Curriculum studiorum

Egon Börger

University Studies 1965-1971 Sorbonne (Paris, F), U Louvain and Institut Supérieur de Philosophie de Louvain (B), Universität Münster (D).

- Doctoral Examen 14.7.1971, Math Dept, U Münster. Dissertation *Reduction classes in Krom and Horn formulae.*
- Habilitation 11.2.1976, ibidem. Thesis: *A simple method for determining the degree of unsolvability of decision problems for combinatorial systems.*

Research Assistant Institute of Logic and Foundations of Mathematics, U Münster (Germany) 1971-1972, 1973-74, 1975-1976.

Lecturer and Associate Professor

- CS Department, U Salerno (Italy) 1972/73-1975/76
- Professor of Logic, Post-graduate School, U Salerno 1973-1975
- Dozent of Logic, Math Dept, U Münster Aug 1976-Sept 1978

Professor for Computer Science

- CS Dept, U Dortmund (Germany) Sept 1978-Nov 1985
- Dipartimento di Informatica, U Udine (Italy) 1982/83
- Dipartimento di Informatica, U Pisa (Italy) since Nov 1985

Guest Researcher at IBM Scientific Center Heidelberg/D (Nov 1989-Oct 1990), Dept of Electrical Engineering & Computer Science U of Michigan at Ann Arbor/USA (March-April 1991), Fb Informatik U Paderborn/D (May-July 1993, Sept 1995), CIS U München/D (May 1994), IIG U Freiburg/D (Sept 1994), BRICS U of Aarhus/DK (Aug 1995), DIMACS Rutgers U New Jersey/USA (Oct-Nov 1995), Siemens Research & Development München/D (Jan-Aug 1996, Oct-Dec 1999), Software Technology at GMD FIRST Berlin/D (Sept-Oct 1996), IRIN Nantes/F (April-May 1998), Microsoft Research Redmond/USA (Jan-Sep 2000), Chair of Software Engineering at ETH Zürich/CH (Nov-Dec 2004), SAP Research

Karlsruhe/D (Jan-June 2005), Chair for Information Systems Engineering U Kiel/D (Fall 2007/2014, Spring/Summer 2008), CS Dept ETH Zürich/CH (Jan-June 2010), KIT Karlsruhe/D (Feb/March 2011), TU Braunschweig/D (May/June 2011), SCCH Linz/AU (April 2011, March 2012-2015), U Düsseldorf/Bonn-Rhein-Sieg/Kiel (Summer Term 2014), U Ulm/D (February, September 2017), U Halle/D (Oct/Nov 2019).

Offers of a chair: CS U of Udine (Italy) declined Summer 1983, Math. Logic U of Bonn (Germany) declined Fall 1985, Theoretical CS U of Stuttgart (Germany) declined 1988, CS U of Bonn (Germany) declined Fall 1997.

Activities and Research Interests

1969-1989: Logic and Complexity Theory. A pioneer of applying logical methods in computer science. Co-Founder of the *European Association for Computer Science Logic* and first EACSL President 1992—1997.

Since 1990: Software Technology, pioneering the development and the industrial applications of the Abstract State Machines Method for controllable construction and maintenance of hardware/software systems

(Co-)Author of eight books (two monographies in mathematical logic, four in computer science, two textbooks), over 150 research papers and numerous expository and foundational papers. Editor of 27 books and special journal issues. Organizer of over 30 international conferences, workshops, schools. Co-Founder of three series of international meetings:

CSL Computer Science Logic, the annual conference of the European Association for Computer Science Logic (EACSL), started in 1987.

ASM, the annual workshop on Abstract State Machines, started in 1994 and merged in 2008 with the B/Z conference series to **ABZ**.

Humboldt Research Award 2007, renewed invitations to Germany 2014/2017.

Festschrift Jean-Raymond Abrial and Uwe Glässer (Eds): *Rigorous Methods for Software Construction and Analysis - Papers Dedicated to Egon Börger on the Occasion of His 60th Birthday.* Springer LNCS 5115 (2009).

Festkolloquium Joint iFM & ABZ2012 Conference (Pisa) dedicated to Egon Börger on the occasion of his 65th birthday (Springer LNCS 7316/7321)

Symposium on Abstract State Machines at ABZ'2016 (Linz) on the occasion of Egon Börger's 70th birthday (Springer LNCS 9675)

Colloquium at ABZ'2021 (Ulm) on the occasion of Egon Börger's 75th birthday

Member of Academia Europaea since 2010

1 Books in Logic and Computer Science

1. **Berechenbarkeit, Komplexität, Logik.**

   Eine Einführung in Algorithmen, Sprachen und Kalküle unter besonderer Berücksichtigung ihrer Komplexität.

   Verlag Vieweg, Braunschweig 1985 (1), 1986(2): pp. XVIII+469; 1992(3): pp. XVIII+499. ISBN: 978-3-528-08928-3. e-Book Springer ISBN 978-3-322-87777-2

   - republished electronically (available as eBook and as printed version) in Springer Book Archives, 2013
   - **Computabilità, Complessità, Logica.**
     Vol.1: *Teoria della Computazione.*
     Ital.Translation, Bollati Boringhieri, Torino 1989, pp.369.
   - **Computability, Complexity, Logic.**
     English Translation, in: *Studies in Logic and the Foundations of Mathematics*, vol. 128, North-Holland, Amsterdam 1989, pp. XX+592.

   See http://www.di.unipi.it/ boerger/cclbook.html for the table of contents and http://www.di.unipi.it/ boerger/cclbookreviews.html for 16 reviews.

2. **The Classical Decision Problem.**

   (With E.Grädel, Y.Gurevich)

   Perspectives in Mathematical Logic, Springer-Verlag Berlin, Heidelberg etc., 1997, pp. XII+482, ISBN 3-540-57073-X. Second printing in "Universitext", Springer-Verlag 2001, ISBN 3-540-42324-9. e-book ISBN 978-3-642-59207-2

   See http://www.di.unipi.it/ boerger/decpblbook.html for Preface, Introduction, Table of Contents and a review.

   Republished electronically (available as eBook and as printed version) in Springer Book Archives

3. **Java and the Java Virtual Machine: Definition, Verification, Validation.**

   (With R. Stärk and J. Schmid)

   Springer-Verlag (ISBN 3-540-42088-6) Berlin-Heidelberg-New York, 2001, pp.X+381+CD-ROM. Republished in 2003 in Springer's Textbook CD-ROM. Republished electronically (available as eBook and as printed version) in Springer Book Archives ISBN 978-3-642-59495-3

   See http://www.di.unipi.it/ boerger/jbook for some highlights and downloadable material including slides for lecturing. Pieter Hartel and Luc

Moreau dedicate to the discussion of this book an entire section (6.2) of their authorative review *Formalizing the Safety of Java, the Java Virtual Machine and Java Card* (ACM Computing Surveys, 33(4):517-558 2001, see http://www.ub.utwente.nl/webdocs/ctit/1/00000050.pdf). On page 540 of Section 6.2 they resume their review by the statement that the book *gives the most comprehensive and consistent formal account of the combination of Java and the JVM.*

4. **Abstract State Machines. A Method for High-Level System Design and Analysis.**

   (With R. Stärk)

   Springer-Verlag (ISBN 3-540-00702-4) Berlin-Heidelberg-New York, 2003, pp.X+438+CD-ROM. See http://www.di.unipi.it/ boerger/AsmBook for downloadable material including slides for lecturing and a review from *The Computer Journal* 47 (2) 2004, pg. 270-271.

   Republished electronically (available as eBook and as printed version) in Springer Book Archives ISBN 978-3-642-18216-7

5. **Subject-Oriented Business Process Management**.

   (With A. Fleischmann, W. Schmidt, C. Stary, S. Obermeier)

   pg.XV+375, Springer-Verlag, Open Access Book, 2012 (ISBN: 978-3-642-32391-1 (Print), 978-3-642-32392-8 (eBook Online), DOI 10.1007/978-3-642-32392-8). See springerlink.com and www.springer.com/978-3-642-32391-1.
   Translation of the German original *S*ubjektorientiertes Prozessmanagement, Hanser-Verlag, München, pp. 434, 2011. ISBN-10: 3-446-42707-7 and ISBN-13: 978-3-446-42707-5.
   See http://www.hanser.de/buch.asp?isbn=978-3-446-42707-5&area=Wirtschaft

6. **Modeling Companion for Software Practitioners**.

   (With A. Raschke)

   XX + 349 pages, Springer 2018. DOI 10.1007/978-3-662-56641-1, eBook ISBN 978-3-662-56641-1, Softcover ISBN 978-3-662-56639-8

2 Textbooks

1. **Fondamenti di Informatica.**

   (With A.Maggiolo-Schettini.)

   Undergraduate text, ETS Editrice, Pisa 1988, pp. 87.

2. **Introduction into the Theory of Computation.**

   HyperCOSTOCTM-Course (COmputer Supported Teaching Of Computer science)

   10 Lessons developed with AUTOOL + handbook (pp.334).

   Edited with assistance of R.Bellucci, G.Pulice, E.Vannini, R.Gherardi. Hofbauer, München 1989

3 Research Papers in Computer Science

1. Börger E., **A logical operational semantics for full Prolog. Part I: Selection core and control.**
   in: *CSL'89. 3rd Workshop on Computer Science Logic* (E.Börger, H.Kleine Büning, M.M. Richter, Eds). Springer LNCS, vol. 440, 1990, pp. 36-64.
   = IBM Germany IWBS Report 111, March 1990.
   Reprinted in: Proceedings of *The 3rd Logic Programming Winter School and Seminar. LOP'91*, Ruprechtov, Czechoslovakia, pp.65-94.

2. Börger E., **A logical operational semantics for full Prolog. Part II: Built-in predicates for database manipulations.**
   in: *MFCS'90. Mathematical Foundations of Computer Science* (B.Rovan, Ed.). Springer LNCS, vol. 452, 1990, pp 1-14.
   = IBM Germany IWBS Report 115, April 1990.
   Reprinted in: E.Börger, K.Dässler (eds.): *PROLOG. DIN papers for discussion.* ISO/IEC JTC1 SC22 WG17 report no.58, National Physical Laboratory, Middlesex, April 1990, pp.92-114.

3. Börger E., **A logical operational semantics for full Prolog. Part III: Built-in predicates for files, terms, arithmetic and input-output**.
   in: *Logic from Computer Science* (Y.Moschovakis, Ed.). Berkeley Mathematical Sciences Research Institute Publications, vol.21, Springer 1992, pp. 17-50.
   Preliminary version: IBM Germany IWBS Report 115, April 1990.

4. Börger E., Rosenzweig D., **From Prolog Algebras towards WAM—A Mathematical Study of Implementation**.
   in: *Computer Science Logic* (E.Börger, H.Kleine Büning, M.M. Richter, W.Schönfeld, Eds). Springer LNCS vol. 533, 1991, pp. 31-66.

5. Börger E., Schmitt P., **A formal operational semantics for languages of type Prolog III**.
   in: *Computer Science Logic* (E.Börger, H.Kleine Büning, M.M. Richter, W.Schönfeld, Eds). Springer LNCS 533, 1991, pp. 67-79.

Preliminary version: IBM Germany, IWBS Report 144, November 1990, pp.1-27.

6. Börger E., Rosenzweig D., **WAM Algebras—A Mathematical Study of Implementation. Part II**.
in: *Logic Programming* (A.Voronkov, Ed.). Springer LNCS 592, 1992, pp. 35-54.
Preliminary version: Technical Report CSE-TR-88-91, Computer Science and Engineering Division, Department of Electrical Engineering and Computer Science, University of Michigan/Ann Arbor, April 1991, pp.21.

7. Börger E., Demoen B., **A Framework to Specify Database Update Views for Prolog**.
in: *PLILP'91. Third International Symposium on Programming Languages Implementation and Logic Programming* (J.Maluszynski, M.Wirsing, Eds.). Springer LNCS 528, 1991, pp. 147-158.
Preliminary version *The view on database updates in Standard Prolog: a proposal and a rationale* in: ISO/IEC JTC1 SC22 WG17 Prolog Standardization Report no.74, February 1991, pp. 3-10

8. Börger E., Rosenzweig D., **An Analysis of Prolog Database Views and Their Uniform Implementation**.
in: *Prolog. Paris Papers–2.* ISO/IEC JTC1 SC22 WG17 Prolog Standardization Report no.80, July 1991, pp. 87-130.
= Technical Report CSE-TR-89-91, Computer Science and Engineering Division, Department of Electrical engineering and Computer Science, University of Michigan/Ann Arbor, April 1991, pp.44.

9. Börger E., Rosenzweig D., **Prolog Tree Algebras. A formal specification of Prolog.**
in: *Proceedings of the Third International Conference on Information Technology Interfaces* (V.Ceric, V.Dobric, V.Luzar, R.Paul, eds.), SRCE, Zagreb 1991, pp.513-518
cf. *A natural formalization of full Prolog.* in: Newsletter of the Association for Logic Programming, Short Communications, vol.5/1, February 1992, pg.8-9

10. Börger E., Riccobene E., **Logical Operational Semantics of Parlog. Part I: And-Parallelism**
in: *Processing Declarative Knowledge* (H.Boley, M.M. Richter, Eds.).
Springer LNCS, vol. 567, 1992, pp.191-198.

11. Börger E., Riccobene E., **Logical Operational Semantics of Parlog. Part II: Or-Parallelism**
in: *Logic Programming*(A.Voronkov, Ed.), Springer LNCS, vol. 592, 1992, pp.27-34.

12. Beierle C., Börger E., **Correctness proof for the WAM with types.** in: *Computer Science Logic* 1992 (E.Börger, H.Kleine Büning, G.Jäger, M. M. Richter, Eds.). Springer LNCS, vol.626, 1992, pp.15-34
=IBM Germany IWBS Report 205, January 1992, pp.23.

13. Börger E., Rosenzweig D., **The Mathematics of Set Predicates in Prolog.**
in: *Computational Logic and Proof Theory* (Georg Gottlob, Alexander Leitsch, Daniele Mundici, Eds.), Proceedings of the Third Kurt Gödel Colloquium, KGC'93. Springer LNCS, vol. 713, 1993, pp.1-13
= *Prolog. Copenhagen papers 2*, ISO/IEC JTC1 SC22 WG17 Standardization report no.105, National Physical Laboratory, Middlesex, 1993, pp.33-42.

14. Börger E., Riccobene E., **A Formal Specification of Parlog.**
in: *Semantics of Programming Languages and Model Theory* (M. Droste, Y. Gurevich, Eds.), Gordon and Breach, 1993, pp.1-42.
= TR - 1/93, Dip. di Informatica, Universita di Pisa, pp.42.
cf. **A mathematical model of Concurrent Prolog**. Research report CSTR-92-15, Dept. of Computer Science, University of Bristol, Bristol, 1992.

15. Börger E., Riccobene E., **Logic + Control revisited: an abstract interpreter for Gödel programs.**
in: G.Levi (Ed.), *Advances in Logic Programming Theory*, Oxford University Press, 1994, pp. 231–254.

16. Börger E., Rosenzweig D., **A Mathematical Definition of Full Prolog.**
in: *Science of Computer Programming* 24 (1995) 249–286.
Preliminary version: TR-33/92, Dip. di Informatica, Universita di Pisa, pp.I+23.
See *Full Prolog in a Nutshell*. In: *Logic Programming* (Proceedings of the 10th International Conference on Logic Programming) (D.S.Warren, Ed.), MIT Press 1993, pg.832.

