journal of the ACM*, 22:572–595, 1975.
- Dexter Kozen. Finitely presented algebras. Technical Report TR 76–294, Computer Science Department, Cornell University, 1976.
- Christoph Kreitz and Stephan Schmitt. A uniform procedure for converting matrix proofs into sequent-style systems. *Information and Computation*, 162(1–2):226–254, 2000.
- S.L. Kryvyi. Unification problem in equational theories. *Cybernetics and Systems Analysis*, 33 (6):874–899, 1998.
- F. Kurfeß. Potentiality of parallelism in logic. In B. Fronhöfer and G. Wrightson, editors, *Parallelization in Inference Systems: International Workshop Proceedings*, volume 590 of *Lecture Notes in Artificial Intelligence*, pages 3–25, Dagstuhl Castle, Germany, 1990. Springer-Verlag.
- David Lacey, Julian Richardson, and Alan Smaill. Logic program synthesis in a higher-order setting. In Lloyd et al. [2000], pages 87–100.
- J. Lambek and P. Scott. *Introduction to Higher Order Categorial Logic*. Cambridge University Press, Cambridge, UK, 1986.
- D.S. Lankford. Canonical inference. Technical Report ATP-32, University of Texas, 1975.

- Shie-Jue Lee. *CLIN: An Automated Reasoning System Using Clause Linking*. PhD thesis, University of North Carolina at Chapel Hill, 1990.
- Shie-Jue Lee and David A. Plaisted. Theorem proving using hyper-matching strategy. *Methodologies for Intelligent Systems*, 4:467–476, 1989.
- Shie-Jue Lee and David A. Plaisted. Eliminating duplication with the hyper-linking strategy. *Journal of Automated Reasoning*, 9:25–42, 1992.
- LEGO. The LEGO Proof Assistant. URL http://www.dcs.ed.ac.uk/home/lego/.
- Daniel Leivant. Higher order logic. In Dov M. Gabbay, C.J. Hogger, and J.A. Robinson, editors, *Handbook of Logic in Artificial Intelligence and Logic Programming*, volume 2, pages 229–321. Oxford University Press, 1994.
- R. Letz, J. Schumann, S. Bayerl, and W. Bibel. SETHEO: A high-performance theorem prover. *Journal of Automated Reasoning*, 8:(183–212), 1992.
- Reinhold Letz. Connection tableaux and their relation with linear resolution. Forschungsberichte KI FKI–169–92, TU Munich, June 1992.
- Reinhold Letz. Using matings for pruning connection tableaux. In Kirchner and Kirchner [1998], pages 381–396.
- Clarence Irving Lewis and Cooper Harold Langford. Symbolic Logic. Dover Publications, 1951.
- LICS-1. *Proceedings of the IEEE Symposium on Logic in Computer Science*, Cambridge, MA, USA, 1986. IEEE Computer Society Press, Los Alamitos, California, USA.
- LICS-2. *Proceedings of the 2nd Annual IEEE Symposium on Logic in Computer Science*, Ithaca, NY, USA, June 1987. IEEE Computer Society Press, Los Alamitos, California, USA.
- LICS-3. *Proceedings of the 3rd Annual IEEE Symposium on Logic in Computer Science*, Edinburgh, Scotland, July 1988. IEEE Computer Society Press, Los Alamitos, California, USA.
- LICS-4. Proceedings of the 4th Annual IEEE Symposium on Logic in Computer Science, Pacific Grove, California, USA, June 1989. IEEE Computer Society Press, Los Alamitos, California, USA.
- LICS-6. Proceedings of the 6th Annual IEEE Symposium on Logic in Computer Science, Amsterdam, The Netherlands, July 1991. IEEE Computer Society Press, Los Alamitos, California, USA.
- LICS-7. *Proceedings of the 7th Annual IEEE Symposium on Logic in Computer Science*, Santa Cruz, CA, USA, 1992. IEEE Computer Society Press, Los Alamitos, California, USA.
- LICS-8. *Proceedings of the 8th Annual IEEE Symposium on Logic in Computer Science*, Montreal, Canada, 1993. IEEE Computer Society Press, Los Alamitos, California, USA.

- Christoph Lingenfelder. Transformation of refutation graphs into natural deduction proofs. Technical Report SR–86–10, SEKI, 1986.
- Christoph Lingenfelder. Structuring computer generated proofs. Technical Report SR–88–19, SEKI, 1988.
- Christoph Lingenfelder. Structuring computer generated proofs. In Sridharan [1989], pages 378–383.
- Christoph Lingenfelder. *Transformation and Structuring of Computer Generated Proofs*. PhD thesis, University of Kaiserslautern, 1990. 115 pp.
- John Lloyd, Veronica Dahl, Ulrich Furbach, Manfred Kerber, Kung-Kiu Lau, Catuscia Palamidessi, Luís Moniz Pereira, Yehoshua Sagiv, and Peter J. Stuckey, editors. volume 1861 of *Lecture Notes in Computer Science*, London, UK, 2000. Springer, Heidelberg.
- Seth Lloyd. Quantum-mechanical computers. Scientific American, 273:140–145, October 1995.
- R. Loader. The undecidability of lambda definability. In M.Zeleny, editor, *Festschrift for A. Church*. University of Chicago Press, 1994.
- M.H. Löb. Solution to a problem of Leon Henkin. *Journal of Symbolic Logic*, 20:115–118, 1955.
- logosphere. Logosphere. URL http://www.logosphere.org/.
- Donald W. Loveland. Mechanical theorem proving by model elimination. *Journal of the ACM*, 15:236–251, 1968.
- Donald W. Loveland. Automated deduction. some achievements and future directions. Report to the National Science Foundation of a Workshop on the Future Directions of Automated Deduction, April 20-21, 1996, Chicago.
- Donald W. Loveland. Automated deduction: Looking ahead. *AI Magazine*, 20:77–98, 1999. Slightly modified version of Loveland.
- Donald W. Loveland, editor. *Proceedings of the 6th International Conference on Automated Deduction*, volume 138 of *Lecture Notes in Computer Science*, New York, USA, 1982. Springer-Verlag.
- Leopold Löwenheim. Über Möglichkeiten im Relativkalkül. *Mathematische Annalen*, 76: xque447–470, 1915.
- Ewing Lusk and Ross Overbeek, editors. *Proceedings of the 9th International Conference on Automated Deduction*, volume 310 of *Lecture Notes in Computer Science*, Argonne, Illinois, 1988. Springer-Verlag.
- Roger C. Lyndon. An interpolation theorem in the predicate calculus. *Pacific J. Math*, 9:129–142, 1959.