17. Börger E., **Logic Programming: The Evolving Algebra Approach.** In: B. Pehrson and I. Simon (Eds.) *IFIP 13th World Computer Congress 1994*, Volume I: *Technology/Foundations*, pp.391-395, 1994, Elsevier, Amsterdam.

18. Börger E., Del Castillo G., Glavan P., Rosenzweig D., **Towards A Mathematical Specification of the APE100 Architecture: the APESE Model.** in: B. Pehrson and I. Simon (Eds.) *IFIP 13th World Computer Congress 1994*, Volume I: *Technology/Foundations*, pp. 396-401, 1994, Elsevier, Amsterdam.

19. Börger E., Glässer U., **A Formal Specification of the PVM Architecture.**
in: B. Pehrson and I. Simon (Eds.) *IFIP 13th World Computer Congress 1994*, Volume I: *Technology/Foundations*, pp. 402-409, 1994, Elsevier, Amsterdam.
Revised and extended version: **Modelling and analysis of distributed and reactive systems using evolving algebras** in: Yuri Gurevich and Egon Börger, "Evolving Algebras. Mini-Course", Technical Report BRICS-NS-95-4, BRICS, University of Aarhus, July 1995, pp.128–152.

20. Börger E., Lopez-Fraguas F.J., Rodrigues-Artalejo M., **A Model for Mathematical Analysis of Functional Logic Programs and their Implementations.**
in: B. Pehrson and I. Simon (Eds.) *IFIP 13th World Computer Congress 1994*, Volume I: *Technology/Foundations*, pp.410-415, 1994, Elsevier, Amsterdam.
Full version: *Towards a Mathematical Specification of Narrowing Machines*, Research Report DIA 94/5, Dep. Informática y Automática, Universidad Complutense, Madrid, March 1994, pp.30.

21. Börger E., Glässer U., Müller W., **The Semantics of Behavioral VHDL'93 Descriptions.**
In: EURO-DAC'94 European Design Automation Conference with EURO-VHDL'94. Proceedings IEEE CS Press, Los Alamitos, CA, 1994, pp.500-505.

22. Börger E., Durdanovic I, Rosenzweig D.. **Occam: Specification and Compiler Correctness. Part I: Simple Mathematical Interpreters.**
In: E.-R. Olderog (Ed.), Proc. PROCOMET'94 (IFIP Working Conference on Programming Concepts, Methods and Calculi), pages 489-508, North-Holland, 1994

23. Börger E., Salamone R., **CLAM Specification for Provably Correct Compilation of CLP(R) Programs**.
In: *Specification and Validation Methods* (E.Börger, Ed.), Oxford University Press, pages 97–130, 1995

24. Börger E., Gurevich Y., Rosenzweig D., **The Bakery Algorithm: Yet Another Specification and Verification.**
In: *Specification and Validation Methods* (E.Börger, Ed.), Oxford University Press, pages 231–243, 1995
Reprinted in: Yuri Gurevich and Egon Börger, "Evolving Algebras. Mini-Course", Technical Report BRICS-NS-95-4, BRICS, University of Aarhus, July 1995, pp.116–127.

25. Börger E., Glässer U., Müller W., **Formal Definition of an Abstract VHDL'93 Simulator by EA-Machines.**
In: Carlos Delgado Kloos and Peter T. Breuer (Eds.), *Formal Semantics for VHDL*, pp.107–139, Kluwer Academic Publishers, 1995

26. Börger E., Rosenzweig D., **The WAM - Definition and Compiler Correctness**.
In: *Logic Programming: Formal Methods and Practical Applications* (C.Beierle, L.Plümer, Eds.), Elsevier Science B.V./North-Holland, Series in Computer Science and Artificial Intelligence, 1995, pp. 20–90 (chapter 2).
Preliminary version: TR-14/92, Dipartimento di Informatica, Università di Pisa, pp.I+57

27. Börger E., **Why use evolving algebras for hardware and software engineering.**
in: M.Bartosek, J.Staudek, J.Wiedermann (Eds), SOFSEM'95 22nd Seminar on Current Trends in Theory and Practice of Informatics.
Springer Lecture Notes In Computer Science, vol. 1012, 1995, pp.236–271.

28. Börger E., Del Castillo G., **A formal method for provably correct composition of a real–life processor out of basic components (The APE100 reverse engineering project).**
in: Proc. First IEEE International Conference on *Engineering of Complex Computer Systems* (ICECCS'95). IEEE Computer Society Press, Los Alamitos, California, 1995, pp.145-148. (The paper received the best application award.)
Extended version in: Yuri Gurevich and Egon Börger, "Evolving Algebras. Mini-Course", Technical Report BRICS-NS-95-4, BRICS, University of Aarhus, July 1995, pp.195–222.

29. Börger E., Durdanovic I., **Correctness of Compiling Occam to Transputer Code.**
in: The Computer Journal, Vol. 39, No.1, pp.52-92, 1996.
Preliminary version in: Yuri Gurevich and Egon Börger, "Evolving Algebras. Mini-Course", Technical Report BRICS-NS-95-4, BRICS, University of Aarhus, July 1995, pp.153–194.

30. Beierle C., Börger E., **Specification and correctness proof of a WAM extension with abstract type constraints.**
in: *Formal Aspects of Computing* Vol. 8(4), 1996, 428–462.
Preliminary version in Part 1 of IBM Germany IWBS Report 200, December 1991, pp.79.

31. Beierle C., Börger E., **Refinement of a typed WAM extension by polymorphic order-sorted types.**

in: *Formal Aspects of Computing* Vol. 8(5),1996, 539–564.
Preliminary version in Part 2 of IBM Germany IWBS Report 200, December 1991, pp.79.

32. Beierle C., Börger E., Durdanovic I., Glässer U., Riccobene E., **Refining abstract machine specifications of the steam boiler control to well documented executable code.**
in: J.-R. Abrial, E.Börger, H. Langmaack (Eds.): *Formal Methods for Industrial Applications. Specifying and Programming the Steam-Boiler Control*
Springer LNCS State–of–the–Art Survey, vol. 1165, 1996, 52-78.

See http://dx.doi.org/10.1007/BFb0027231

33. Börger E., Mazzanti S., **A Practical Method for Rigorously Controllable Hardware Design.**
in: Bowen, J.P., Hinchey, M.G., Till, D. (eds), ZUM'97: The Z Formal Specification Notation, Springer LNCS 1212 (1997), 151-187.

See http://dx.doi.org/10.1007/BFb0027289. Preliminary version appeared under the title *A correctness proof for pipelining in RISC architectures* as DIMACS TR 96-22, July 1996, pp.1-60.

34. Börger E., Busch H., Cuellar J., Päppinghaus P., Tiden E., Wildgruber I., **Konzept einer hierarchischen Erweiterung von EURIS.**
in: Siemens ZFE T SE 1, BBCPTW91-1, 1996, pp. 1-43.

35. Börger E., Schmitt P., **A description of the Tableau Method using Abstract State Machines.** in: Journal of Logic and Computation, Volume 7, number 5, 1997, pp. 661–683.

36. Börger E., Mearelli L., **Integrating ASMs into the Software Development Life Cycle.**
in: Journal of Universal Computer Science, Special ASM Issue, 3.5 (1997), 603-665.

37. Börger E., Schulte W., **Programmer friendly modular definition of the semantics of Java.**
in: Jim Alves-Foss (Ed.): Formal Syntax and Semantics of Java, Springer LNCS 1523, 353 – 404, 1999. Extended Abstract in: R. Berghammer and F.Simon (Eds.): Programming Languages and Fundamentals of Programming, University of Kiel (Germany) TR 9717, 1997, pp.175-181.

38. Börger E., Schulte W., **Defining the Java Virtual Machine as Platform for Provably Correct Java Compilation.**
in: L. Brim, J. Gruska, J. Zlatuska (Eds.): Proc. MFCS'98. Springer LNCS 1450, 17–35, 1998. Online at http://dx.doi.org/10.1007/BFb0055755

39. Börger E., **High Level System Design and Analysis using Abstract State Machines.**
in: Hutter, D., Stephan, W., Traverso, P., Ullmann, M. (eds): Current Trends in Applied Formal Methods (FM-Trends 98). Lecture Notes in Computer Science, Vol. 1641, pp. 1-43. Springer-Verlag, Berlin Heidelberg New York (1999)

40. Börger E., Schulte W., **Initialization Problems for Java.**
in: *Software—Concepts and Tools.* Vol. 19, No. 4, 175-178, 2000. Issn: 0945-8115

41. Börger E., Schulte W., **Modular Design for the Java Virtual Machine Architecture.**
in: E. Börger (Ed.): *Architecture Design and Validation Methods.* Springer Verlag 2000, pp.297–357.

42. E. Börger, A. Cavarra, E. Riccobene, **An ASM Semantics for UML Activity Diagrams.**
In: T.Rust (Ed.), *Algebraic Methodology and Software Technology*, Proc. AMAST 2000, Lecture Notes in Computer Science, Vol.1816, Springer-Verlag, Berlin Heidelberg New York, pp.292-308, 2000

43. Börger E., Schulte W., **A Practical Method for Specification and Analysis of Exception Handling – A Java/JVM Case Study.**
IEEE Transactions of Software Engineering, Vol.26, No.10, October 2000, pp.872–887 (Special Issue on Exception Handling, eds. D. Perry, A. Romanovsky, A. Tripathi.)

44. E. Börger, Peter Päppinghaus, J.Schmid, **Report on a Practical Application of ASMs in Software Design.**
Abstract State Machines. Theory and Applications. International Workshop on Abstract State Machines ASM'2000. Springer LNCS 1912, 361-366, 2000

45. M. Barnett, E. Börger, Y. Gurevich, W. Schulte, M. Veanes, **Using Abstract State Machines at Microsoft: A Case Study.**
Abstract State Machines. Theory and Applications. Proc. International Workshop on Abstract State Machines ASM'2000. Springer LNCS 1912, 367-379, 2000

46. E. Börger, **Abstract State Machines at the Cusp of the Millenium**
Abstract State Machines. Theory and Applications. Proc.International Workshop on Abstract State Machines ASM'2000. Springer LNCS 1912, 1-8, 2000

47. E. Börger, A. Cavarra, E. Riccobene, **Modeling the Dynamics of UML State Machines.**

Abstract State Machines. Theory and Applications. International Workshop on Abstract State Machines ASM'2000. Springer LNCS 1912, 223-241, 2000

48. E. Börger, J.Schmid, **Composition and Submachine Concepts for Sequential ASMs.**
In: P. Clote and H. Schwichtenberg (Eds): Computer Science Logic 2000. Proc. 14th International Workshop CSL. Springer LNCS 1862, 2000, pp.41-60

49. E. Börger, E. Riccobene, J.Schmid, **Capturing Requirements by Abstract State Machines: The Light Control Case Study.** Journal of Universal Computer Science vol.6, no.7 (2000), 597-620.

50. E. Börger, **Design for Reuse via Structuring Techniques for ASMs.**
In: Roberto Moreno-Diaz, Bruno Buchberger, Jose-Luis Freire (Eds.): Computer Aided Systems Theory - EUROCAST 2001
Springer LNCS 2178, 2001, ISSN 0302-9743, ISBN 3- 540-42959-X Springer - Verlag Berlin Heidelberg New York, pp.20-35. Electronically available at http://dx.doi.org/10.1007/3-540-45654-6_2.

51. E. Börger, **Discrete Systems Modeling.**
The Encyclopedia of Physical Science and Technology, Third Edition, R.A. Meyers Ed, Academic Press, San Diego, 2001, Volume 4, pp. 535-546.

52. E. Börger, D. Sona, **A Neural Abstract Machine.**
Journal of Universal Computer Science, Vol.7, No.11, 2001, pp. 1006-1023

53. E. Börger, A. Cavarra, E. Riccobene, **Solving Conflicts in UML State Machine Concurrent States.**
Workshop on Concurrency Issues in UML (CIUML) at UML'2001, Toronto 2.10.2001. Position Paper, pp.4.
See http://wooddes.intranet.gr/uml2001/Contributions.htm

54. E. Börger, **The Origins and the Development of the ASM Method for High Level System Design and Analysis.**
Journal of Universal Computer Science, Vol.8, No.1, 2002, pp.2-74, ISSN 0948-695x, Online edition ISSN 0948-6968 at http://www.jucs.org

55. E. Börger, A. Cavarra, E. Riccobene, **A precise semantics of UML state machines: making semantic variation points and ambiguities explicit.**
Proc. of *Semantic Foundations of Engineering Design Languages* (SFEDL'02), Satellite Workshop of ETAPS 2002, April 2002.

56. E. Börger, **Computation and Specification Models. A Comparative Study.**

Proc. Workshop on Action Semantics (FLOC'02), BRICS Series NS-02-08 at University of Aarhus, pages 107-130, 2002.

57. E. Börger, T. Bolognesi, **Remarks on Turbo ASMs for Functional Equations and Recursion Schemes**
In: E. Börger, A. Gargantini, E. Riccobene (Eds.): Abstract State Machines 2003–Advances in Theory and Applications
Springer LNCS 2589, 2003, Springer - Verlag Berlin Heidelberg New York, pp. 218-228.

58. T. Bolognesi, E. Börger , **Abstract State Processes**
In: E. Börger, A. Gargantini, E. Riccobene (Eds.): Abstract State Machines 2003–Advances in Theory and Applications
Springer LNCS 2589, 2003, pp.22-32, Springer - Verlag Berlin Heidelberg New York.

59. E. Börger, A. Cavarra, E. Riccobene, **Modeling the meaning of transitions from and to concurrent states in UML State Machines.**
Proc. 18th Annual ACM Symposium on Applied Computing, SAC 2003, Track Software Engineering: Applications, Practices, and Tools, March 9-12, 2003, Melbourne/Florida, USA. pp.1086-1091.
See http://www.acm.org/conferences/sac/sac2003/

60. E. Börger, **The ASM Refinement Method.**
Formal Aspects of Computing, ISSN 0934-5043, 15:237-257, 2003.

61. E. Börger, A. Cavarra, E. Riccobene, **On formalizing UML state machines using ASMs.**
Information and Software Technology. Vol.46, Issue 5, pp.287-292, April 2004, ISSN 0950-5849.
Special Issue on Software Engineering, Applications, Practices and Tools from the ACM Symposium on Applied Computing 2003 – Edited by H. Thompson, C.Chiang, I.El-Far, S. Gruner, M.Montigel, J.Whittaker.
See http://authors.elsevier.com/sd/article/S0950584903002027

62. E. Börger, **The ASM Ground Model Method as a Foundation for Requirements Engineering.**
in: N. Dershowitz (Ed.): Verification: Theory and Practice. Springer LNCS vol. 2772 (ISBN 3-540-21002-4, ISSN 0302-9743), 2004, pp.146-161.
See http://www.springeronline.com/sgw/cda/frontpage/0,10735,5-40109-22-26872422-0,00.html

63. E. Börger, **Linking architectural and component level system views by Abstract State Machines**.
Chapter 16 (pages 247-269) of: Christoph Grimm (Ed.), *Languages for*

System Specification and Verification, CHDL Series, Kluwer, Boston, ISBN 1-4020-7990-7, 2004

64. R. Stärk, E. Börger, **An ASM specification of C# threads and the .NET memory model**. Proc. ASM'04, Springer LNCS 3052 (2004) pp. 38-60

65. E. Börger, **A practice-oriented course on the principles of computation, programming and system design and analysis.**
In: C. N. Dean and R. T. Boute (Eds): Teaching Formal Methods. Springer LNCS 3294 (2004), pp. 65-84. ISBN 3-540-23611-2.

66. E. Börger, R. Stärk, **Exploiting the "A" in Abstract State Machines for Specification Reuse. A Java/C# Case Study.**
In: F. S. de Boer, M. M. Bonsangue, S. Graf, W-P de Roever (Eds.): Formal Methods for Components and Objects. Second International Symposium FMCO 2003, Springer LNCS 3188 (2004) 42-76. ISBN 3-540-22942-6

67. E. Börger, **Abstract State Machines: A Unifying View of Models of Computation and of System Design Frameworks.**
Annals of Pure and Applied Logic vol.133, 2005, pp. 149-171.

68. E. Börger, G. Fruja, V. Gervasi, R. Stärk, **A High-Level Modular Definition of the Semantics of C#**.
Theoretical Computer Science 336 (2005) 235–284

69. M. Altenhofen, E. Börger, J. Lemcke, **An Abstract Model for Process Mediation**.
In: K.-K.Lau and R. Banach (Eds): Formal Methods and Software Engineering. Proc. 7th International Conference on Formal Engineering Methods (ICFEM 2005). Springer LNCS 3785, 2005, pp. 81-95.

70. M. Barros, E. Börger, **A Compositional Framework for Service Interaction Patterns and Interaction Flows**.
Invited paper in: K.-K. Lau and R. Banach (Eds): Formal Methods and Software Engineering. Proc. 7th International Conference on Formal Engineering Methods (ICFEM 2005). Springer LNCS 3785 (2005), pp. 5-35, ISSN 0302-9743.

71. E. Börger, **The ASM Method for System Design and Analysis. A Tutorial Introduction**.
In: B. Gramlich (Ed.): Frontiers of Combining Systems. Springer LNAI Vol. 3717 (2005), pp. 264-283, Springer.

72. E. Börger, **Design Pattern Abstractions and Abstract State Machines**.

D. Beauquier and E. Börger and A. Slissenko (Eds): Proc. ASM05, Université de Paris 12, 2005, pp.91-100, http://lacl.u-pec.fr//dima/asm05/asm05-contents.html

73. N. G. Fruja, E. Börger, **Analysis of the .NET CLR Exception Handling**.
In: V. Skala and P. Nienaltowski (Eds.): Proc. 3rd International Conference on .NET Technologies, Pilsen, Czech Republic, May–June 2005, pp.65–75.

74. M. Altenhofen, E. Börger, J. Lemcke, **An Execution Semantics for Mediation Patterns**.
Christoph Bussler and Dieter Fensel and Uwe Keller and Brahmanada Sapkota (Eds.): Proc. of 2nd WSMO Implementation Workshop WIW'2005, 2005, Innsbruck, Austria, ISSN 1613-0073, online CEUR-WS.org/Vol-134/lemcke-wiw05.pdf

75. M. Altenhofen, E. Börger, J. Lemcke, **A High-Level Specification for Mediators (Virtual Providers)**.
In: Christoph Bussler, Armin Haller (Eds): Business Process Management Workshops: BPM 2005 International Workshops, BPI, BPD, ENEI, BPRM, WSCOBPM, BPS, Nancy, France, September 5, 2005. Revised Selected Papers. ISBN: 3-540-32595-6, ISSN: 0302-9743. Springer LNCS 3812, 2006, pp. 116 - 129. http://dx.doi.org/10.1007/11678564_11.

76. N. G. Fruja, E. Börger, **Modeling the .NET CLR Exception Handling Mechanism for a Mathematical Analysis**.
In: *Journal of Object Technology*, vol.5 , no.3, 5–34, 2006, Special issue: .NET Technologies 2005 Conference,
http://www.jot.fm/issues/issue_2006_04/article1

77. E. Börger, A. Gargantini, E. Riccobene, **Abstract State Machines. A Method for System Specification and Analysis**.
In: H. Habrias and M. Frappier (Eds): *Software Specification Methods: An Overview Using a Case Study.* Hermes Science Publishing, 2006, ISBN 1905209347, pp.103-119

78. A. Friesen, E. Börger, **A High-Level Specification for Semantic Web Service Discovery Services**.
SMIWEP-MATeS'06 (Joint Workshop on Web Services Modeling and Implementation using Sound Web Engineering Practices and Methods, Architectures and Technologies for e-Service Engineering), Workshop Proceedings of the 6th International Conference on Web Engeneering, July 11-14, Palo Alto, California, USA

79. M. Altenhofen, A. Friesen, J. Lemcke, E. Börger, **A High-Level Specification for Virtual Providers**.

International Journal of Business Process Integration and Management (IJBPIM) Vol.1, Issue 4, December 2006, 267-278. ISSN (Online): 1741-8771, ISSN (Print): 1741-8763.

80. E. Börger, **Construction and Analysis of Ground Models and their Refinements as a Foundation for Validating Computer Based Systems**.
Formal Aspects of Computing (2007) 19: 225-241

81. E. Börger, **Linking the Meaning of Programs to What the Compiler Can Verify**.
In: B. Meyer and J. Woodcock (Eds): Verified Software: Theories, Tools, Experiments. Springer LNCS 4171 (2008), Proc. First IFIP TC 2/WG 2.3 Conference, VSTTE 2005, Zürich, Switzerland, October 10-13, 2005. pp.325-336. Draft available online at http://vstte.ethz.ch/papers.html. ISSN 0302-9743 (Print) 1611-3349 (Online), DOI 10.1007/978-3-540-69149-5, ISBN 978-3-540-69147-1.

82. E. Börger, **Modeling Workflow Patterns from First Principles**.
ER 2007. Proceedings 26th International Conference on Conceptual Modeling, Auckland, New Zealand, Ed. C. Parent, K.-D. Schewe, and V. C. Storey, Springer LNCS 4801 (ISSN 0302-9743, ISBN-10: 3-540-75562-4, ISBN-13 = 978-3-540-75562-3), pp.1-20, 2007. Preliminary version *A* Critical Analysis of Workflow Patterns in: Local Proc. ASM'07, Agder University College, Norway, June 7-9, 2007.

83. D. Batory, E. Börger, **Modularizing Theorems for Software Product Lines: The Jbook Case Study**.
Journal of Universal Computer Science 14(12), 2008, pp. 2059-2082. ISSN 0948-695x, Online edition ISSN 0948-6968. Extended abstract *C*oupling Design and Verification in Software Product Lines of FoIKS 2008 Keynote in: S. Hartmann and G. Kern-Isberner (Eds): Foundations of Information and Knowledge Systems (FoIKS 2008), Springer LNCS 4932, p.1–4, 2008. See http://dx.doi.org/10.1007/978-3-540-77684-0_1.DOI 10.1007/978-3-540-77684-0, ISBN 978-3-540-77683-3, ISSN 0302-9743 (Print) 1611-3349 (Online).

84. E. Börger, B. Thalheim, **Modeling Workflows, Interaction Patterns, Web Services and Business Processes: The ASM-Based Approach**
In: ABZ 2008, Springer LNCS 5238, pp. 24-38. ISSN 0302-9743 (Print) 1611-3349 (Online), DOI 10.1007/978-3-540-87603-8

85. E. Börger, B. Thalheim, **A Method for Verifiable and Validatable Business Process Modeling**.
In: Advances in Software Engineering, Springer LNCS 5316, pp. 59-115,

2008. ISSN 0302-9743 (Print) 1611-3349 (Online), DOI 10.1007/978-3-540-89762-0, ISBN 978-3-540-89761-3.

86. E. Börger, O. Soerensen, B. Thalheim, **On defining the behavior of OR-joins in business process models**
J. Universal Computer Science, Vol. 15, No. 1, pp. 3-32, 2009, URL http://www.jucs.org/jucs_15_1/on_defining_the_behavior

87. M. Altenhofen, E. Börger, **Concurrent Abstract State Machines and +CAL**.
In: A. Corradini and U. Montanari (Eds.): Recent Trends in Algebraic Development Techniques (WADT 2008), Springer LNCS 5486, pp. 1 - 17, 2009, 0302-9743 (Print) 1611-3349 (Online), DOI 10.1007/978-3-642-03429-9, ISBN 978-3-642-03428-2,
cf. http://www.springerlink.com/content/978-3-642-03428-2

88. E. Börger, I. Craig, **Modeling an Operating System Kernel**
In: V. Diekert, K. Weicker, N. Weicker (Eds):*Informatik als Dialog zwischen Theorie und Anwendung*. Festschrift für Volker Claus zum 65.Geburtstag, pp.199-216.
Vieweg+Teubner, Reihe Wissenschaft, Wiesbaden 2009, ISBN 978-3-8348-0824-0.

89. I. Craig, E. Börger, **Synchronous Message Passing and Semaphores: An Equivalence Proof**.
In: M. Frappier, U. Glässer, S. Khurshid, R. Laleau, S. Reeves (Eds.): Abstract State Machines, Alloy, B and Z, Second International Conference, ABZ 2010, Orford, QC, Canada, February 22-25, 2010, Proceedings, Springer LNCS Subseries: Theoretical Computer Science and General Issues, Vol. 5977,pp. 20-33, 2010, ISBN: 978-3-642-11810-4, DOI 10.1007/978-3-642-11811-1, ISSN 0302-9743 (Print) 1611-3349 (Online).
http://www.springerlink.com/content/978-3-642-11810-4

90. E. Börger, **The Abstract State Machines Method for High-Level System Design and Analysis**.
In:*Formal Methods: State of the Art and New Directions*, P.P. Boca, J.P. Bowen, J.I. Siddiqi (Eds), pages 79-116, Springer-Verlag London, 2010, ISBN 978-1-84882-735-6 (Print) 978-1-84882-736-3 (Online), DOI 10.1007/978-1-84882-736-3, see
http://www.springer.com/computer/programming/book/978-1-84882-735-6

91. E. Börger, O. Sörensen, **BPMN Core Modeling Concepts: Inheritance-Based Execution Semantics**
in: D. Embley and B. Thalheim (Eds): Handbook of conceptual modelling.

pp.287-332. Springer-Verlag, March 2011. DOI 10.1007/978-3-642-15865-0, ISBN: 978-3-642-15864-3. Abstract in: Y. Ait-Ameur (Ed.): Proc. AFADL 2010, LISI/ENSMA, Futuroscope, Poitiers, p.1

92. Daniel Grunwald, Malte Lochau, Egon Börger, Ursula Goltz, **An Abstract State Machine Model for the Generic Java Type System**. Informatik-Bericht Nr. 2010-02 of Technische Universität Carolo-Wilhelmina zu Braunschweig, Nov 3, 2010, pp.57.

93. E. Börger, **A Subject-Oriented Interpreter Model for S-BPM**. Appendix in: A. Fleischmann, W. Schmidt, C. Stary, S. Obermeier, E. Börger: *Subjektorientiertes Prozessmanagement*, Hanser-Verlag, München, 2011 and
Subject-Oriented Business Process Management, Springer Open Access Book, Heidelberg, 2012

94. E. Börger, Antonio Cisternino, Vincenzo Gervasi: **Ambient Abstract State Machines with Applications**.
in: Journal of Computer and System Sciences Volume 78, Issue 3 (In Commemoration of Amir Pnueli), May 2012, Pages 939959. Elsevier, Amsterdam. See http://dx.doi.org/10.1016/j.jcss.2011.08.004

95. E. Börger: **Approaches to Modeling Business Processes. A Critical Analysis of BPMN, Workflow Patterns and YAWL**.
in: J. SOFTWARE AND SYSTEMS MODELING, Volume 11, Issue 3 (2012), page 305-318, DOI: 10.1007/s10270-011-0214-z. ISSN: 1619-1366 (print version), ISSN: 1619-1374 (electronic version)

96. E. Börger: **The Subject-Oriented Approach to Software Design and the Abstract State Machines Method**.
in: A. Düsterhöft and M. Klettke and K.-D. Schewe (Eds.): Conceptual Modelling and Its Theoretical Foundations – Essays Dedicated to Bernhard Thalheim on the Occasion of his 60th Birthday, LNCS 7260, pp. 52–72. Springer, Heidelberg (2012). Reprinted in: C. Stary (Ed.): S-BPM ONE 2012, *Lecture Notes in Business Information Processing* Vol. 104, pp.1–21, Springer , Heidelberg 2012

97. E. Börger, Antonio Cisternino, Vincenzo Gervasi: **Contribution to a Rigorous Analysis of Web Application Frameworks**.
in: J. Derrick, J. Fitzgerald, S. Gnesi, S. Kurshid, M. Leuschel, S. Reeves, E. Riccobene (Eds.): Abstract State Machines, Alloy, B, VDM, and Z. Springer LNCS 7316 (2012), pp. 1–20. ISSN 0302-9743, e-ISSN 1611-3349, ISBN 978-3-642-30884-0, e-ISBN 978-3-642-30885-7, DOI 10.1007/978-3-642-30885-7. Also published in J. Derrick, S. Gnesi, D. Latella, H. Treharne (Eds.): Integrated Formal Methods, Springer LNCS 7321, pp. 1–20.

ISSN 0302-9743, e-ISSN 1611-3349, ISBN 978-3-642-30728-7, e-ISBN 978-3-642-30729-4, DOI 10.1007/978-3-642-30729-4.

98. Vincenzo Gervasi, E. Börger, Antonio Cisternino: **Modeling Web Applications Infrastructure with ASMs**.
Science of Computer Programming, Volume 94, Part 2, 15 November 2014, Pages 6992. ISSN 0167-6423. Special ABZ 2012 Issue with Selected and extended papers from ABZ 2012. Guest Editors: Elvinia Riccobene and Steve Reeves, Elsevier 2014.

99. E. Börger: **The Abstract State Machines Method for Modular Design and Analysis of Programming Languages**.
Journal of Logic and Computation. Oxford University Press, Online ISSN 1465-363X - Print ISSN 0955-792X. Special Issue *Concepts and Meaning* (Leitsch Festschrift), Eds. Matthias Baaz, Agata Ciabattoni, Dov M. Gabbay, Stefan Hetzl, Daniel Weller. Advance Access on-line published December 18, 2014, pp.23

100. E. Börger and K.-D. Schewe: **Specifying Transaction Control to Serialize Concurrent Program Execution**.
in: Yamine Ait-Ameur and Klaus-Dieter Schewe (Eds): *Abstract State Machines, Alloy, B, TLA, VDM, and Z*, Springer LNCS 8477, pp. 142-157, 2014. ISBN: 978-3-662-43651-6 (Print) 978-3-662-43652-3 (Online)

101. E. Börger and A. Fleischmann: **Abstract State Machine Nets. Closing the Gap between Business Process Models and their Implementation**. S-BPM ONE '15: Proceedings of the 7th International Conference on Subject-Oriented Business Process Management, 2015 (Invited Paper), pp.10, ACM (New York), Digital Library,
ISBN: 978-1-4503-3312-2 doi¿10.1145/2723839.2723840

102. E. Börger and S. Zenzaro: **Modeling for Change via Component-Based Decomposition and ASM Refinement**. S-BPM ONE '15: Proceedings of the 7th International Conference on Subject-Oriented Business Process Management, 2015, pp.13, ACM Digital Library,
ISBN: 978-1-4503-3312-2, doi¿10.1145/2723839.2723854

103. E. Börger and K.-D.Schewe: **Concurrent Abstract State Machines**.
Acta Informatica 2016, 53 (5) 469492.
See http://link.springer.com/article/10.1007/s00236-015-0249-7.
DOI 10.1007/s00236-015-0249-7. ISSN: 0001-5903 (Print) 1432-0525 (Online)
Listed as Notable Article in ACM 21th Annual BEST OF COMPUTING
www.computingreviews.com/recommend/bestof/notableitems.cfm?bestYear=2016.