- Saunders MacLane. *Categories for the Working Mathematician*. Springer-Verlag, second edition, 1998. ISBN 0-387-98403-8.
- Saunders MacLane and Ieke Moerdijk. *Sheaves in Geometry and Logic: A First Introduction to Topos Theory*. Springer-Verlag, 1992.
- H. Mairson. A simple proof of a theorem of Statman. *Theoretical Computer Science*, 103: 387–394, 1992.
- Zohar Manna. Mathematical Theory of Computation. McGraw-Hill, 1974. 448 pp.
- Zohar Manna and Richard Waldinger. *Studies in Automatic Programming Logic*. North-Holland, New York, 1977.
- M. Victoria Marshall and Rolando Chuaqui. Sentences of type theory: the only sentences preserved under isomorphisms. *Journal of Symbolic Logic*, 56:932–948, 1991.
- Narciso Martí-Oliet and José Meseguer. Inclusions and subtypes II: Higher-order case. *Journal of Logic and Computation*, 6(4):541–572, August 1996.
- P. Martin-Lof. Hauptsatz for intuitionistic simple type theory. *Zeitschrift fur Mathematische Logic und Grundlagen der Mathematik*, 19:279, 1973.
- S. Ju. Maslov. An inverse method for establishing deducibility of nonprenex formulas of predicate calculus. *Soviet Mathematics Doklady*, 8:16–19, 1967.
- MathWeb. Mathweb.org: supporting mathematics on the web! URL http://www.mathweb.org/.
- Marta Cialdea Mayer and Fiora Pirri, editors. *Automated Reasoning with Analytic Tableaux and Related Methods. (TABLEAUX 2003)*, volume 2796 of *Lecture Notes in Artificial Intelligence*, Rome, Italy, July 2003. Springer-Verlag.
- R. Mayr and T. Nipkow. Higher-order rewrite systems and their confluence. *Theoretical Computer Science*, 1997.
- David McAllester, editor. *Proceedings of the 17th International Conference on Automated Deduction*, volume 1831 of *Lecture Notes in Artificial Intelligence*, Pittsburgh, PA, USA, 2000. Springer-Verlag.
- John McCarthy. A tough nut for proof procedures, a. URL http://www-formal.stanford.edu/jmc/. Stanford Artificial Intelligence Project Memo No. 16, 1964.
- John McCarthy. http://www-formal.stanford.edu/jmc/nut.html, b.
- John McCarthy. The mutilated checkerboard in set theory. In Roman Matuszewski, editor, *The QED Workshop II*, pages 25–26, 1995. URL http://www.mcs.anl.gov/qed/index.html.

- William McCune. Experiments with discrimination-tree indexing and path indexing for term retrieval. *Journal of Automated Reasoning*, 9(2):147–167, 1992.
- William McCune. Another crack in a tough nut. *Association for Automated Reasoning Newsletter*, 31:1–3, 1995.
- William McCune. 33 basic test problems: A practical evaluation of some paramodulation strategies. In Robert Veroff, editor, *Automated Reasoning and its Applications: Essays in Honor of Larry Wos*, pages 71–114. MIT Press, 1997a.
- William McCune, editor. *Proceedings of the 14th International Conference on Automated Deduction*, volume 1249 of *Lecture Notes in Artificial Intelligence*, Townsville, North Queensland, Australia, 1997b. Springer-Verlag.
- Colin McLarty. *Elementary Categories, Elementary Toposes*. Oxford University Press, 1995. ISBN 0-19-851473-5.
- M.A. McRobbie and J.K. Slaney, editors. *Proceedings of the 13th International Conference on Automated Deduction*, volume 1104 of *Lecture Notes in Artificial Intelligence*, New Brunswick, NJ, USA, 1996. Springer-Verlag.
- Andreas Meier. System description: TRAMP: Transformation of machine-found proofs into natural deduction proofs at the assertion level. In McAllester [2000], pages 460–464.
- T. F. Melham and eds. J. Camilleri. *Higher Order Logic Theorem Proving and Its Applications:* 7th International Workshop, volume 859 of Lecture Notes in Computer Science. Springer-Verlag, Valletta, Malta, 1994.
- E. Mendelson. *Introduction to Mathematical Logic*. D. Van Nostrand Company Ltd., Princeton, N.J., 1964.
- Elliott Mendelson. *Introduction to Mathematical Logic*. Wadsworth & Brooks/Cole Advanced Books & Software, third edition, 1987.
- Mendler. Recursive types and strong normalization. Technical Report TR 86–764, Computer Science Department, Cornell University, 1986.
- Carew A. Meredith. Single axioms for the systems (c, n), (c, o), and (a, n) of the two-valued propositional calculus. *J. Comput. Systems*, 1:155–164, 1953.
- A. R. Meyer and M. Wand. Continuation semantics in typed lambda-calculi. In Rohit Parikh, editor, *Logics of Programs*, volume 193 of *Lecture Notes in Computer Science*, pages 219–224. Springer-Verlag, 1985.
- A. Middeldorp and E. Hamoen. Completeness results for basic narrowing. *Journal of Applicable Algebra in Engineering, Communication and Computing*, 5:213–253, 1994.

- Pierangelo Miglioli, Ugo Moscato, Daniele Mundici, and Mario Ornaghi, editors. *Theorem Proving with Analytic Tableaux and Related Methods. 5th International Workshop.* (*TABLEAUX '96*), volume 1071 of *Lecture Notes in Artificial Intelligence*, Terrasini, Italy, May 1996. Springer-Verlag.
- Dale Miller and Amy Felty. An integration of resolution and natural deduction theorem proving. In Tom Kehler, Stan Rosenschein, Robert Filman, and Peter F. Patel-Schneider, editors, *AAAI–86. Fifth National Conference on Artificial Intelligence*, pages 198–202, Philadelphia, PA, August 1986.
- Dale A. Miller. *Proofs in Higher-Order Logic*. PhD thesis, Carnegie Mellon University, Department of Mathematics, 1983. 81 pp.
- Dale A. Miller. Expansion tree proofs and their conversion to natural deduction proofs. In Shostak [1984], pages 375–393.
- Dale A. Miller. A compact representation of proofs. Studia Logica, 46(4):347–370, 1987.
- Dale A. Miller. A logic programming language with lambda-abstraction, function variables, and simple unification. *Journal of Logic and Computation*, 1(4):497–536, 1991.
- Dale A. Miller and Frank Pfenning. TPS User Manual, 11th edition, 1983. 99 pp.
- Dale A. Miller, Eve Longini Cohen, and Peter B. Andrews. A look at TPS. In Loveland [1982], pages 50–69.
- Robin Milner. A theory of type polymorphism in programming. *Journal of Computer and System Sciences*, 17:348–375, August 1978.
- John Minor. *Proving a Subset of Second-Order Logic with First-Order Proof Procedures*. PhD thesis, University of Texas at Austin, August 1979.
- John C. Mitchell. *Foundations for Programming Languages*. Foundations of Computing. MIT Press, 1996. ISBN 0-262-13321-0.
- Gregory H. Moore. Zermelo's Axiom of Choice: Its Origins, Development, and Influence. Springer-Verlag, 1982.
- A. Mostowski. Thirty Years of Foundational Studies. Barnes & Noble, Inc., New York, 1966.
- Olaf Müller and Franz Weber. Theory and practice of minimal modular higher-order *E*-unification. In Bundy [1994], pages 650–664.
- James R. Munkres. *Topology: A First Course*. Prentice-Hall, 1975.
- Neil V. Murray, editor. *Theorem Proving with Analytic Tableaux and Related Methods*. (*TABLEAUX '99*), volume 1617 of *Lecture Notes in Artificial Intelligence*, Saratoga Springs, NY, USA, June 1999. Springer-Verlag.