104. E. Börger and K.-D.Schewe and Qing Wang: **Serialisable Multi-Level Transaction Control: A Specification and Verification**. *Science of Computer Programming* 131 (2016) 4258. ISSN: 0167-6423

105. E. Börger: **Modeling distributed algorithms by Abstract State Machines compared to Petri Nets**. in: M. Butler et al. (Eds): ABZ 2016 (Abstract State Machines, Alloy, B, TLA, VDM, and Z), Springer LNCS 9675 (ISSN 0302-9743, ISSN electronic 1611-3349, ISBN 978-3-319-33600-8, eBook ISBN 978-3-319-33600-8), pg.3-34, 2016, DOI: 10.1007/978-3-319-33600-8.1

106. E. Börger and M. Leuschel: **A compact encoding of sequential ASMs in Event-B**. in: M. Butler et al. (Eds): ABZ 2016 (Abstract State Machines, Alloy, B, TLA, VDM, and Z), Springer LNCS 9675 (ISSN 0302-9743, ISSN electronic 1611-3349, ISBN 978-3-319-33600-8, eBook ISBN 978-3-319-33600-8), pg.119-134, DOI: 10.1007/978-3-319-33600-8.7

107. E. Börger and K.-D.Schewe: **Communicating Abstract State Machines**. J. Universal Computer Science 23 (2) 129–145 (February 2017). http://www.jucs.org/jucs (ISSN 0948-695x)

108. E. Börger: **Why Programming Must be Supported by Modeling and How**. in: T. Margaria and B. Steffen (Eds): Leveraging Applications of Formal Methods, Verification and Validation. Modeling. 8th International Symposium, ISoLA 2018, Limassol, Cyprus, November 5-9, 2018, Proceedings, Part I, pg. 89-110, Springer Nature Switzerland AG, LNCS 11244. Print ISBN 978-3-030-03417-7, Online ISBN 978-3-030-03418-4. https://doi.org/10.1007/978-3-030-03418-4_6

109. Klaus-Dieter Schewe and Andreas Prinz and Egon Börger: Concurrent Computing with Shared Replicated Memory. In: Klaus-Dieter Schewe and Neeraj Kumar Singh (Eds): Model and Data Engineering - 9th International Conference, Proceedings MEDI 2019, Toulouse, France, October 28 - 30, 2019. Springer Lecture Notes in Computer Science 11815, 219-234, 2019. DOI: 10.1007/978-3-030-32065-2_16
Print ISBN 978-3-030-32064-5, Online ISBN 978-3-030-32065-2.
https://www.irit.fr/MEDI2019/index.html. An extended version is available at: CoRR abs/1902.04789 (2017) http://arxiv.org/abs/1902.04789

110. E. Boerger and K.-D.Schewe: **A characterization of distributed ASMs with partial order runs.** In: A. Raschke and D. Mery and F. Houdek: Rigorous State-Based Methods. Springer LNCS 12071 (Proc. ABZ 2020), p. 7892, 2020.
Print ISBN 978-3-030-48076-9, Online ISBN 978-3-030-48077-6
https://doi.org/10.1007/978-3-030-48077-6_6

111. E. Boerger and K.-D.Schewe: **A Behavioral Theory of Recursive Algorithms**.
Fundamenta Informaticae 177.1 (2020) 1-37. IOS Press. DOI 10.3233/FI-2020-1978. A preliminary version is available at http://arxiv.org/abs/2001.01862.

4 Research Papers in Logic and Complexity Theory

1. **Reduktionstypen in Krom- und Hornformeln**.

   Dissertation. Fachbereich Mathematik der Universität Münster i. W., 1971, pp. VIII + 72. cf. ZBL: 298 ♯ 02048, MR 52 ♯ 2860.

2. **Eine entscheidbare Klasse von Kromformeln**.

   in: *Zeitschrift für math. Logik und Grundlagen der Mathematik*, 19, 1973, pp. 117 - 120. cf. MR 49 ♯ 2327, ZBL 298 ♯ 02048.

3. **Beitrag zur Reduktion des Entscheidungsproblems auf Klassen von Hornformeln mit kurzen Alternationen**.

   in: *Archiv für math. Logik und Grundlagenforschung*. 16/1-2, 1974, pp. 67 - 84. cf. MR 49 ♯10535, ZBL 277 ♯ 02009.

4. **The undecidability of $\forall\exists^{\infty}\exists$ $(0,4)$-formulae with binary disjunctions**. (With D. Rödding).

   in: *The Journal of Symbolic Logic*, 39, 1974, pp. 412 - 413.

5. **La Σ_3-complétude de l'ensemble des types de réduction**.

   in: *Logique et analyse*, 65 - 66, 1974, pp. 123 - 128. cf. MR 55 ♯ 2539, ZBL 294 ♯ 02018.

6. **Die m-Grade logischer Entscheidungsprobleme**. (With K. Heidler).

   in: *Archiv für math. Logik und Grundlagenforschung*, 17/3 - 4, 1976, pp. 105 - 111. cf. MR 57 ♯ 2895, ZBL 362 ♯ 02025.

7. **Recursively unsolvable algorithmic problems and related questions reexamined**.

   in: *ISILC Logic Conference* (G. H. Müller, A. Oberschelp, K. Potthoff, Eds.). Springer Lecture Notes in Mathematics, 499, 1975, pp. 10 - 24.
   = *Forschungsberichte des Instituts für angewandte Informatik und formale Beschreibungsverfahren.* Nr. 25 (Dezember 1974), pp. 20, H. A. Maurer, W. Stucky (Eds.). Universität Karlsruhe. cf. MR 58 ♯ 10355, ZBL 333 ♯ 02040.

8. **Über einige Interpretationen von Registermaschinen mit Anwendungen auf Entscheidungsprobleme in der Logik, der Algorithmentheorie und der Theorie formaler Sprachen**.

   in: *Atti dell' "Incontro su somplessità die calcolo, codici e linguaggi formali"*. Laboratorio di Cibernetica, CNR, Arco Felice (Napoli), 1975, pp. 28 - 46. cf. ZBL 411 ♯ 68045

9. **On the construction of simple first-order formulae without recursive models**.

   in: *Coloquio sobre Logica Simbolica*, Madrid 1975, pp. 7 - 24. cf. MR 56 ♯ 8348, ZBL 357 ♯ 02010.

10. **Eine einfache Methode zur Bestimmung der Unlösbarkeit von Entscheidungsproblemen kombinatorischer Systeme**.

    Habilitationsschrift, Fachbereich Mathematik der Westfälischen Wilhelms-Universität Münster, WS 1975/76.

11. **A new general approach to the theory of the many-one equivalence of decision problems for algorithmic systems**.

    in: *Zeitschrift für math. Logik und Grundlagen der Mathematik*. 25, 1979, pp. 135 - 162.
    = *Schriften zur Informatik und Angewandten Mathematik*. Hrg. R. Kaerkes, J. Merkwitz, W. Oberschelp, RWTH Aachen, Bericht Nr. 30, Juli 1976, pp. 61. cf. MR 80f: 03045, ZBL 429 ♯ 03016.

12. **Two new reduction classes in Krom formulae with predicate and function symbols**.

    in: *The Journal of Symbolic Logic*. 42, 1977, pg. 442.

13. **Bemerkung zu Gurevich's Arbeit über das Entscheidungsproblem für Standardklassen**.

    in: *Archiv für math. Logik und Grundlagenforschung*, 19, 1978, pp. 111 - 114. cf. MR 80a: 03054b, ZBL 402 ♯ 03019.

14. **Ein einfacher Beweis für die Unentscheidbarkeit der klassischen Prädikatenlogik**.

    in: *Mathematisch-Physikalische Semesterberichte XXV*, 2, 1978, pp. 290 - 299. S. MR 80c: 03001, ZBL 399 ♯ 03010.

15. **The Horn complexity of Boolean functions and Cook's problem**. (With S. Aanderaa).

    in: *Proceedings of the 5th Scandinavian Logic Symposium*, Aalborg 1979, Aalborg University Press, pp. 231 - 256.
    = *Forschungsbericht der Abt. Informatik*, Universität Dortmund, Nr. 79, 1979, cf. ZBL 429 ♯ 03022, MR 83 B: 03048B.

16. **The reachability problem for Petri nets and decision problems for Skolem arithmetic**. (With H. Kleine Büning).

    in: *Theoretical Computer Science*, 11, 1980, pp. 123 - 143.
    = *Proc. of the 5th Scandinavian Logic Symposium*, Aalborg 1979, pp. 59 - 96.
    = *Grundlagen der Mathematik und Informatik,* RWTH Aachen, Hrg. W. Oberschelp, M. M. Richter, Nr. 2, Juli 1978, pp. 36.
    cf. MR 82b: 03079, ZBL 453 ♯ 03013; MR 81h: 68034, ZBL 453 ♯ 03012.

17. **The r. e. complexity of decision problems for commutative semi-Thue Systems with recursive rule set.**

    in: *Zeitschrift f. math. Logik u. Grundlagen der Mathem.* 26 (1980), 459 - 469.
    = *Grundlagen der Mathematik und Informatik,* RWTH Aachen, Hrg. Oberschelp, M. M. Richter, Nr. 2, Juli 1978, pp. 29.
    cf. MR 82b: 03074, ZBL 499 ♯ 03025.

18. **Prefix classes of Krom formulae with identity**. (With S. O. Aanderaa, Y. Gurevich).

    in: *Archiv für math. Logik und Grundlagenforschung*, 22, 1982, pp. 43 - 49,
    = *Forschungsbericht der Abt. Informatik*, Universität Dortmund, Nr. 86 (1979), pp. 8. cf. MR 83m: 03019, ZBL 494 ♯ 03007.

19. **Conservative reduction classes of Krom formulas**. (With S. O. Aanderaa, H. R. Lewis).

    in: *The Journal of Symbolic Logic*, 1980, 47, 1982, pp. 110 - 130.
    = *Forschungsbericht der Abteilung Informatik*, Universität Dortmund Nr. 98 (1980), pp. 39. cf. MR 83 E: 03021.

20. **The equivalence of Horn and network complexity for Boolean functions**. (With S. O. Aanderaa).

    in: *Acta Informatica 15,* 1981, pp. 303 - 307.
    cf. MR 83b: 03048b, ZBL 477 ♯ 94034.

21. **Logical description of computation processes**.

    in: *Fundamentals of Computation Theory.* F. Gècseg (Ed.). Springer LNCS vol. 117, 1981, pp. 410 - 424, cf. ZBL 467 ♯ 03037.

22. **Decision problems in predicate logic**.

    in: *Logic Colloquium '82.* (G. Lolli, G. Longo, A. Marcja, Eds.). Studies in Logic and the Foundations of Mathematics. Vol. 112, pp. 263 - 301, North-Holland Pu. Co, Amsterdam 1984.

= *Forschungsbericht Nr. 153*, 1983, Abteilung Informatik der Universität Dortmund.

23. **Undecidability versus Degree Complexity of Decision Problems for Formal Grammars**.

    in: *Report on the 1st GTI-Workshop* (L. Priese, Ed.), Paderborn 1983, pp. 44 -55.
    Abstract in: *Recursion Function Theory Newsletter*. (Special issue *1982 Summer Institute on Recursion Theory*, Cornell University, Ithaca (NY), pp. 18 - 22).

24. **Spektralproblem and Completeness of Logical Decision Problems**.

    in: *Logic and Machines: Decision Problems and Complexity*. (E. Börger, G. Hasenjaeger, D. Rödding, Eds.). Springer, Vol. 171, 1984, pp. 333 - 356.

25. **Unsolvable Decision Problems for Prolog Programs**.

    in: *Computation Theory and Logic* (E.Börger, Ed.), Springer LNCS, vol. 270, 1987, pp. 37-48.

26. **Logical Decision Problems and Complexity of Logic Programs**.

    (With U.Löwen)

    in: *Fundamenta Informaticae X*, 1987, pp.1-34. = Forschungsbericht Nr.218, 1986, Abteilung Informatik, Universität Dortmund.

27. **Logic as Machine: Complexity Relations between Programs and Formulae**.

    in: *Trends in Theoretical Computer Science* (E.Börger, Ed.), Computer Science Press, Rockville 1988, pp.59-94. = Forschungsbericht Nr. 213, 1985, Abteilung Informatik, Universität Dortmund.

5 Expository Papers

1. **Die rekursive Unlösbarkeit des zehnten Hilbertschen Problems.**

    in: A.I.Malcew: *Algorithmen und rekursive Funktionen*, Anhang.

    Vieweg-Verlag, Braunschweig 1974, pp.307-320.

2. **From decision problems to problems of complexity.**

    in: *Atti del Convegno Internazionale di Storia della Logica*, V. M Abrusci, E. Casari, M. Mugnai (Eds.), CLUEB, Bologna 1983, pp. 211 - 215.

3. **Complexity of Logical Decision Problems: An Introduction.**

   in: *Bridging the Gap: Philosophy, Mathematics, Physics* (G.Corsi et al., eds), Kluwer Academic Publishers, 1993, pp.71-86

   = IBM Germany, IWBS Report 143, October 1989, pp.12

4. **Dynamische Algebren und Semantik von Programmiersprachen.**

   in: E.Börger: *Berechenbarkeit, Komplexität, Logik*, Anhang.

   Vieweg Verlag, Wiesbaden 1992, 3. Auflage, pp. 476-499.

5. **Review of:** E.W.Dijkstra & C.S.Scholten: *Predicate Calculus and Program Semantics.* Springer-Verlag, 1989.

   in:

   - *Science of Computer Programming* 23 (1994) 1-11
   - *The Journal of Symbolic Logic* 59 (1994) 673-678 (abridged version)

6. **Annotated Bibliography on Evolving Algebras.**
   In: *Specification and Validation Methods* (E.Börger, Ed.), Oxford University Press, 1995, pp.37–52

7. **Modelling and Analysis of Distributed and Reactive Systems using Evolving Algebras.**
   (With U. Glässer)
   In: Yuri Gurevich and Egon Börger, "Evolving Algebras. Mini-Course", Technical Report BRICS-NS-95-4, BRICS, University of Aarhus, July 1995, pp.27.

8. **The Steam Boiler Case Study: Competition of Formal Program Specification and Developments Methods.**
   With J.-R. Abrial and H. Langmaack
   In: J.-R. Abrial, E.Börger, H. Langmaack (Eds.): *Formal Methods for Industrial Applications. Specifying and Programming the Steam-Boiler Control.* Springer LNCS State–of–the–Art Survey, vol. 1165, 1996, 1–12.

9. **Ten Years of Gurevich's Abstract State Machines**.
   In: Journal of Universal Computer Science 3,4 (1997) 231-233.
   http://www.iicm.edu/jucs

10. **Introduction to JUCS Special ASM Issue. Part II**
    In: Journal of Universal Computer Science 3,5 (1997), 414-415.
    http://www.iicm.edu/jucs

11. **Ten Years of CSL Conferences (1987-1997)**.
    In: EATCS Bulletin 63, October 1997, 61-63 (Talk presented to the EACSL 1997 Membership Meeting in Aarhus, August 1997).

12. **Abstract State Machines 1988-1998: Commented ASM Bibliography**.
With Jim Huggins.
In: Formal Specification Column (H.Ehrig, Ed.), EATCS Bulletin 64, February 1998, pp.105-127.