- Neil V. Murray and Eric Rosenthal. Inference with path resolution and semantic graphs. *Journal of the ACM*, 34:225–254, 1987.
- Neil V. Murray and Eric Rosenthal. An implementation of a dissolution-based system employing theory links. In Lusk and Overbeek [1988], pages 658–674.
- Neil V. Murray and Eric Rosenthal. DISSOLVER: A dissolution-based theorem prover. In Stickel [1990], pages 665–666.
- Neil V. Murray and Erik Rosenthal. Dissolution: Making paths vanish. *Journal of the ACM*, 40 (3):504–535, July 1993.
- Reinhard Muskens. Intensional models for the theory of types. *Journal of Symbolic Logic*, 72: 98–118, 2007.
- Brad A. Myers, Dario A. Giuse, Roger B. Dannenberg, Brad Vander Zanden, David S. Kosbie, Edward Pervin, Andrew Mickish, and Philippe Marchal. Garnet: Comprehensive support for graphical, highly-interactive user interfaces. *IEEE Transactions on Computers*, 23(11):71–85, November 1990.
- P. Narendran, F. Pfenning, and R. Statman. On the unification problem for CCC's, 1992. unpublished.
- P. Narendran, F. Pfenning, and R. Statman. On the unification problem for Cartesian closed categories. In LICS-8, pages 57–63.
- P. Narendran, F. Pfenning, and R. Statman. On the unification problem for Cartesian closed categories. *Journal of Symbolic Logic*, 62:636–647, 1997.
- Paliath Narendran and Michael Rusinowitch, editors. *Rewriting Techniques and Applications*. *10th International Conference*, *RTA-99*, volume 1631 of *Lecture Notes in Computer Science*, Trento, Italy, 1999. Springer-Verlag.
- Nils J. Nilsson. Principles of Artificial Intelligence. Tioga Publishing Company, 1980.
- Tobias Nipkow. Functional unification of higher-order patterns. In LICS-8.
- Tobias Nipkow. Higher-order rewrite systems. *Lecture Notes in Computer Science*, 914:256, 1995. ISSN 0302-9743.
- Tobias Nipkow, editor. *Rewriting Techniques and Applications. 9th International Conference, RTA-98*, volume 1379 of *Lecture Notes in Computer Science*, Tsukuba, Japan, 1998. Springer-Verlag.
- Tobias Nipkow and Christian Prehofer. Higher-order rewriting and equational reasoning. In Bibel and Schmitt [1998], pages 399–430.
- Tobias Nipkow and Zhenyu Qian. Modular higher-order *E*-unification. In Ronald V. Book, editor, *Proceedings of the 4th International Conference on Rewriting Techniques and Applications*, volume 488 of *Lecture Notes in Computer Science*, pages 200–214. Springer-Verlag, 1991.

- Tobias Nipkow and Zhenyu Qian. Reduction and unification in lambda calculi with subtypes. In Kapur [1992], pages 66–78.
- Tobias Nipkow and Zhenyu Qian. Reduction and unification in lambda calculi with a general notion of subtype. *Journal of Automated Reasoning*, 12:389–406, 1994.
- H. J. Ohlbach. The logic engine. Technical report, MEMO-SEKI-82-II, FB Informatik, University of Karsruhe, 1982.
- H. J. Ohlbach. SCAN—elimination of predicate quantifiers. In M. A. McRobbie and J. K. Slaney, editors, *Automated Deduction: CADE-13*, volume 1104 of *Lecture Notes in Artificial Intelligence*, pages 161–165. Springer, 1996.
- H. J. Ohlbach and J. Siekmann. Using automated reasoning techniques for deductive databases. SEKI Report SR–88–06, Fachbereich Informatik, University of Kaiserslautern, 1988.
- Hans Jurgen Ohlbach. *A Resolution Calculus for Modal Logics*. PhD thesis, Department of Computer Science, University of Kaiserslautern, 1988.
- Hans Jurgen Ohlbach and Jörg H. Siekmann. The Markgraf Karl refutation procedure. In J. L. Lassez, editor, *Festschrift of A. Robinson's 60th Birthday*, page (to appear). Oxford University Press, 1990.
- S. Owre, S. Rajan, J.M. Rushby, N. Shankar, and M. Srivas. PVS: Combining specification, proof checking, and model checking. In Rajeev Alur and Thomas A. Henzinger, editors, *Computer-Aided Verification, CAV'96*, volume 1102 of *Lecture Notes in Computer Science*, pages 411–414. Springer-Verlag, 1996.
- Vincent Padovani. Decidability of fourth order matching. *Mathematical Structures in Computer Science*, 10:361–372, 2000.
- D. Pastre. Automatic theorem proving in set theory. Artificial Intelligence, 10:1–27, 1978.
- Ana Pasztor and Rick Statman. Scott induction and closure under ω-sups. *Theoretical Computer Science*, 43:251–263, 1986.
- M.S. Paterson and M.N. Wegman. Linear unification. *Journal of Computer and System Sciences*, 16:158–167, 1978.
- L. C. Paulson. *Logic and Computation. Interactive Proof with Cambridge LCF*. Cambridge University Press, 1987.
- Lawrence Paulson and Krzystztof Grabczewski. Mechanising set theory: Cardinal arithmetic and the axiom of choice. *Journal of Automated Reasoning*, 17:291–323, 1996.
- Lawrence C. Paulson. The foundation of a generic theorem prover. *Journal of Automated Reasoning*, 5:363–397, 1989.
- Lawrence C. Paulson. Set theory for verification: I. from foundations to functions. *Journal of Automated Reasoning*, 11:353–389, 1993.

- Lawrence C. Paulson. *Isabelle: A Generic Theorem Prover*, volume 828 of *Lecture Notes in Computer Science*. Springer Verlag, 1994a.
- Lawrence C. Paulson. A fixedpoint approach to implementing (co)inductive definitions. In Alan Bundy, editor, *Proceedings of the 12th International Conference on Automated Deduction*, pages 148–161, Nancy, France, June 1994b. Springer-Verlag LNAI 814. URL http://www.cl.cam.ac.uk/Research/Reports/TR320-lcp-isabelle-ind-defs.dvi.gz.
- Lawrence C. Paulson. Set theory for verification: II. induction and recursion. *Journal of Automated Reasoning*, 15(2):167–215, 1995.
- Lawrence C. Paulson. A simple mechanical proof for the mutilated chess board, 1996. URL http://www.cl.cam.ac.uk/users/lcp/papers/mutil.dvi.gz.
- Lawrence C. Paulson. Mechanizing coinduction and corecursion in higher-order logic. *Journal of Logic and Computation*, 7(2):175–204, March 1997.
- Uwe Peterman. How to build in an open theory into connection calculi. *Computers and Artificial Intelligence*, 11:105–142, 1992.
- Frank Pfenning. Analytic and non-analytic proofs. In Shostak [1984], pages 394–413.
- Frank Pfenning. *Proof Transformations in Higher-Order Logic*. PhD thesis, Carnegie Mellon University, 1987. 156 pp.
- Frank Pfenning and Dan Nesmith. Presenting intuitive deductions via symmetric simplification. In Stickel [1990], pages 336–350.
- Frank Pfenning and Carsten Schürmann. Algorithms for equality and unification in the presence of notational definitions. In T. Altenkirch, W. Naraschewski, and B. Reus, editors, *Types for Proofs and Programs*, pages 179–193, Kloster Irsee, Germany, March 1998. Springer-Verlag LNCS 1657. URL http://www.cs.cmu.edu/~fp/papers/types98.pdf.
- Frank Pfenning and Carsten Schürmann. System description: Twelf–a meta-logical framework for deductive systems. In Ganzinger [1999], pages 202–206.
- Frank Pfenning, Sunil Issar, Dan Nesmith, Peter B. Andrews, Hongwei Xi, Matthew Bishop, and Chad E. Brown. ETPS *User's Manual*, 2004. URL http://gtps.math.cmu.edu/tps-mans.html. 64+ii pp.
- William Pierce. Toward mechanical methods for streamlining proofs. In Stickel [1990], pages 351–365.
- T. Pietrzykowski and D. C. Jensen. A complete mechanization of (ω)-order type theory. In *Proceedings of the ACM Annual Conference, Volume I*, pages 82–92. ACM, 1972.
- Tomasz Pietrzykowski. A complete mechanization of second-order type theory. *Journal of the ACM*, 20:333–364, 1973.

- D.A. Plaisted. Abstraction mappings in mechanical theorem proving. In Bibel and Kowalski [1980], pages 264–280.
- D.A. Plaisted. Theorem proving with abstraction. Artificial Intelligence, 16:47–108, 1981.
- Dave Plummer. *Gazing: Controlling the Use of Rewrite Rules*. PhD thesis, Dept. of Artificial Intelligence, University of Edinburgh, 1987.
- Martha E. Pollack, editor. *Proceedings of the 15th International Joint Conference on Artificial Intelligence (IJCAI-97)*, Nagoya, JAPAN, 1997. Morgan Kaufmann.
- Dag Prawitz. An improved proof procedure. *Theoria*, 26:102–139, 1960.
- Dag Prawitz. Natural Deduction. Almqvist & Wiksell, 1965.
- Dag Prawitz. Hauptsatz for higher order logic. *Journal of Symbolic Logic*, 33:452–457, 1968.
- Dag Prawitz. Advances and problems in mechanical proof procedures. In Meltzer and Michie, editors, *Machine Intelligence 4*, pages 59–71. Edinburgh University Press, 1969.
- Dag Prawitz. A proof procedure with matrix reduction. In M. Laudet, D. Lacombe, L. Nolin, and M. Schutzenberger, editors, *Symposium on Automatic Demonstration, Versailles, France*, Lecture Notes in Mathematics 125, pages 207–214. Springer-Verlag, 1970.
- Dag Prawitz. Ideas and results in proof theory. In J. E. Fenstad, editor, *Proceedings of the Second Scandinavian Logic Symposium*, Studies in Logic and the Foundations of Mathematics 63, pages 235–307. North-Holland, 1971.
- Christian Prehofer. Decidable higher-order unification problems. In Bundy [1994], pages 635–649.
- Christian Prehofer. Solving Higher-Order Equations: From Logic to Programming. Birkhäuser Boston, 1997.
- Mojżesz Presburger. Über die vollständigkeit eines gewissen systems der arithmetik ganzer zahlen, in welchem die addition als einzige operation hervortritt. In *Sprawozdanie z I Kongresu metematyków słowiańskich, Warszawa 1929*, pages 92–101,395, Warsaw, Poland, 1930. Annotated English version in Stansifer [1984].
- ProofPower. Proofpower, 2000. URL http://www.lemma-one.com/ProofPower/doc/doc.html.
- PVS. PVS Specification and Verification System, 1996. URL http://pvs.csl.sri.com/.
- QED. The QED manifesto. In Bundy [1994], pages 238–251.
- QED. The ged project, b. URL http://www-unix.mcs.anl.gov/ged/index.html.

- Zhenyu Qian and K. Wang. Higher order *E*-unification for arbitrary theories. In *Proc. Joint International Conference and Symposium on Logic Programming*, pages 52–66. MIT Press, 1992.
- Zhenyu Qian and Kang Wang. Modular higher-order equational preunification. *Journal of Symbolic Computation*, 22(4):401–424, 1996.
- Art Quaife. Andrews' challenge problem revisited. *Association for Automated Reasoning Newsletter*, 15:3–7, May 1990.
- Art Quaife. Automated deduction in von Neumann-Bernays-Gödel set theory. *Journal of Automated Reasoning*, 8:91–147, 1992.
- Claire Quigley. An alternative approach to matingsearch. (Unpublished). Computing Science Department, Glasgow University, December 1998.
- W. V. Quine. Logic based on inclusion and abstraction. *Journal of Symbolic Logic*, 2:145–152, 1937.
- W. V. Quine. On natural deduction. Journal of Symbolic Logic, 15:93–102, 1950.
- W. V. Quine. A proof procedure for quantification theory. *Journal of Symbolic Logic*, 20: 141–149, 1955.
- Willard Van Orman Quine. *Set Theory and Its Logic*. Belknap Press of Harvard University Press, 1963.
- Anavai Ramesh, Neil V. Murray, Bernhard Beckert, and Reiner Hähnle. Fast subsumption checks using anti-links. Interner Bericht 24/95, Universität Karlsruhe, Fakultät für Informatik, April 1995.
- Anavai Ramesh, Neil V. Murray, Bernhard Beckert, and Reiner Hähnle. Fast subsumption checks using anti-links. *Journal of Automated Reasoning*, 18:47–83, 1997.
- Karl Mark G. Raph. The Markgraph Karl refutation procedure. Technical report, Interner Bericht, Memo-SEKI-MK-84-01, Fachbereich Informatik, Universität Kaiserlautern, 1984.
- H. Rasiowa. Sur un certain systèm d'axiomes du calcul des propositions. *Norsk matematisk Tidsskrift*, 31:1–3, 1949.
- Jason Reed. Proof irrelevance and strict definitions in a logical framework. Technical Report 02-153, School of Computer Science, Carnegie Mellon University, 2002.
- Brian K. Reid and Janet H. Walker. *SCRIBE Introductory User's Manual*. UNILOGIC, Ltd., 160 N. Craig St., Pittsburgh, PA 15213, third edition, 1980.
- J. C. Reynolds. Polymorphic lambda-calculus: Introduction. In G. Huet, editor, *Logical Foundations of Functional Programming*, pages 77–86. Addison-Wesley, Reading, MA, 1990.