13. **Abstract State Machines and their Industrial Employment: A Survey.**
In: Proc. *Fifth NASA Langley Formal Methods Workshop*, Williamsburgh, Virginia, USA, June 13-15, 2000.
http://shemesh.larc.nasa.gov/fm/Lfm2000/

14. **From requirements to C++ code via ASM models. A case study: The production cell control program.**
In: Proc. *Fifth NASA Langley Formal Methods Workshop*, Williamsburgh, Virginia, USA, June 13-15, 2000.
http://shemesh.larc.nasa.gov/fm/Lfm2000/

15. **Using Abstract State Machines in Requirements Engineering**.
In: Fourth IEEE International Conference on Requirements Engineering (ICRE2000), Tutorial T3, pp. 54, June 19-23, 2000, Schaumburg, Illinois, USA.

16. **Yuri Gurevich: The Evolution of a Research Life from Algebra through Logic to Computer Science**.
In: P. Clote and H. Schwichtenberg (Eds): Computer Science Logic (Gurevich Festschrift). Proc. 14th International Workshop CSL. Springer LNCS 1862, 2000, VIII-X

17. **The Light Control Case Study—A Synopsis.**
(With R. Gotzhein). Journal of Universal Computer Science vol.6, no.7 (2000), 582-585.
http://www.jucs.org/

18. **J.UCS Special Issue on Requirements Engineering. The Light Control Case Study.**
(With R. Gotzhein). Journal of Universal Computer Science vol.6, no.7 (2000), 580-581. http://www.jucs.org/

19. **Design for Reuse via Structuring Techniques for ASMs**.
Roberto Moreno-Diaz, Bruno Buchberger, Jose-Luis Freire (Eds.): Computer Aided Systems Theory - EUROCAST 2001
Springer LNCS 2178, 2001, ISSN 0302-9743, ISBN 3- 540-42959-X Springer - Verlag Berlin Heidelberg New York, pp.20-35.

20. **Abstract State Machines 2001: New Developments and Applications.** (With U. Glässer)

J.UCS Special Issue on Abstract State Machines, November 2001, Vol.7 (11) 914-916 JUCS ISSN 0948-695x.

21. **ASM 2003–A double anniversary in Sicily.**
in: E. Börger and A. Gargantini and E. Riccobene (Eds.), *Abstract State Machines 2003–Advances in Theory and Applications*, Springer LNCS 2589, 2003, pp. 1-3, Proc. of 10th International Workshop on Abstract State Machines, Taormina (Sicily), March 2003

22. **Teaching ASMs to Practice-Oriented Students with Limited Mathematical Background.**
Proc. *Teaching Formal Methods* 2003, Oxford Brookes University, pp. 5-12

23. **Modeling with Abstract State Machines: A support for accurate system design and analysis.**
In: B. Rumpe and W. Hesse (Eds.): Modellierung 2004, Springer LNI Series Vol.P-45, pp.235-239, 2004. ISBN 3 888 57 93741

24. **Abstract State Machines and High-Level System Design and Analysis**.
Editorial to special ASM issue of Theoretical Computer Science 336 (2005) 205-207

25. **The ASM Method: a Cornerstone in Computer Science Education**.
D. Beauquier and E. Börger and A. Slissenko (Eds): Proc.ASM05, Université de Paris 12, 2005, pp.49-56.

26. **20 Years after** *A New Thesis***: The Diversification of the ASM Method**.
D. Beauquier and E. Börger and A. Slissenko (Eds): Proc.ASM05, Université de Paris 12, 2005, pp.5-9.

27. E. Börger,**Using Abstract State Machines for the Description and the Analysis of Formal Systems**.
C. Mereghetti, B. Palano, G. Pighizzini, D. Wotschke (Eds.): Proc. Seventh International Workshop on Descriptional Complexity of Formal Systems. Como, 30.6.-2.7. 2005. TR 06-05 Dip. Informatica e Comunicazione, Universitá di Milano, pp. 15-22.

28. E. Börger and A. Slissenko, **The Abstract State Machines Method**.
In: Special ASM'05 Issue of Fundamenta Informaticae, Vol. 77 (1-2) 2007, Editorial, pp.i-iv.

29. E. Börger, **A Tribute to Dean Rosenzweig**. Abstract State Machines Research Center TR 2007.2, pp.1-6 (www.asmcenter.org)

30. E. Börger and A. Prinz, **Quo vadis Abstract State Machines?**
Editorial for: Special ASM'07 Issue of J. Universal Computer Science, vol.14 (12), pp. 1921-1928, 2008. ISSN 0948-695x, Online edition ISSN 0948-6968.

31. E. Börger and A. Cisternino, **The Lipari Summer School 2007 on Software Engineering**
Springer LNCS 5316 (2008), Editorial.

32. **Editorial to: Formal Aspects of Computing: Volume 23, Issue 1**. With Jonathan P. Bowen, Michael Butler, Michael Poppleton. 2011, pages 1-2.

ISSN 0934-5043. DOI: 10.1007/s00165-010-0168-x. UR - http://dx.doi.org/10.1007/s00165-010-0168-x. See also

`http://www.springerlink.com/openurl.asp?genre=article&id=doi:10.1007/s00165-010-0`

6 Foundational Papers

1. **Le indagini di Tarski sulla nozione della verità nei linguaggi formalizzati.**

in: *La Nuova Critica.* Studi e rivista di filosofia delle scienze. VI^a Serie, XXIII, Roma 1970, pp. 69 - 82.

2. **La "riduzione dell'aritmetica alla logica" in Frege e l'antinomia di Russel, con particolare riferimento al "Nachlass" freghiano.**

in: *La Nuova Critica.* Studi e rivista di filosofia delle scienze. VI^a Serie, XXIV, Roma 1971, pp. 5 - 29.

3. **Per una teoria delle fallacie dal punto di vista della logica simbolica.**

in: *Proteus III, 7, 1972, pp. 11 - 23.*

4. **Das Problem der Begründung der Mathematik bei Frege im Lichte des gegenwärtigen Standes der mathematischen Grundlagenforschung.**

in: Ch. Thiel (Hg.): *Frege und die moderne Grundlagenforschung.* Verlag A. Hain, Meisenheim 1975, pp. 23 - 32.

5. **Principi euristici ed intelligenza artificiale.**
(With D. Barnocchi.)

in: P. Prini (Ed.): *Il futuro della mente*, Proteus VI, 16, Roma 1975, pp. 123 - 134.

6. - **Aussage** (With D. Barnocchi), Vol. I, pp. 670 - 672.
   - **Aussagenlogik** (With D. Barnocchi), Vol. I, pp. 672 - 678.
   - **Implikation, Paradoxe der Aussagenlogik** (With D. Barnocchi), Vol. IV, pp. 265 - 268.
   - **Irrtum, logisch**, Vol. IV, pp. 606 - 614.

   in: *Historisches Wörterbuch der Philosophie*, Basel - Stuttgart, since 1971.

7. **Bericht über Freges nachgelassene Schriften.**

   in: *Math.-Physikal. Semesterberichte XXVI*, 2, 1979, pp. 261 - 264.

8. - **Deduktion**, pp. 121 - 124.
   - **Entscheidbarkeit**, pp. 159 - 160.

   in: *Handbuch wissenschaftstheoretischer Begriffe.* J. Speck (Hg.), Vandenhoeck & Ruprecht, Göttingen 1980.

9. **Überlegungen zur aristotelischen Irrtumslehre vom Standpunkt der mathematischen Logik.**

   in: E. Börger, D. Barnocchi, F. Kaulbach (Hg.): *Zur Philosophie der mathematischen Erkenntnis,* pg. 159, Würzburg 1980, pp. 125 - 135.
   = *Jahresbericht der Deutschen Mathematiker-Vereinigung 84*, cf. MR 82h: 03004, ZBL 464 # 03004, 1982, pp. 9 - 10.

10. **Il Teorema di Gödel**.
    With D. Barnocchi and F. Romani. In: Microcomputer, October 2000, 170-173.

7 Lecture Notes in Logic

1. **Reduktionstypen der klassischen Prädikatenlogik**. Teil 1: *Der Satz von Trachtenbrot und das Präfixproblem für Kromklassen.*

   Lecture Notes (ausgearbeitet von H.G. Ulrich), Institut für math. Logik und Grundlagenforschung, Universität Münster, 1972, pp. V+37.

2. **Teoria ed Applicazione delle Macchine Calcolatrici.**

   Lecture Notes, Istituto di Scienze dell'Informazione, Universita di Salerno, 1974/75, pp.161.

3. **Teoria ed Applicazione delle Macchine Calcolatrici.**

   Lecture Notes, Istituto di Scienze dell'Informazione, Universita di Salerno, 1975/76, pp.185.

4. **Degree Complexity and Many-One Equivalence of Decision Problems for Algorithmic Systems.**

   Lecture Notes (ausgearbeitet von W.Döpke), Institut für math. Logik und Grundlagenforschung, Universität Münster, 1976, pp. II+109.

5. **Russische Arbeiten zur Reduktionstheorie.**

   Lecture Notes, Institut für math. Logik und Grundlagenforschung, Universität Münster, 1979/80.

6. **Einführung in die Logik.**

   Lecture Notes (ausgearbeitet von K. Ambos-Spies). Abteilung Informatik der Universität Dortmund, 1981, pp.101.

7. **Undecidable versus Difficult to Decide.** *An Introduction into Computational Complexity of Logical Decision problems.*

   Lecture Notes for Post-Graduate School *Foundations of Computation Theory*, Inter-University Center, Dubrovnik 1983

   = Forschungsbericht Nr.155/1983 der Abteilung Informatik der Universität Dortmund, pp.41.

8 Patent

Title: **A system and method for mediating within a network**
Inventor: Altenhofen Michael (Germany), Börger Egon (Italy), Lemcke Jens (Germany)

- European Patent Office

  Request Number: EP20050008517, Publication Number EP1715653, Year of presentation: 4/19/2005, Requestor: SAP AG (Germany), Year of acceptance: 2008.

- United States of America Patent and Trademark Office

  Published Patent Application (USPTO), Application No: 11/405363, Publication No: 20060259605, Application Date: 2006-04-17, Publication Date: 2006-11-16

9 Edition of Books, Proceedings, Journal Issues

1. **Zur Philosophie der mathematischen Erkenntnis.**

   (With D. Barnocchi, F. Kaulbach.)

   Proc. Kolloquium *Fragen der Philosophischen Grundlegung der Mathematik*, Universität Münster i.W., WS 1978/79.

   Verlag Königshausen & Neumann, Würzburg 1981, pp. 159

   Reviews:

   - *Jber. der Deutschen Mathematiker-Vereinigung* 84,2(1982)
   - *Philosophischer Literaturanzeiger* 35,2 (1982), pp.109-111
   - *Math.Reviews* 82c:000333
   - *Zentralbl.Math.*, 464-03004

2. **Logic and Machines: Decision Problems and Complexity.**

   (With G.Hasenjaeger, D.Rödding)

   Proc. Symposium *Rekursive Kombinatorik*, Institut für math.Logik und Grundlagenforschung, Universität Münster i.W. (Germany). Contributions by S.O.Aanderaa, K. Ambos-Spies, A. Blass, C. Blatter, E. Boerger, A. Brueggemann, B. Buchberger, H.G. Carstens, D.E.Cohen, E. Dahlhaus, M. Deutsch, M. Fuerer, E. Grandjean, Y. Gurevich, G. Hasenjaeger, U. Hedtstueck, H. Kleine Buening, M.R. Kramer, K. Menzel, W. Oberschelp, P. Paeppinghaus, L. Priese, P. Pudlak, D. Roedding, B. Scarpellini, R. Schaetz, D. Schmidt, E. Specker, V. Sperschneider, D. Spreen, K.W. Regan, M. M. Richter, J. Tiuryn, J. van Leeuwen, H. Volger, I. Wegener
   Springer Lecture Notes in Computer Science, vol.171, 1984, pp.VI+456
   ISBN 3-540-13331-3.

3. **Computation and Proof Theory.**

   (With W.Oberschelp, M.M.Richter, B.Schinzel, W.Thomas.)

   Proc. *Logic Colloquium*, Aachen1983, Part II .
   Springer Lecture Notes in Mathematics, vol.1104, 1984, pp.VIII+475.

4. **Trends in Theoretical Computer Science.**

   Proc. *Course on Computation Theory*, CISM, Udine September 24–October 5, 1984.
   Contributions by: K.Ambos-Spies, K.Apt, E.Börger, P.Flajolet, Y.Gurevich, E.Shamir, E. Specker, M.Vardi.
   Computer Science Press, Rockville 1988, pp. VII+380, ISBN 0-88175-084-0.

5. **Computation Theory and Logic.** In Memory of Dieter Rödding. Contributions by Ambos–Spies, Asser, Blass, Börger, Brämik, Brüggemann–Klein, Carstens, Cohen, Cohors–Fresenborg, Dahlhaus, Deutsch, Drosdol, Ebbinghaus, Engeler, Germano, Grandjean, Gurevich, Hasenjäger, Karpinski, Klein, Kleine–Büning, Kull, Kummer, Lettmann, Lickteig, Mazzanti, Mundici, Nökel, Ottmann, Priese, Rehbold, Richter, Scarpellini, Schinzel, Schwank, Schwichtenberg, Siefkes, Sieg, Slaby, Specker, Sperschneider, Spreen, Stahl, Thiemt, Thomas, Ullrich, Verbeek, Volger, Wagner, Wegener

   Springer Lecture Notes in Computer Science, vol.270, 1987, pp.X+442.

6. **CSL'87.**

   (With H.Kleine Büning, M.M.Richter)

   Proc. *First Workshop on Computer Science Logic.* Karlsruhe 1987.
   Springer Lecture Notes in Computer Science, vol.329, 1988, pp.VI+346,
   ISBN 3-540-50241-6.

7. **CSL'88.**

   (With H.Kleine Büning, M.M.Richter)

   Proc. *Second Workshop on Computer Science Logic.* Duisburg 1988.
   Springer Lecture Notes in Computer Science, vol.385 ,1989, pp.VI+399,
   ISBN 3-540-51659-X.

8. **CSL'89.**

   (With H.Kleine Büning, M.M.Richter)

   Proc. *Third Workshop on Computer Science Logic.* Kaiserslautern 1989.
   Springer Lecture Notes in Computer Science, vol.440 ,1990, pp.VI+437,
   ISBN 3-540-52753-2.

9. **Computer Science Logic.**

   (With H.Kleine Büning, M.M.Richter, W.Schönfeld)

   Proc. *Fourth Workshop on Computer Science Logic.* Heidelberg 1990.
   Springer Lecture Notes in Computer Science, vol.533 ,1991, pp.VII+399,
   ISBN 3-540-54487-9

10. **Computer Science Logic.** (With H.Kleine Büning, G. Jäger, M.M.Richter)

    Proc. *Fifth Workshop on Computer Science Logic.* Bern 1991.
    Springer Lecture Notes in Computer Science, vol.626 ,1992, pp.VIII+428.

11. **Computer Science Logic.** (With H.Kleine Büning, G.Jäger, S.Martini, M.M.Richter)

Selected Papers from CSL'92, San Miniato (Pisa), 1992.
Springer Lecture Notes in Computer Science, vol.702, 1993, pp.VIII+439, ISBN 3-540-56992-8.