- Julian Richardson, Alan Smaill, and Ian Green. System description: Proof planning in higher-order logic with λ *Clam*. In Kirchner and Kirchner [1998], pages 129–133.
- Arthur Robinson and Larry Wos. Paramodulation and TP in first order theories with equality. *Machine Intelligence*, 4:135–150, 1969.
- J. A. Robinson. A machine-oriented logic based on the resolution principle. *Journal of the ACM*, 12:23–41, 1965.
- J. A. Robinson. New directions in mechanical theorem proving. In *Proceedings of the IFIP Congress*, pages 206–210, 1968.
- J. A. Robinson. Mechanizing higher-order logic. In *Machine Intelligence 4*, pages 151–170. Edinburgh University Press, 1969.
- J. A. Robinson. A note on mechanizing higher order logic. In *Machine Intelligence 5*, pages 121–135. Edinburgh University Press, 1970.
- J. A. Robinson. Logic: Form and Function. Elsevier North-Holland Inc., New York, 1979.
- J. A. Robinson. Formal and informal proofs. In R.S. Boyer, editor, *Automated Reasoning: Essays in Honor of Woody Bledsoe*, pages 267–281. Kluwer Academic Publishers, 1991.
- J. B. Rosser. Extensions of some theorems of Gödel and Church. *Journal of Symbolic Logic*, 1: 87–91, 1936.
- J. Barkley Rosser. Logic for Mathematicians. McGraw-Hill, 1953.
- Herman Rubin and Jean E. Rubin. Equivalents of the Axiom of Choice, II. North-Holland, 1985.
- John Rushby, Sam Owre, and N. Shankar. Subtypes for specifications: Predicate subtyping in PVS. *IEEE Transactions on Software Engineering*, 24(9):709–720, sep 1998. URL http://www.csl.sri.com/papers/tse98/.
- Bertrand Russell. Mathematical logic as based on the theory of types. *American Journal of Mathematics*, 30:222–262, 1908. Reprinted in [van Heijenoort, 1967a, pp. 150–182].
- Bertrand Russell. The Principles of Mathematics. Cambridge University Press, 1903.
- M. Saks and R. Statman. An intersection problem for finite automata. *Discrete Applied Mathematics*, 21:245–255, 1988.
- Stephan Schmitt. A tableau-like representation framework for efficient proof reconstruction. In Dyckhoff [2000], pages 398–414.
- Stephan Schmitt and Christoph Kreitz. On transforming intuitionistic matrix proofs into standard-sequent proofs. In Baumgartner et al. [1995], pages 106–121.
- Stephan Schmitt and Christoph Kreitz. Converting non-classical matrix proofs into sequent-style systems. In McRobbie and Slaney [1996], pages 418–432.

- Stephan Schmitt and Christoph Kreitz. Deleting redundancy in proof reconstruction. In de Swart [1998], pages 262–276.
- Stephan Schmitt, Lori Lorigo, Christoph Kreitz, and Alexey Nogin. JProver: Integrating connection-based theorem proving into interactive proof assistants. In Goré et al. [2001], pages 421–426.
- M. Schönfinkel. Über die Bausteine der mathematischen Logik. *Mathematische Annalen*, 92: 305–316, 1924. Translated in [van Heijenoort, 1967a, pp. 355–366].
- E. Schröder. Algebra der Logik. Teubner-Verlag, Leipzig, 1890.
- E. T. Schubert, P. J. Windley, and eds. J. Alves-Foss. *Higher Order Logic Theorem Proving and Its Applications: 8th International Workshop*, volume 971 of *Lecture Notes in Computer Science*. Springer-Verlag, Aspen Grove, Utah, 1995.
- J. Schumann and R. Letz. PARTHEO: A high-performance parallel theorem prover. In Stickel [1990], pages 40–56.
- Johann Schumann. Parallel theorem provers: An overview. In B. Fronhöfer and G. Wrightson, editors, *Parallelization in Inference Systems: International Workshop Proceedings*, volume 590 of *Lecture Notes in Artificial Intelligence*, pages 26–50, Dagstuhl Castle, Germany, 1990. Springer-Verlag.
- K. Schütte. Schlussweisen Kalküle der Prädikatenlogik. *Mathematische Annalen*, 122:47–65, 1950.
- K. Schütte. Syntactical and semantical properties of simple type theory. *Journal of Symbolic Logic*, 25(4):305–326, 1960.
- Kurt Schütte. Ein System des Verknüpfenden Schliessens. Archiv für Mathematische Logik und Grundlagenforschung, 2, 1956.
- Dana Scott. Lectures on a mathematical theory of computation. Technical report, Oxford Technical Monograph PRG 19, May 1981.
- SemanticWeb. Semantic web activity. URL http://www.w3.org/2001/sw/.
- Natarajan Shankar. Using decision procedures with a higher-order logic. In Boulton and Jackson [2001], pages 5–26.
- Stewart Shapiro. Foundations without Foundationalism: A Case for Second-order Logic. Clarendon Press, Oxford, 1991.
- Sun-Joo Shin. The Logical Status of Diagrams. Cambridge University Press, 1994.
- J. R. Shoenfield. *Mathematical Logic*. Addison-Wesley, Reading, Massachusetts, 1967.

- R. E. Shostak, editor. *Proceedings of the 7th International Conference on Automated Deduction*, volume 170 of *Lecture Notes in Computer Science*, Napa, California, USA, 1984. Springer-Verlag.
- Robert E. Shostak. Refutation graphs. Artificial Intelligence, 7:51-64, 1976.
- Sharon Sickel. A search technique for clause interconnectivity graphs. *IEEE Transactions on Computers*, C–25:823–835, 1976.
- Dirk Siefkes. Undecidable extensions of monadic second-order successor arithemtic. *Zeitschrift fur Mathematische Logic und Grundlagen der Mathematik*, 17:385–394, 1971. references Buchi, not Behmann.
- Wilfried Sieg. Step by recursive step: Church's analysis of effective calculabilty. *Bulletin of Symbolic Logic*, 3:154–180, 1997.
- J. Siekmann and C. Benzmüller. Omega: Computer supported mathematics. In G. Palm S. Biundo, T. Frhwirth, editor, *KI 2004: Advances in Artificial Intelligence: 27th Annual German Conference on AI*, number 3228 in lnai, pages 3–28, Ulm, Germany, 2004.
- Jörg Siekmann. Universal unification. In Shostak [1984], pages 1–42.
- Jörg Siekmann. Unification theory. Journal of Symbolic Computation, 7:207–274, 1989.
- Jörg Siekmann and Graham Wrightson, editors. *Automation of Reasoning. Vol. 1. Classical Papers on Computational Logic 1957–1966.* Springer-Verlag, 1983a.
- Jörg Siekmann and Graham Wrightson, editors. *Automation of Reasoning. Vol. 2. Classical Papers on Computational Logic 1967–1970*. Springer-Verlag, 1983b.
- Jörg Siekmann, Stephan Hess, Christoph Benzmüller, Lassaad Cheikhrouhou, Armin Fiedler, Helmut Horacek, Michael Kohlhase, Karsten Konrad, Andreas Meier, Erica Melis, Martin Pollet, and Volker Sorge. LOUI: Lovely OMEGA user interface. *Formal Aspects of Computing*, 11:326–342, 1999. URL www.ags.uni-sb.de/~chris/papers/J2.pdf.
- Jörg Siekmann, Christoph Benzmüller, Vladimir Brezhnev, Lassaad Cheikhrouhou, Armin Fiedler, Andreas Franke, Helmut Horacek, Michael Kohlhase, Andreas Meier, Erica Melis, Markus Moschner, Immanuel Normann, Martin Pollet, Volker Sorge, Carsten Ullrich, Claus-Peter Wirth, and Jürgen Zimmer. Proof development with Ωmega. In Voronkov [2002], pages 144–149. URL www.aqs.uni-sb.de/~chris/papers/C11.pdf.
- Jörg Siekmann, Christoph Benzmüller, Armin Fiedler, Andreas Meier, Immanuel Normann, and Martin Pollet. Proof development in OMEGA: The irrationality of square root of 2. In Fairouz Kamareddine, editor, *Thirty Five Years of Automating Mathematics*, Kluwer Applied Logic series (28), pages 271–314. Kluwer Academic Publishers, 2003. ISBN 1-4020-1656-5.
- Jörg Siekmann, Christoph Benzmüller, and Serge Autexier. Computer supported mathematics with omega. *Journal of Applied Logic*, 4(4):533–559, 2006.

- Jörg H. Siekmann, editor. *Proceedings of the 8th International Conference on Automated Deduction*, volume 230 of *Lecture Notes in Computer Science*, Oxford, England, 1986. Springer-Verlag.
- Donald Simon. Checking natural language proofs. In Lusk and Overbeek [1988], pages 141–150.
- Thoralf Skolem. Logisch-kombinatorische Untersuchungen über die erfüllbarkeit oder beweisbarkeit mathematischer Sätze nebst einem Theoreme über dichte Mengen. *Skr. av Videnkapsselskapet i Kristiana, I. Matem.-natur klasse*, 4, 1920.
- Thoralf Skolem. Über die mathematische Logik. *Norse matematisk tidsskrift*, 10:125–142, 1928. Translated in [van Heijenoort, 1967a, pp. 508–524].
- J.R. Slagle. Automated theorem-proving for theories with simplifiers, commutativity and associativity. *Journal of the ACM*, 1974.
- Konrad Slind, Annette Bunker, and Ganesh Gopalakrishnan, editors. *Theorem proving in higher order logics: 17th international conference, TPHOLs 2004*, volume 3223 of *Lecture Notes in Computer Science*, Park City, Utah, 2004. Springer-Verlag.
- R. M. Smullyan. First-Order Logic. Springer-Verlag, Berlin, 1968a.
- Raymond Smullyan. To Mock a Mockingbird. Alfred A. Knopf, New York, 1985.
- Raymond M. Smullyan. A unifying principle in quantification theory. *Proceedings of the National Academy of Sciences*, U.S.A., 49:828–832, 1963.
- Raymond M. Smullyan. Uniform Gentzen systems. *Journal of Symbolic Logic*, 33:549–559, 1968b.
- Raymond M. Smullyan. Analytic cut. *Journal of Symbolic Logic*, 33:560–564, 1968c.
- Raymond M. Smullyan. *First-Order Logic*. Dover Publications, New York, second corrected edition, 1995. First published in 1968 by Springer-Verlag.
- Wayne Snyder. Higher-order *E*-unification. In Stickel [1990], pages 573–587.
- Wayne Snyder. A Proof Theory for General Unification. Birkhäuser Boston, 1991.
- Wayne Snyder and Jean Gallier. Higher-order unification revisited: Complete sets of transformations. *Journal of Symbolic Computation*, 8:101–140, 1989.
- N.S. Sridharan, editor. *Proceedings of the Eleventh International Joint Conference on Artificial Intelligence*, Detroit, Michigan, USA, 1989. IJCAI, Morgan Kaufmann.
- R. Stansifer. Presburger's article on integer arithmetic: Remarks and translation. Technical Report TR84–639, Cornell University Computer Science Department, 1984.
- R. Statman. The typed λ -calculus is not elementary recursive. *Theoretical Computer Science*, 9: 73–81, 1979a.

- R. Statman. Intuitionistic propositional logic is polynomial space complete. *Theoretical Computer Science*, 1:67–72, 1979b.
- R. Statman. On the existence of closed terms in the typed λ -calculus II. *Theoretical Computer Science*, 15:329–338, 1981a.
- R. Statman. On the existence of closed terms in the typed λ -calculus III, 1981b. unpublished.
- R. Statman. Number theoretic functions computable by polymorphic programs. In 22nd Annual Symposium on Foundations of Computer Science, pages 279–282. Computer Society Press, 1981c.
- R. Statman. Completeness, invariance and λ-definability. *Journal of Symbolic Logic*, 47:17–26, 1982a
- R. Statman. λ -definable functionals and $\beta\eta$ -conversion. Archiv für Mathematische Logik und Grundlagenforschung, 22:1–6, 1982b.
- R. Statman. Embeddings, homomorphisms and λ -definability, 1983. unpublished.
- R. Statman. A theory of higher type functional equations: Text of talk to the Boston logic colloquium, 1985a.
- R. Statman. Logical relations and the typed λ -calculus. *Information and Control*, 65:85–97, 1985b.
- R. Statman. Equality between functionals revisited. In L. Harrington, M. Morley, and S. Simpson, editors, *Harvey Friedman's Research on the Foundations of Mathematics*, pages 331–338. North Holland, 1985c.
- R. Statman. Lectures on typed λ -calculus, 1985d. unpublished lecture notes.
- R. Statman. Two exercises in combinatory algebra. Technical Report 85–6, Department of Mathematics, Carnegie Mellon University, 1985e.
- R. Statman. Three notes on combinatory algebra. Technical Report 85–5, Department of Mathematics, Carnegie Mellon University, 1985f.
- R. Statman. On translating λ -terms into combinators. In LICS-1, pages 378–383.
- R. Statman. Every countable poset is embeddedable in the poset of unsolvable terms. *Theoretical Computer Science*, 48:95–100, 1986b.
- R. Statman. Combinator word problems, 1986c. course lecture notes in 1990.
- R. Statman. Real and imaginary terms in polymorphic λ -calculus, 1986d. unpublished.
- R. Statman. Solving functional equations at higher types. *Notre Dame Journal of Formal Logic*, 27:66–74, 1986e.