12. **Computer Science Logic.** (With Y.Gurevich, K.Meinke)

    Selected Papers from CSL'93, Swansea (GB), 1993. Contributions by A. Aiken, S. Ambler, M. Baaz, J. A. Bergstra, I. Bethke, A. Blass, K.J. Compton, C. Coquand, A. Goerdt, A. Gomolko, E. Graedel, M. Grohe, Y. Gurevich, Y. Hirshfeld, J. Huggins, U. Kamps, D. Kozen, M. Kwitakowski, J.A. Makowsky, A. Malstroem, J. Marcinkowski, M. Measor, R. Milner, C.H.L. Ong, Y.B.Pnueli, A. Ponse, C. Raffali, E. Ritter, W. Sieg, I. A. Stewart, R. Uceda-Sosa, M. Vardi, S. Wainer, E. Wimmers, R. Zach
    Springer Lecture Notes in Computer Science, vol.832, 1994, pp.336, ISBN 3-540-58277-0,0-387-58277-0 .

13. **Specification and Validation Methods.**

    Proc. *Fifth International School for Computer Science Researchers* , Lipari (Sicily), 1993. ISBN 0-19-8-553854, pp.460.
    Contributions by: K.Apt, E.Börger, W.Damm, Y.Gurevich, J.Huggins, B.Josko, Z.Manna, A.Pnueli, D.Rosenzweig, D.Russinoff, R.Salamone, R.Schlör, C.Wallace.
    Oxford University Press, 1995

14. **Formal Methods for Industrial Applications. Specifying and Programming the Steam-Boiler Control**.

    (With J.-R.Abrial, H.Langmaack)

    Springer LNCS State–of–the–Art Survey, vol. 1165, 1996, pp. VIII+511 with CD-ROM. ISSN 0302-9743, ISBN 3-540-61929-1. Contributions by J-R Abrial, M. Addibpour, C. Andriessens, C. Beierle, M. Bidoit, E. Boerger, R. Buessow, M. Butler, T. Cattel, C. Chevenier, P. Csaba Oelveczky, J. Cuellar, P. Dauchy, I. Durdanovic, G. Duval, A. Gargantini, M-C Gaudel, U. Glaesser, T.A. Henzinger, J. Hooman, W.JuAn, K. Khoury, P. Kosiuczenko, H. Langmaack, G. Leebe, Y. Ledru, F. Lesske, T. Lindner, A. Loetzbeyer, N. Lynch, S. Merz, A. Morzenti, C. Pellen, M-L Potet, A. Ravn, E. Riccobene, J. Ryckbosch, M. Schenke, I. Schieferdecker, C. Schinagl, E. Sekerinski, K. Sere, E.Tyugu, L. XiaoShan, J. Vitt, M. Weber, I. Wildgruber, A. Willig, M. Wirsing, H. Wong-Toi

15. **J.UCS Special ASM Issue I**

    Journal of Universal Computer Science, April 1997. Contributions by W. Ahrendt, A. Blass, E. Boerger, S. Dexter, P. Doyle, Y. Gurevich, K. Kwon, G. Schellhorn, N. Soparkar, M. Spielmann, K. Stroetmann, C. Wallace. DOI 10.3217/jucs-003-04. See

http://www.iicm.edu/jucs_3_4

16. **J.UCS Special ASM Issue II**

    Journal of Universal Computer Science, May 1997. Contributions by L. Araujo, E. Boerger, T. Gaul, P. Kutter, L. Mearelli, A. Pierantonio, K. Winter, W. Zimmermann. DOI 10.3217/jucs-003-05. See

    http://www.iicm.edu/jucs_3_5

17. **Architecture Design and Validation Methods**

    Contributions by E. Börger, J.T. Buck, R. Camposano, G. De Micheli, H. Eveking, L. Lavagno, R.H.J.M. Otten, A. Sangiovanni-Vincentelli, W. Schulte, A. Seawright, E. M. Sentovich, H.-J. Wunderlich. Springer-Verlag, pp.X+357, ISBN 3-540-64976-X, 2000.

18. **J.UCS Special Requirements Engineering Issue on The Light Control Case Study.** (With R.Gotzhein)

    Journal of Universal Computer Science, vol.6, no.7 (2000) with contributions by S.Queins, G. Zimmermann, M. Becker, M. Kronenburg, C.Peper, R. Merz, J. Schaefer; E.Boerger, R. Gotzhein; E.Boerger, E. Riccobene, J.Schmid; A. de Groot, J. Hooman; C. Heitmeyer, R. Bharadwaj; M. Kronenburg, C.Peper; G. Smith, C. Fidge; J.M.Thompson, M.W.Whalen, M. O. E. Heimdahl. pp. 586–757. See

    http://www.jucs.org/jucs_6_7

19. **J.UCS Special Issue on Abstract State Machines.** (With U. Glässer)

    Journal of Universal Computer Science, vol.7, no.11 (2001), ISSN 0948-695x, Online edition ISSN 0948-6968, see

    http://www.jucs.org/jucs_7_11

    Contributions by J.N. Amaral, E. Börger, R. Eschbach, A. Gargantini, U. Glässer, R. Gotzhein, Y. Gurevich, S. Nanchen, A. Prinz, E. Riccobene, K. Schellhorn, J. Schmid, D. Sona, R. Stärk, N. Tillmann, G. Tremblay, M. von Loewis, C. Wallace

20. **Abstract State Machines 2003–Advances in Theory and Practice.** (With A. Gargantini and E. Riccobene)
    Springer LNCS 2589, 2003, pp. XII+427, Proc. of 10th International Workshop on Abstract State Machines, Taormina (Sicily), March 2003

21. **Proc. 12th International Workshop on Abstract State Machines ASM'05.** (With D. Beauquier and A. Slissenko)
Published by Université Paris 12, March 2005, pp. 424

22. **Theoretical Computer Science.** Guest Editor of Special Issue on *Abstract State Machines and High-Level System Design and Analysis.*
Vol.336, nos. 2-3, 26 May 2005, Elsevier, Amsterdam, ISSN 0304-3975.
See http://www.sciencedirect.com/science/issue/5674-2005-996639997-594598

23. **Fundamenta Informaticae.** (With A. Slissenko)
Guest Editor of Special Issue 77 (1-2) 2007, pp. 1-185, with *Selected Papers from ASM'05.* IOS Press Amsterdam. Contributions from J-R Abrial and S. Hallerstede, R. Banach and C. Jeske and M. Poppleton and S. Stepney, R. Farahbod and V. Gervasi and U. Glässer, C. K. Fan Tang and E. Ternovska, S. Graf and A. Prinz, C. Seshadhri and A. Seth and S. Biswas

24. **J.UCS Special Issue on ASM'07.** (With A. Prinz)
Guest Editor of Special Abstract State Machines Issue of Journal of Universal Computer Science (revised selected best papers from ASM'07, Grimstadt, Norway), vol.14, issue 12, 2008, pp.1921-2107. ISSN 0948-695x, Online edition ISSN 0948-6968.
With contributions from M. Altenhofen and A. Friesen and J. Lemcke, D. Batory and E. Börger, G. Bella, E. B̀orger and A. Prinz, A. Gargantini and E. Riccobene and P. Scandurra, M. Ouimet and K. Lundqvist, G. Schellhorn, A. Slissenko and P. Vasilyev.

25. **Abstract State Machines, B and Z. (Proc. First International Conference, ABZ 2008, London, UK, September 16-18, 2008.)** (With P. Boca, M. Butler, J. Bowen)
Springer LNCS 5238, 2008, pp. XII + 382. ISBN: 978-3-540-87602-1

26. **Advances in Software Engineering** (With A. Cisternino)
Springer LNCS 5316, 2008, pp. VII+277, ISBN 978-3-540-89761-3. With Contributions from L. Baresi, D. Batory, B. Benatallah, D. Bianculli, E. Börger, G. Galilei, V. Gervasi, C. Ghezzi, D. Gollmann, S. Guinea, M. Jackson, R. Johansen, H. R. Motahari Nezhad, P. Sestoft, S. Spangenberg, P. Spoletini, B. Thalheim, S. Vaucouleur.

27. **Formal Aspects of Computing Journal Special Issue on ABZ08.** (Guest editor with Jonathan P. Bowen, Michael Butler, Michael Poppleton)
Revised selected best papers from the first ABZ conference, 2008, London, UK, 2010.
Volume 23, Number 1, January 2011
With contributions from J. Julliand, P.-A. Masson, R. Tissot and P.-C.

Bué; A. Cavarra; J. Derrick, S. North and A. J. H. Simons; S. Wright; S. Bäumler, G. Schellhorn, B. Tofan and W. Reif; R. Banach; S. Hallerstede.

10 Referee

1. **Zentralblatt der Mathematik**, 1972-1985.
2. **Mathematical Reviews**, 1972-1985.
3. **DFG** *Schwerpunktprogramm Deduktion*, 1992-1996.

11 Member of Editorial Board

1. **APL** *Annals of Pure and Applied Logic*, 1983-1989.
2. **AML** *Archive for Mathematical Logic*, 1988-1993.
3. **ZML** *Zeitschrift für Mathematische Logik und Grundlagen der Mathematik*, 1987-1992.
4. **MLQ** *Mathematical Logic Quarterly*, 1993-1997.
5. **JFCS** *International Journal of Foundations of Computer Science*, 1989-1995.
6. **J.UCS** *The Journal for Universal Computer Science*, 1994-

12 Member of Program Committees

1. *European Summer Meeting and* **Logic Colloquium** *of the Association for Symbolic Logic*, Aachen, Germany, 17.-22.7.1983.
2. **FCT'83.** *Foundations of Computation Theory*, Borgholm, Sweden, 21.-27.8.1983.
3. **MFCS'86.** *Mathematical Foundations of Computer Science*, Bratislava, CSSR, 1986.
4. **STACS'89.** Paderborn, Germany, 1989.
5. **CSL'87,'88,'89,'90,'91,'92,'93,'94.** *Computer Science Logic* Karlsruhe (D), Kaiserslautern (D), Duisburg (D), Heidelberg (D), Bern (CH), San Miniato (Pisa,I), Swansea (GB), Kazimierz (PL).
6. **PDK'91.** *International Workshop on Processing Declarative Logic*, Kaiserslautern, Germany 1.-3.7.1991.

7. **ITI'91,'92,'93.** 13th,14th,15th International Conference on *Information Technology Interface*, Dubrovnik-Cavtat, Pula, Yugoslavia.

8. **LICS'92.** *Logic in Computer Science*, Santa Cruz/California 22.-25.6.1992.

9. **The 2nd International B Conference**, Montpellier, France 22.-24.4.1998.

10. **5th International Workshop on Abstract State Machines**, Annual GI Conference, University of Magdeburg, September 21-22, 1998.

11. **FM'99. World Congress on Formal Methods in Development of Computing Systems**, Toulouse, September 20-24, 1999.

12. **6th International Workshop on Abstract State Machines**, Toulouse, September 20-24, 1999.

13. **7th International Workshop on Abstract State Machines**, Monte Verita (Swiss Federal Institute of Technology conference center), Ticino, Switzerland, March 2000.

14. **RULE 2000**. First International Workshop on Rule-Based Programming, organized by Nachum Dershowitz and Claude Kirchner and affiliated with PLI2000, September 19, 2000, Montreal, Canada.

15. **8th International Workshop on Abstract State Machines**, Las Palmas de Gran Canaria, Canary Islands, Spain, Feb. 19-23, 2001.

16. **ZB2002 Conference**, Grenoble, France, January 23-25, 2002.

17. **JCCS'2001** (XXI Conferencia Internacional de la Sociedad Chilena de Ciencia de la Computacin), Chile, 5.-9.11.2001.

18. **10th International Workshop on Abstract State Machines**, Taormina (Sicily), March 3-7, 2003 (Co-chair).

19. **ZB2003 Conference**, Turku/Finland, June, 2003.

20. **2nd INTERNATIONAL WORKSHOP ON REFINEMENT OF CRITICAL SYSTEMS: METHODS, TOOLS AND DEVELOPMENTS**

    RCS'2003, June 3, 2002, Turku, Finland (in conjunction with the 3rd International Conference of B and Z Users, 4-6 June 2003). Chairs: Traian MUNTEAN (University of Marseilles) and Kaisa SERE (Abo Academi).

21. **ST.EVE**. State-oriented vs. Event-oriented thinking in Requirements Analysis, Formal Specification and Software Engineering. Satellite Workshop at FM'03, Pisa, Sept. 13, 2003.

22. **CERE'03** (COMPARATIVE EVALUATION IN REQUIREMENTS ENGINEERING), Monterey Bay, California, USA, September 8th, 2003, co-located with IEEE International Requirements Engineering Conference.

23. **11th International Workshop on Abstract State Machines**, Halle (Germany), 2004.

24. **ICFEM2004** (Sixth International Conference on Formal Engineering Methods), Seattle 2004.

25. **COCV 2005** (Workshop Compiler Optimization Meets Compiler Verification). Edinburgh April 3, 2005.
Organized by Jens Knoop, George Necula, W. Zimmermann.
See http://www.complang.tuwien.ac.at/knoop/COCV2005/cocv2005.html.

26. **12th International Workshop on Abstract State Machines**, Paris (France), 2005 (Co-chair).

27. **14th International Workshop on Abstract State Machines** Grimstad (Norway), 2007 (Co-chair).

28. **Third International Computer Science Symposium in Russia**, Applications and Technology Track. Moscow (Russia), June 2008.

29. **ABZ 2008 Conference** (Conference Chair and ASM'08 Program Chair). BCS London Offices, Covent Garden, London, UK, September 16-18, 2008.

30. **VSTTE'08 Conference**, Toronto, October 2008.

31. **Workshop on Business Process Modeling and Realization** at 39th Annual Meeting of GI (German Computer Science Society), Lübeck (Germany) 2.10.2009.

32. **4th International Workshop on Semantics in Data and Knowledge Bases (SDKB2010)**, Bordeaux, July 5, 2010, co-located with ICALP 2010.

33. **ABZ Conference**.

    - 2008: London, UK, September 16-18
    - 2010: Orford, Quebec, Canada, February 23-25
    - 2012: Toulouse, France, June 2-6
    - 2014: Pisa, Italy, June 18-21
    - 2016: Linz, Austria, May 23-27
    - 2018: Southhampton, UK, June 4-8
    - 2020: Ulm, D (Virtual meeting, joint with ABZ2021)
    - 2021: Ulm, D, June 7-11

13 Member of International Bodies

1. **DIN AG 17** in ISO/IEC JTCI SC22 WG 17 (International Standardization Organization Working Group 17 on Prolog standardization) 1990—1993.

2. **ProCoS affiliate** (Working Group 8694 *Provably Correct Systems* within ProCoS II Basic Research project 7071) 1994—1995.

3. **International School for Computer Science Researchers** (Lipari, Sicily), member of the Board of Directors 1989—1994, 1995—2000, 2000—2005.

4. Co-Founder of *European Association for Computer Science Logic* and first **EACSL President** 1992—1997.

5. **LICS Organizing Committee**, 1994—1997.

6. Member of the Board of Directors of **Associazione Italiana di Logica e sue Applicazioni** , elected for 1993—1996.

7. Member of Vorstand der **Fachgruppe Logik in der Informatik** der GI, elected for 1993—1996.

8. Member of **IFIP Working Group 2.2** (1997-2010), Member Emeritus since 2010.

9. Member of **IFIP Working Group 1.3** 2000-2005, Member Emeritus since 2005.

10. Member of **VSTTE Working Group on Theory**, December 2005 – July 2006.

11. Member of Academia Europaea (Elected 2010)

14 Organization of Conferences, Workshops, Symposia, Colloquia, Schools

1. Kolloquium **Fragen der Philosophischen Grundlegung der Mathematik.**

   (With D.Barnocchi, F.Kaulbach)

   Universität Münster i.W., Germany, Winter Term 1978/79. Proc.*Zur Philosophie der mathematischen Erkenntnis*, Würzburg 1981.