- R. Statman. A model of Scott's theory LCF. volume 106 of *Contemporary Mathematics series*, pages 263–280. American Mathematical Society, 1987a.
- R. Statman. Empty types in polymorphic λ-calculus. In *ACM Symposium on Principles of Programming Languages*, pages 253–262, 1987b.
- R. Statman. Combinators and the theory of partitions. Technical Report 88–31, Department of Mathematics, Carnegie Mellon University, 1988a.
- R. Statman. Combinators hereditarily of order one. Technical Report 88–32, Department of Mathematics, Carnegie Mellon University, 1988b.
- R. Statman. Combinators hereditarily of order two. Technical Report 88–33, Department of Mathematics, Carnegie Mellon University, 1988c.
- R. Statman. Some properties of linear combinators. in preparation.
- R. Statman. On sets of solutions to combinator equations. *Theoretical Computer Science*, 66: (99–104), 1989a.
- R. Statman. The word problem for Smullyan's lark combinator is decidable. *Journal of Symbolic Computation*, 7:103–112, 1989b.
- R. Statman. Normal varieties of combinators. Technical Report 89–61, Department of Mathematics, Carnegie Mellon University, October 1989c.
- R. Statman. Two recursion-theoretic problems in λ -calculus, 1989d. unpublished.
- R. Statman. Solution to a problem of Barendregt, 1989e. unpublished.
- R. Statman. Marginalia to a proof of Mitchke's, 1989f. unpublished.
- R. Statman. Taming the wild ant-lion, 1990. unpublished.
- R. Statman. A local translation of untyped λ -calculus into simply typed λ -calculus. Technical Report 91–134, Department of Mathematics, Carnegie Mellon University, 1991a.
- R. Statman. There is no hyperrecurrent S, K combinator. Technical Report 91–133, Department of Mathematics, Carnegie Mellon University, 1991b.
- R. Statman. Some results about S-terms, 1991c. unpublished.
- R. Statman. The Visser fixed point theorem. *Journal of Functional Programming*, 2:233–236, 1992a. (in Enumerators of lambda terms are reducing by Henk Barendregt).
- R. Statman. Recursive types and the subject reduction theorem. Technical Report 94–164, Department of Mathematics, Carnegie Mellon University, 1994a.
- R. Statman. On the existence of n but not n+1 easy combinators. Technical Report 94–165, Department of Mathematics, Carnegie Mellon University, 1994b.

- R. Statman. The matching problem for simply typed lambda calculus with surjective pairing, 1994c.
- R. Statman, U. Deliquoro, and A. Piperno. Retracts in the simply typed $\lambda\beta\eta$ -calculus. In LICS-7, pages 461–469.
- Richard Statman. Bounds for proof search and speed-up in the predicate calculus. *Annals of Mathematical Logic*, 15:225–287, 1978.
- Richard Statman. On the existence of closed terms in the typed λ-calculus I. In J. P. Seldin and J. R. Hindley, editors, *To H. B. Curry: Essays on Combinatory Logic, Lambda Calculus and Formalism*, pages 511–534. Academic Press, 1980.
- Rick Statman. Freyd's hierarchy of combinator monoids. In LICS-6, pages 186–190.
- Rick Statman. Simply typed λ calculus with surjective pairing. Technical Report 92–146, Department of Mathematics, Carnegie Mellon University, 1992b.
- Rick Statman. An embedding of untyped λ -calculus into simply typed λ -calculus. Technical Report 92–147, Department of Mathematics, Carnegie Mellon University, 1992c.
- Rick Statman. Some examples of non-existent combinators. In M. Dezani-Ciancaglini, S. Ronchi Della Rocca, and M. Venturini Zilli, editors, *A Collection of Contributions in Honour of Corrado Bohm on the Occasion of his 70th Birthday*, pages 441–448. Elsevier, 1993. (Reprinted from Theoretical Computer Science 121 (1993)).
- Soren Stenlund. Combinators, λ-terms and Proof Theory. D. Reidel, Dordrecht, 1972.
- M. E. Stickel, editor. *Proceedings of the 10th International Conference on Automated Deduction*, volume 449 of *Lecture Notes in Artificial Intelligence*, Kaiserslautern, Germany, 1990. Springer-Verlag.
- Mark E. Stickel. Automated deduction by theory resolution. *Journal of Automated Reasoning*, 1: 333–355, 1985.
- Sakthi Subramanian. An interactive solution to the $n \times n$ mutilated checkerboard problem. *Journal of Logic and Computation*, to appear.
- Patrick Suppes. Axiomatic Set Theory. D. Van Nostrand Company, Inc., Princeton, N.J., 1960.
- Patrick Suppes. *University-Level Computer-Assisted Instruction at Stanford*. Leland Stanford Junior University, 1981. Part I.
- Geoff Sutcliffe, Christian Suttner, and Theodor Yemenis. The TPTP problem library. In Bundy [1994], pages 252–266.
- Gabor Szász. Introduction to Lattice Theory. Academic Press, New York and London, 1963.
- W. W. Tait. A nonconstructive proof of Gentzen's Hauptsatz for second order predicate logic. *Bulletin of the AMS*, 72(6):980–983, 1966.

- Moto-o Takahashi. A proof of cut-elimination theorem in simple type theory. *Journal of the Mathematical Society of Japan*, 19:399–410, 1967.
- Moto-o Takahashi. Cut-elimination in simple type theory with extensionality. *Journal of the Mathematical Society of Japan*, 19, 1968.
- Moto-o Takahashi. A system of simple type theory of Gentzen style with inference on extensionality, and the cut elimination in it. *Commentarii Mathematici Universitatis Sancti Pauli*, 18:129–147, 1970.
- Gaisi Takeuti. On a generalized logic calculus. *Japanese Journal of Mathematics*, 23:39–96, 1953. Errata: ibid, vol. 24 (1954), 149–156.
- Gaisi Takeuti. Remark on the fundamental conjecture of glc. *Journal of the Mathematical Society of Japan*, 10:44–45, 1958.
- Gaisi Takeuti. Proof Theory. Elsevier Science Publishers, 1987.
- A. Tarski. The concept of truth in formalized languages. In J. H. Woodger, editor, *Logic, Semantics, Metamathematics*, pages 152–278. Oxford University Press, Oxford, 1956a.
- Alfred Tarski. Sur le terme primitif de la logistique. *Fundamenta Mathematicae*, 4:196–200, 1923. translated in [Tarski, 1956b, pp. 1–23].
- Alfred Tarski. Der wahrheitsbegriff in den formalisierten sprachen. *Studia Philosophica*, 1: 261–405, 1936. translated in Tarski [1956b].
- Alfred Tarski. *A Decision Method for Elementary Algebra and Geometry*. University of California Press, 1951. Previous version published as a technical report by the RAND Corporation, 1948; prepared for publication by J.C.C. McKinsey.
- Alfred Tarski. Logic, Semantics, Metamathematics. Oxford University Press, Oxford, 1956b.
- TPShomepage. Tps and etps homepage. URL http://gtps.math.cmu.edu/tps.html.
- TPSnotations. Notations used by TPS and ETPS. URL http://gtps.math.cmu.edu/notations.pdf.
- Zinaida Trybulec and Halina Swieczkowska. Boolean properties of sets. *Journal of Formalized Mathematics*, 1, 1989. URL http://mizar.org/JFM/Vol1/boole.html.
- A. M. Turing. Practical forms of type theory. *Journal of Symbolic Logic*, 13:80–94, 1948.
- Thomas E. Uribe and Mark E. Stickel. Ordered binary decision diagrams and the Davis-Putnam procedure. In J. P. Jouannaud, editor, *Proceedings of the First International Conference on Constraints in Computational Logics*, volume 845 of *Lecture Notes in Computer Science*, pages 34–49. Springer-Verlag, 1994.

- V.N. Vagin and N.O. Salapina. Parallel inference on connection graphs. In *Proceedings of the* 1998 IEEE International Symposium on Intelligent Control, pages 204–209, Gaithersburg, MD, USA, 1998. IEEE Computer Society Press, Los Alamitos, California, USA.
- Johan van Benthem and Kees Doets. Higher-order logic. In D. M. Gabbay and F. Günthner, editors, *Handbook of Philosophical Logic*, volume I, pages 275–329. Reidel, Dordrecht, 1983.
- Jean van Heijenoort. From Frege to Gödel. A Source Book in Mathematical Logic 1879–1931. Harvard University Press, Cambridge, Massachusetts, 1967a.
- Jean van Heijenoort. From Frege to Gödel. A Source Book in Mathematical Logic 1879–1931. Harvard University Press, Cambridge, Massachusetts, 1967b.
- Femke van Raamsdonk. Higher-order rewriting. In Narendran and Rusinowitch [1999], pages 221–239.
- Jophien van Vaalen. An extension of unification to substitutions with an application to automatic theorem proving. In IJCAI-4, pages 77–82.
- Albert Visser. Numerations, λ-calculus and arithmetic. In J. P. Seldin and J. R. Hindley, editors, *To H. B. Curry: Essays on Combinatory Logic, Lambda Calculus and Formalism*, pages 259–284. Academic Press, 1980.
- J. von Wright, J. Grundy, and J. Harrison, editors. *Theorem Proving in Higher Order Logics. 9th International Conference, TPHOLs'96*, volume 1125 of *Lecture Notes in Computer Science*, Turku, Finland, 1996. Springer-Verlag.
- Andrei Voronkov. Simultaneous rigid *E*-unification and other decision problems related to the Herbrand theorem. Technical Report UPMAIL-152, Computing Science Department, Uppsala University, Sweden, 1998.
- Andrei Voronkov. Simultaneous rigid E-unification and other decision problems related to the herbrand theorem. *Theoretical Computer Science*, 224:319–352, 1999.
- Andrei Voronkov, editor. *Proceedings of the 18th International Conference on Automated Deduction*, volume 2392 of *Lecture Notes in Artificial Intelligence*, Copenhagen, Denmark, 2002. Springer-Verlag. URL http://www.springeronline.com/sgw/cda/frontpage/0, 11855, 5-147-22-2247523-0, 00.html?changeHeader=true.
- R. Waldinger, P. Jarvis, and J. Dungan. Pointing to places in a deductive geospatial theory. In A Kornai and B Sundheim, editors, *Workshop on Analysis of Geographical References; Human Language Technology Conference*, Edmonton, Canada, May 2003. NAACL.
- Lincoln A. Wallen. Automated Deduction in Nonclassical Logics. MIT Press, 1990.
- K. Warren. Implementation of a definition expansion mechanism in a connection method theorem prover. Master's thesis, Dept. of Artificial Intelligence, Univ. of Edinburgh, 1987.

- George Weaver and Gumb Raymond. First-order properties of relations with monotonic closure property. *Zeitschrift fur Mathematische Logic und Grundlagen der Mathematik*, 28(1):1–5, 1982.
- Alfred North Whitehead and B. Russell. *Principia Mathematica*, volume 1. Cambridge University Press, 2nd edition, 1927a.
- Alfred North Whitehead and Bertrand Russell. *Principia Mathematica*. Cambridge University Press, Cambridge, England, 1913. 3 volumes; first edition 1913, second edition 1927.
- Alfred North Whitehead and Bertrand Russell. Incomplete symbols. In *Principia Mathematica*, volume 1, chapter III, pages 66–84. Cambridge University Press, 2nd edition, 1927b. Reprinted in [van Heijenoort, 1967a, pp. 216–223].
- R. L. Wilder. *Introduction to the Foundations of Mathematics*. John Wiley & Sons, New York, 1952.
- Andreas Wolf. Optimization and Translation of Tableau-Proofs into Resolution. *Journal of Information Processing and Cybernetics (EIK)*, 30(5-6):311–325, 1994. Akademie Verlag Berlin.
- Andreas Wolf. A Translation of Model Elimination Proofs into a Structured Natural Deduction. In Douglas D. Dankel II, editor, *Proc. of 10th Int. Florida AI Research Society Conference*, pages 11–15, Daytona Beach, FL, USA, 1997. Florida AI Research Society.
- Andreas Wolf. A Step Towards a Better Understanding of Automatically Generated Model Elimination Proofs. In José Cuena, editor, *Information Technologies and Knowledge Systems* (IT&KNOWS'98) Proceedings of the XV. IFIP World Computer Congress, pages 415–428. Österreichische Computergesellschaft/International Federation for Information Processing, 1998.
- Andreas Wolf and Johann Schumann. Ilf-setheo: Processing model elimination proof for natural language output. In McCune [1997b], pages 61–64.
- D. A. Wolfram. *The Clausal Theory of Types*, volume 21 of *Cambridge Tracts in Theoretical Computer Science*. Cambridge University Press, 1993.
- S. Wolfram. *Mathematica: A System for Doing Mathematics by Computer*. Wolfram Research, Inc., New York, 1988.
- Larry Wos. The problem of definition expansion and contraction. *Journal of Automated Reasoning*, 3:433–435, 1987.
- Larry Wos. The problem of finding a mapping between clause representation and natural-deduction representation. *Journal of Automated Reasoning*, 6:211–212, 1990.
- Larry Wos, Ross Overbeek, Ewing Lusk, and Jim Boyle. *Automated Reasoning. Introduction and Applications*. Prentice Hall, 1984.

- Lawrence Wos, George A. Robinson, and Daniel F. Carson. Efficiency and completeness of the set of support strategy in theorem proving. *Journal of the ACM*, 12:536–541, 1965.
- Mitsuru Yasuhara. The axiom of choice in Church's type theory (abstract). *Notices of the American Mathematical Society*, 22:A–34, January 1975.
- Jürgen Zimmer and Michael Kohlhase. System description: The mathweb software bus for distributed mathematical reasoning. In Voronkov [2002], pages 139–143. URL http://www.springeronline.com/sgw/cda/frontpage/0,11855, 5-147-22-2247523-0,00.html?changeHeader=true.
- Walter Zimmermann and Steve Cunningham, editors. *Visualization in Teaching and Learning Mathematics*, 1991. Mathematical Association of America.
- Cecile Zylberajch. *Syntaxe et Semantique de la Facilite en Lambda-Calcul*. These de Doctorat, Mathematiques, Universite de Paris VII, 1991.