2. Conference **Anwendungen der Rekursionstheorie in der Logik.**

   (With W.Oberschelp, M.M.Richter) Aachen, Germany, 24.-29.9.1979

3. Workshop **Grundlagen der theoretischen Informatik.**

   (With M.Karpinski, H.Kleine Büning, L.Priese).

   Universität Paderborn, Germany, 10.-16.9.1982.
   Report by P.van Emde Boas in: Bull.EATCS 19,1983, 61-66.
   Proc. Bericht Nr.13 (L.Priese, ed.), Reihe Theoretische Informatik, March 1983, pp.V+265

4. Symposium **Rekursive Kombinatorik.**

   (With G.Hasenjaeger, D.Rödding)

   Universität Münster i.W., Germany, 23.-28.5.1983. Proc. *Logic and Machines: Decision Problems and Complexity*, Springer LNCS vol.171

5. Special Section **Logic versus Computer Science** in *European Summer School and Logic Colloquium of ASL.*

   Universität Aachen.Germany, Proc. *Logic Colloquium, Aachen 1983, Part II*, Springer LNM vol.1104

6. Meeting **Rekursive Kombinatorik**

   (With W.Oberschelp, M.M.Richter)

   Math.Forschungsinstitut Oberwolfach, Germany, 16.-22.10.1983. Report by A.Brüggemann in: Tagungsberichte 45/1983, pp.1-13.

7. Postgraduate School **Course on Computation Theory.**

   Unesco-Course, held at CISM, Udine (Italy) 23.9.-6.10.1984.
   Lectures by K.Ambos-Spies, K.Apt, E.Börger, P.Flajolet, Y.Gurevich, M.Karpinski, P.Martin-Löf, E.Shamir, E.Specker, M.Vardi.
   Report by M.Vardi in Bull.EATCS 25,1985, pg.104.
   Proc.*Trends in Theoretical Computer Science*, Computer Science Press 1988.

8. Advanced Summer School **Informatica Teorica.**

   (With P.Young, University of Washington at Seattle)

   Scuola Matematica Interuniversitaria, Cortona (Italy) 5.7.-1.8.1987

9. Workshop **La Logique dans L'Informatique**

   (With A.Preller)

   CIRM, Luminy, Marseille (France) 20.6.-24.6.1988.
   Contributions by A.Blass, E.Börger, A.Chandra, E.Chouraqui, P.Clote, A.Colmerauer, B.Courcelle, P.Curien, L.Esakia, D.Gabbay, Y.Gurevich, E.Grandjean, D.Harel, F.Maurras, D.Mundici, M.Okada, R.Parikh, D.Perrin, K.Perry, D.Seese, V.Semenov.
   Report by D.Mundici in Bull.EATCS 36,1988, pg.275

10. Advanced Summer School **Informatica Matematica**
    (With N.D.Jones, University of Copenhague, DIKU)
    Scuola Matematica Interuniversitaria, Cortona (Italy) 9.7.-30.7.1989

11. International Workshop **Computer Science Logic** (CSL)
    With H.Kleine Büning and M.M.Richter

    CSL'87 Karlsruhe (D). Springer LNCS vol.329 (1988), pp.VI+346

    CSL'88 Duisburg (D). Springer LNCS vol.385 (1989), pp.VI+399

    CSL'89 Kaiserslautern (D). Springer LNCS vol.440 (1990), pp.VI+437

    CSL'90 Heidelberg (D). Springer LNCS vol.533 (1991), pp.VIII+399
    (Cooperation by W.Schönfeld)

    CSL'91 Bern (CH). Springer LNCS vol.626 (1992), pp. VIII+428
    (Cooperation by G.Jäger)

    CSL'92 San Miniato (Pisa, I). Springer LNCS vol.702 (1993), pp.VIII+439
    (Cooperation by G.Jäger, S.Martini)

    CSL'93 Swansea (GB). Springer LNCS vol. 832 (1994), pp.VIII+336
    (Cooperation by K.Meinke)

12. Dagstuhl Seminar **Computer Science Logic**
    (With Y.Gurevich, H.Kleine Büning, M.M.Richter)
    Schloss Dagstuhl, Germany, 13.-17.7.1992

13. **International Schools for Computer Science Researchers** (With A. Ferro, Università di Catania)

    1993 Specification and Validation Methods for Programming Languages and Systems.

    Lipari (Sicily) 21.6.-3.7.1993. Lectures by K.Apt, E.Börger, W.Damm, M.Fourman,Y.Gurevich, A.Pnueli.
    Report by Orna Bernholtz in Bulletin of the EATCS 51, 1993, 66-68.
    see Proc. *Specification and Validation Methods* with contributions by the lecturers and by J.Huggins, B.Josko, Z.Manna, D.Rosenzweig, D.Russinoff, R.Salamone, R.Schloer, C.Wallace. Oxford University Press, 1995

    1997 Architecture Design and Validation Methods.

    Lipari (Sicily) 23.6.-5.7.1997. Lectures by Egon Börger, Raul Camposano, Giovanni De Micheli, Hans Eveking, Zohar Manna, Ralph Otten, Alberto San Giovanni Vincentelli.
    See the book *Architecture Design and Validation Methods*, edited by E. Börger, Springer Verlag Heidelberg, 1999

2002 Software Technology.

Lipari (Sicily) July 1-13, 2002. Lectures by Jean-Raymond Abrial, Egon Börger, David Garlan, Yuri Gurevich, Bertrand Meyer, Tom Ostrand, Elvinia Riccobene, Clemens Szyperski, Elaine Weyuker.

2007 Advances in Software Engineering.

Lipari (Sicily), July 8–21, 2007. Lectures by D. Batory, B. Benatallah, D. Bjoerner, E. Börger, C. Ghezzi, D. Gollmann, P. Sestoft, F. Spanachi. See E. Börger and A. Cisternino (Eds): *Advances in Software Engineering*, Springer LNCS 5316 (2008).

14. Dagstuhl Seminar **Methods for Semantics and Specification**

    (With J.-R.Abrial and H.Langmaack)

    Schloss Dagstuhl, Germany, 4.-9.6.1995, see Dagstuhl–Seminar–Report 117 and Proc. *Formal Methods for Industrial Applications. Specifying and Programming the Steam-Boiler Control.* Eds. J.-R.Abrial, E.Börger, H.Langmaack. Springer LNCS State–of–the–Art Survey, vol. 1165, 1996, pp. VIII+511 with CD-ROM.

15. Dagstuhl Seminar **Practical Methods for Code Documentation and Inspection**

    (With D. L. Parnas and P.K.Joannou)

    Schloss Dagstuhl, Germany, 12.-16.5.1997.

16. Dagstuhl Seminar **Requirements Capture/Documentation/Validation**

    (With Dave Parnas, McMaster University/CAN, Bärbel Hörger. Daimler-Benz Ulm/D, Dieter Rombach, Universität Kaiserslautern/D)

    Schloss Dagstuhl, Germany, June 14-18, 1999

17. **Festkolloquium** in honor of Yuri Gurevich, on the occasion of his 60th birthday.
    14th International Computer Science Logic Conference, Fischbachau (Munich), Germany, 24.8.2000, with invited lectures by Andreas Blass (U Michigan, Ann Arbor, USA), Egon Börger (U Pisa, Italy), Yuri Gurevich (Microsoft Research, Redmond, USA), Wolfram Schulte (Microsoft Research, Redmond, USA), Saharon Shelah (Hebrew U, Jerusalem, Israel), Moshe Vardi (Rice U, Houston, USA). See Springer LNCS 1862

18. *I*nternational Summer School **Formal Methods for Engineering of Software.**

    (with Furio Honsell and Simone Martini, U Udine, Italy)

CISM, Udine (Italy) 24.-28.9. 2001, with courses by Jean-Raymond Abrial (Marseille, France), Egon Börger (U Pisa, Italy), Wolfram Büttner (Siemens Research, Munich, Germany), Yuri Gurevich (Microsoft Research, Redmond, USA), Furio Honsell (U Udine, Italy), Peter Gorm Larsen (IFAD, Odense, Danemark), Shankar (SRI, Palo Alto, USA).

19. Dagstuhl Seminar **Theory and Applications of Abstract State Machines**

    (With Andreas Blass, University of Michigan at Ann Arbor, and Yuri Gurevich, Microsoft Research Redmond)

    Schloss Dagstuhl, Germany, March 4-8, 2002.
    See the Report at http://www.dagstuhl.de/02101/

20. **ASM 2003. 10th International Workshop on Abstract State Machines**

    (With Elvinia Riccobene, U Catania). Taormina (Sicily), March 3-7, 2003. Proc. Springer LNCS 2589.

21. **ASM 2005. 12th International Workshop on Abstract State Machines** (With Anatol Slissenko, U Paris 12). Paris (France) March 8-11, 2005. Selected papers in the special issue 77 (1-2), 2007, of *Fundamenta Informatica*.

22. **Pisa Workshop on Open Source ASM Tools**. Department of Computer Science, University of Pisa, 26.-27.1.2007. Presentation of CoreAsm (Vancouver/Pisa), AsmM (Bergamo/Milan), TASM (MIT), RealTimeASM (Paris 12), AML (Oxford).

23. **ASM 2007. 14th International Workshop on Abstract State Machines** (With Andreas Prinz). Grimstad (Norway) June 7-9, 2007. Selected revised papers in the special issue 14 (12) of *Journal of Universal Computer Science*, 2008, see http://www.jucs.org/jucs_14_12

24. **ABZ Conference** (With M. Butler, U Southhampton, and J. Bowen, London South Bank U., and P. Boca, London). London, September 2008. See Proc. in Springer LNCS 5238 (2008) and special issue of *Formal Aspects of Computing Journal*, Volume 23, Number 1, January 2011.

25. **Correct Software in Web Applications** (With Klaus-Dieter Schewe, Bruno Buchberger, Andreas Prinz, Bernhard Thalheim)
    European Science Foundation Exploratory Workshop, Hagenberg (Linz) Spetember 26-28, 2011.

15 Talks Fall 1971 – Summer 1989 (Logic and Complexity)

1. **A new method for the construction of reduction classes in first-order classical predicate logic.**
   Laboratorio di Cibernetica, CNR, Arco Felice (Napoli). Sept. 1971.

2. **Entscheidungsprobleme für Klassen von Kromformeln.**
   Mathematische Logik, Math. Forschungsinstitut Oberwolfach, 16.04. - 22.04.1972 (s. Tagungsberichte 16 (1972) 2 - 3.)

3. **Problemi di decisione per calcoli logici ed automi.**
   Gruppo di Cibernetica e Logica Matematica, Università di Napoli, Febr. 1973.

4. **Problemi di decisione per la logica dei predicati e loro rapporto con la logica dei calcolatori.**
   Istituto di Matematica, Università di Genova, 08.03. - 09.03.1973.

5. **Per una teoria delle fallacie dal punto di vista della logica simbolica.**
   Goethe-Institut, *Associazione Filosofica Ligure,* Genua, 07.03.1973.

6. **Reduktion des Entscheidungsproblems auf Klassen von Kromformeln mit einer Prädikatenkonstanten und Funktionszeichen.**
   Mathematische Logik, Math. Forschungsinstitut Oberwolfach, 08.04. - 14.04.1973 (s. Tagungsberichte 13 (1973) 9).

7. **The undecidability of $AE^{\infty}A$-formulae with binary disjunctions.**
   Logic Colloquium, Bristol, 16.07. - 21.07.1973. (s. abstract in: The Journal of Symbolic Logic 39 (1974) 412 - 413).

8. **Das Problem der Begründung der Mathematik bei Frege im Lichte des heutigen Standes der mathematischen Grundlagenforschung.**
   Invited Lecture, *Arbeitstagung über Freges Bedeutung für die Entstehung und heutige Gestalt der mathematischen Grundlagenforschung,* Bad Homburg, 08.12. - 09.12.1973.

9. **Principi euristici ed intelligenza artificiale.**
   Invited Lecture, *Il futuro della mente,* Perugia, 07.12. - 09.12.1973.

10. **Die Komplexität einiger prädikatenlogischer Probleme in der Kleene-Mostowski-Hierarchie.**
    Mathematische Logik, Math. Forschungsinstitut Oberwolfach, 21.03. - 27.03.1974 (s. Tagungsbericht 17, 1974, 9 - 10).

11. **Philosophie der Mathematik und das Problem der Begründung bei Frege im Lichte gegenwärtiger mathematischer Grundlagenforschung.**
Leibniz-Gesellschaft, Hannover, 29.04.1974.

12. **Kompliziertheit logischer Entscheidungsprobleme.**
Mathematisches Institut, Technische Universität Hannover, 30.04.1974.

13. **Ein einfacher Beweis für die Kreativität der Prädikatenlogik.**
Institut für math. Logik und Grundlagenforschung, Universität Münster, Mai 1974.

14. **Ein einfacher Beweis für die Kreativität formaler Systeme.**
Institut für angewandte Informatik und formale Beschreibungsverfahren, Universität Karlsruhe, 10.05.1974.

15. **Elementary proof of the unsolvability of some standard algorithmic problems.**
Intern. Summer Institute and Logic Colloquium, Kiel 17.07. - 03.08.1974 (s. abstract in: The Journal of Symbolic Logic 41 (1976) 263 - 264).

16. **Einige formale Systeme zur Berechenbarkeit von Funktionen.**
- Mathematisches Institut, Universität Tübingen, 09.10.1974.
- Institut für Mathematik, Technische Hochschule Aachen, 15.10.1974.

17. (a) **Complessità di modelli.**
(b) **Complessità di metodi di decisione.**
(c) **Complessità di problemi di decisione di classi di espressioni.**

Invited Lectures, *Coloquio sobre logica Simbolica, Centro de Calculo de la Universidad Complutense,* Madrid, 19.02. - 21.02.1975.

18. **On interpretations of register machine programs with applications for decision problems.**
Incontro su complessità di calcolo, codici e liuguaggi formali, Laboratorio di Cibernetica, CNR, Arco Felice, Neapel, 13.03. - 14.03.1975.

19. **Concetti di semplicità e di riducibilità di sistemi per l'elaborazione di informazioni.**
Seminario di Storia e Filosofia della Scienza, Universität Florenz, 18.04.1975.

20. **Metodi di riduzione tra calcoli logici e sistemi combinatori.**
Logik Kolloquium, Universität Florenz, 19.04.1975.

21. **Sur les problèmes de décision pour les machines de Minsky, les systèmes semithueiens et les grammaires de type zéro.**
Seminaire international d'été et colloque international de logique, Clermont-Ferrand, 15.07. - 26.07.1975 (s. abstract in: The Journal of Symbolic Logic 42 (1977) 128).

22. (a) **Die Erarbeitung des Begriffs der formalen Sprache.**

    (b) **Die Rolle der formalen Sprachen in der Informatik und Linguistik.**

    Landesinstitut für schulpädagogische Bildung in Düsseldorf, Abteilung III für Mathematik und Naturwissenschaften, Landesstelle MNU, Recklinghausen, 02.10. - 03.10.1975.

23. **Eine einfache Methode zur Bestimmung der Unlösbarkeitsgrade der Entscheidungsprobleme kombinatorischer Systeme und formaler Sprachen.**
    Automatentheorie und formale Sprachen, Math. Forschungsinstitut Oberwolfach, 23.11. - 29.11.1975 (s. Tagungsbericht 46, 1975).

24. **Die Unlösbarkeit des zehnten Hilbertschen Problems.**
    Fachbereich Mathematik, Universität Osnabrück, 12.11.1975.

25. **Komplexität kombinatorischer Entscheidungsprobleme.**
    Informatik Kolloquium, Institut für Mathematik, Technische Hochschule Aachen, 22.01.1976.

26. **Über Entscheidungsprobleme formaler Systeme: Logikkalküle, Berechenbarkeitsformalismen, Chomsky-Grammatiken.**
    Organisationseinheit Mathematik und Naturwissenschaften, Gesamthochschule Kassel, 30.01.1976.

27. **Diophantische Gleichungen: Positive Auswirkungen der Unlösbarkeit des 10. Hilbertschen Problems.**
    Habilitationskolloquium. Fachbereich Mathematik, Universität Münster, 11.02.1976.

28. **Assiomatizzazione di proprietà di programmi e problemi di decisione.**
    Institut für Informationsverarbeitung (IEI), CNR, Pisa, 01.04.1976.

29. **Darstellungen rekursiver Unlösbarkeitsgrade durch Entscheidungsprobleme formaler Systeme.**
    Mathematische Logik, Math. Forschungsinstitut Oberwolfach, 11.04. - 17.04.1976 (s. Tagungsbericht 16 (1976) 2 - 3).

30. (a) **Généralités sur les problémes de décision.**

    (b) **Utilisation des machines à registres pour le traitment des problèmes de décision.**

    Groupe d'etudes d'informatique théorique, Institut de Programmation, Université de Paris VI, 27.04.1976.

31. **Quelques réflexions sur les rapports entre la logique et l'informatique.**
Institut de Programmation, Université de Paris VI, 29.04.1976.

32. **Gedanken zur aristotelischen Irrtumslehre aus der Sicht der Berechenbarkeitstheorie.**
Institut für Philosophie, Universität Salzburg, 16.06.1976.

33. **Logische Entscheidungsverfahren für Eigenschaften von Programmen.**
Informatik Kolloquium, Institut für Informatik, Universität Stuttgart, 22.06.1976.

34. **Einige Bemerkungen zu Methoden zum Nachweis von Programmeigenschaften.**
Informatik Kolloquium, Institut für Informatik der Universität Bonn, 25.06.1976.

35. **Ein Satz über die rekursiv aufzählbare Gradkomplexität von Entscheidungsproblemen Postscher Korrespondenzklassen und formaler Sprachen.**
Institut für mathematische Logik und Grundlagenforschung, Universität Münster, 09.07.1976.

36. **Many-one degrees associated with decision problems of register machines, semi-Thue systems and single premise one-variable Post canonical forms over one-letter alphabets.**
Logic Colloquium '76, Oxford, 19.07. - 30.07.1976.

37. **Two new reduction classes in Krom formulae with predicate and function symbols.**
Logic Colloquium '76, Oxford, 19.07. - 30.07.1976.

38. **A new general approach to the theory of the many-one equivalence of decision problems for algorithmic systems.**
Invited Lecture, *Word problems in algebra,* (S. I. Adjan, W. W. Boone, G. Higman), Math. Institute, University of Oxford, Oxford, 28.06. - 30.07.1976.

39. **Über die rekursiv aufzählbare Grad-Komplexität von Klassen Postscher Korrespondenzprobleme.**
Math. Institut, Universität Linz, 31.03.1977;
Mathematische Logik, (W. Felscher, E. Specker), Math. Forschungsinstitut Oberwolfach, 24.04. - 30.04.1977 (s. Tagungsbericht 17 (1977) 2 - 3).

40. **Entscheidungsprobleme für algorithmische Systeme.**
Abteilung Informatik, Universität Dortmund, 24.05.1977.

41. **Über Entscheidungen von Programmeigenschaften mit logischen Mitteln.**
Abteilung Informatik, Universität Dortmund, 24.05.1977.

42. **Axiomatisierungen von Programmeigenschaften und Entscheidungsprobleme.**
Fachbereich Mathematik, Universität Frankfurt/Main, 27.05.1977.

43. **Sulla complessità di problemi di decisione per sistemi algoritmici.**
Corso di Informatica Teorica, Scuola Normale di Pisa, Cortona, 01.09.1977.

44. **Il problema di Cook e lo Spektralproblem.**
Corso di Informatica Teorica, Scuola Normale di Pisa, Cortona, 02.09.1977.

45. **Bemerkungen zum Erreichbarkeitsproblem für Petri Netze und Postsche Faktorenersetzungssysteme.**
Informatik Kolloquium, Universität Dortmund, 10.01.1978.

46. **Das Erreichbarkeitsproblem für Petri Netze und Entscheidungsprobleme in der Skolem-Arithmetik.**
Institut für Informatik, Universität Hamburg, 17.01.1978.

47. **Decision problems in the extended Presburger and Skolem arithmetik.**
Mathematische Logik, Math. Forschungsinstitut Oberwolfach, 02.04. - 08.04.1978.

48. **The r.e. complexity of decision problems for commutative Semi-Thue systems with recursive rule set.**
- *Mathematische Logik,* Math. Forschungsinstitut Oberwolfach, 02.03. - 08.04.1978;
- Institut für math. Logik und Grundlagenforschung, Universität Münster (Co-Autor H. Kleine Büning), 05.05.1978;
- *Intern. Mathem. Congr. Helsinki,* (Co-Autor H. Kleine Büning), 15.08. - 23.08.1978.

49. **Complexity preserving reduction methods for r.e. and for subrecursive combinatorial decision problems.**
Intercity Logic Seminar, Math. Institut, Universität Amsterdam, 21.04.1978.

50. **Bemerkung zu einem Reduktionstyp von Y. Gurevich.**
Institut für math. Logik und Grundlagenforschung, Universität Münster, 12.05.1978.

51. **The reachability problem for Petri nets and decision problems for Skolem arithmetic.**

Workshop über Petrinetze, Universität Erlangen-Nürnberg (Co-Author H. Kleine Büning), 17.05. - 19.05.1978.

52. **Hornkomplexität Boolescher Funktionen und das Cooksche Problem.**
Institut für Informatik, Universität Kaiserslautern, 26.05.1978;
Mathematische Logik, Math. Forschungsinstitut Oberwolfach (Co-Author S. O. Aanderaa), 02.04. - 08.04.1978.

53. **On the r. e. complexity of combinatorial decision problems.**
Math. Institut, Universität Oslo, 14.06.1978.

54. **Das Präfixproblem für Kromformeln mit Identität.**
Institut für Math. Logik, Universität Münster, 07.07.1978.

55. **Ein Zusammenhang zwischen dem Erreichbarkeitsproblem für Petri-Netze und dem Entscheidungsproblem einer Klasse von Formeln der Skolem Arithmetik.**
Informatik Kolloquium, Fakultät für Informatik, Universität Karlsruhe, 30.10.1978.

56. **The Reachability Problem for Petri Nets and Decision Problems in Presburger and Skolem Arithmetic.**
Invited Lecture, *5th Scandinavian Logic Symposium,* Aalborg (DK), 17.01. - 19.01.1979.

57. **Das Entscheidungsproblem für Klassen von Kromformeln mit Identität.**
Math. Logik, Math. Forschungsinstitut Oberwolfach, 22.04. - 28.04.1979.

58. **Prefix classes of Krom formulae with identity.**
6th International Congress of Logic, Methodology and Philosophy of Science, Hannover 22.08. - 29.08.1979.

59. **The reachability problem for Petri nets and decision problems for Skolem arithmetic.**
Invited Lecture, *VW-Tagung Anwendungen der Rekursionstheorie in der Logik,* RWTH Aachen, 24.09. - 29.09.1979.

60. **Horn complexity of Boolean functions.**
Komplexitätstheorie,, Math. Forschungsinstitut Oberwolfach (C. P. Schnorr, A. Schönhage, V. Strassen), 21.10. - 27.10.1979.

61. **Horn Komplexität Boolescher Funktionen und das P=NP-Problem.**
Technische Hogeschool Twente, Enschede (NL), 12.11.1979.

62. **Grenzen der Leistungsfähigkeit algorithmischer Verfahren - Zur Komplexität und Unentscheidbarkeit mathematischer Probleme.**
- Universität Osnabrück, Osnabrück, 20.11.1979;
- Universität Osnabrück, Abteilung Vechta, 27.11.1979.

63. **Reachability problem for vector addition systems and Skolem arithmetic.**
Workshop on Solvability Questions in Vector Addition Systems and Parallel Schemata, Universität Münster, 11.02. - 15.02.1980.

64. **Problemi di decisione nell' aritmetica additiva o moltiplicativa ed il problema di raggiungibilità per reti di Petri.**
Informatik Kolloquium, Istituto di Scienze dell'Informazione, Universität Pisa, 20.03.1980.

65. **On conservativity of reduction procedures.**
Mathematische Logik, Math. Forschungsinstitut Oberwolfach, 20.04. - 26.04.1980.

66. **On complexity problems for Boolean functions.**
Gesellschaft für Mathematik und Datenverarbeitung, Bonn, 29.04.1980.

67. **On the Collatz-like rational games and Post factor replacement systems.**
Restricted PCP and Equations in free Semigroups, Gesellschaft für Mathematik und Datenverarbeitung, Bonn-Birlinghofen, 27.05.1980.

68. **From the study of decision problems to complexity theory in logic and computer science.**
Invited Lecture, *Complexity in natural systems,* Florence Center for the History and Philosophy of Science, Florenz, 14.07. - 18.07.1980.

69. **On the Collatz-like rational games, Post factor replacement and commutative semi-Thue systems.**
Tagung der Deutschen Mathematiker-Vereinigung, Sektion Mathematische Logik, Dortmund, 14.09. - 19.09.1980.

70. **Aufzählbarkeit, Entscheidbarkeit und der Fall der klassischen Prädikatenlogik - Eine Einführung in die Grundbegriffe im Hinblick auf die Problematik automatischer Beweisverfahren.**
Short course: Das Beweisen mit Maschinen, Cusanuswerk, Zangberg, 24.09. - 28.09.1980.

71. **Logische Irrtumslehre im Lichte der Leibnizschen Unterscheidung zwischen ars inveniendi und ars iudicandi.**
G.-W.-Leibniz-Gesellschaft, Hannover, 15.10.1980.

72. **Entscheidungsprobleme aus der Berechenbarkeitstheorie und der Logik.**
Math. Institut, Universität Köln, 28.11.1980.

73. **On the problem of Herman/Jackowski.**
Mathematische Logik, Math. Forschungsinstitut Oberwolfach, 05.04. - 11.04.1981.

74. **Komplexität Boolescher Funktionen.**
Informatik Kolloquium, Universität Karlsruhe, 18.05.1981.

75. **Logical description of computation processes.**
Invited Lecture *Fundamentals of Computation Theory - FCT '81,* Szeged (Ungarn), 24.08. - 28.08.1981.

76. **Komplexitätsmaße für Boolesche Funktionen.**
Informatik Kolloquium, RWTH Aachen, 04.02.1982.

77. **Alle rekursiv aufzählbaren Prädikate sind exponentiell diophantisch: der Beweis von Jones/Matijasevich.**
Seminar für math. Logik und Grundlagenforschung, Universität Bonn, 19.03.1982.

78. **Problemi di decisione nella logica e nell' informatica teorica: solubilità ed insolubilità.**
Ist. di Scienze dell' Informazione, Università di Salerno, 02.04.1982.

79. **Problemi ricorsivi ma difficilmente decidibili.**
Ist. di Scienze dell'Informazione, Università di Salerno, 02.04.1982.

80. **Complessità concreta: funzioni booleane.**
Ist. di Scienze dell'Informazione, Università di Salerno, 03.04.1982.

81. **The new proof by James P. Jones and Yuri Matijasevich of the Davis-Putnam-Robinson theorem that r.e. sets are exponential diophantine.**
- *Math. Logik,* Math. Forschungsinstitut Oberwolfach, 18.04. - 24.04.1982;
- Math. Institut, Universität Osnabrück, 14.06.1982.

82. **Relations between decision problems and their logical descriptions.**
Invited Lecture *Extended Summer Research Institute,* American Mathematical Society, Cornell University, Ithaca, N.Y., 28.06. - 16.07.1982.

83. **On bounded diophantine representation of subrecursive sets.**
Extended Summer Research Institute, American Mathematical Society, Cornell University, Ithaca, N.Y., 28.06. - 16.07.1982.

84. **Decision problems in predicate logic.**
Invited Lecture, *European Logic Colloquium,* Association of Symbolic Logic, Florenz 23.08. - 27.08.1982.

85. **Undecidability versus degree complexity of decision problems for formal grammars.**
Math. Institut der Universität Utrecht, 01.10.1982;
Invited Lecture, *Workshop Grundlagen der Theoretischen Informatik,* Universität Paderborn, 11.10. - 16.10.1982.

86. **Von Entscheidungsproblemen zur Komplexitätstheorie in Logik und Informatik.**
Arbeitskreis Informatik und Philosophie, Universität Dortmund, 23.11.1982.

87. **From decision problems to problems of complexity.**
Invited Lecture, *Convegno di Storia della Logica,* S. Gimignano, 04.12. - 08.12.1982.

88. **Ein logisches Komplexitätsmass für Boolesche Funktionen.**
Math. Fakultät, Universität Bielefeld, Dez. 1982.

89. **"Undecidable" versus "Difficult do Decide": An introduction into Computational Complexity of Logical Decision Problems.**
6 hrs post-graduate course on *Foundation of Computation Theory,* (Rasiowa, Karpinski, Kirin), Inter-University Centre for Post-graduate studies, Dubrovnik, 16.01. - 29.01.1983.

90. **Complexity of logical theories: some open problems.**
Course on *Foundation of Computation Theory,* (Rasiowa, Karpinski, Kirin), Inter-University Centre for Post-graduate studies, Dubrovnik, 16.01. - 29.01.1983.

91. **Logical Decision Problems: Computational Complexity and Completeness.**
Mathematische Logik (Felscher, Schwichtenberg), Math. Forschungsinstitut Oberwolfach, 17.04. - 23.04.1983.

92. **Was verbindet Hilberts Entscheidungsproblem mit Cooks Problem, Spektralproblem und unteren Komplexitätsschranken lösbarer Entscheidungsprobleme?**
Math. Kolloquium, Universität München, 17.05.1983.

93. **Spektralproblem and Completeness of Logical Decision Problems.**
Rekursive Kombinatorik, Universität Münster, 23.05. - 28.05.1983.

94. **Fundamental Problems in Complexity Theory.**
6 hrs course Unesco College on Computer Science, CISM, Udine, 07.07. - 08.07.1983.

95. **Logical Decision Problems and Complexity of Computations.**
7th Intern. Congress of Logic, Methodology and Philosophy of Science, Salzburg, 11.07. - 16.07.1983.

96. **Scholz' Spektralproblem and Completeness Results.**
- *Rekursive Kombinatorik,* Math. Forschungsinstitut Oberwolfach, 16.10. - 22.10.1983 (s. Tagungsbericht 45 (1983) 2).
- Invited Lecture, *Logic and Philosophy of Science, today,* San Gimignano, 07.12. - 11.12.1983.

97. **Logica Matematica: Indecidibilità, Incompletezza e Complessità.**
20 hrs course, Universität Perugia, 12.03. - 30.03.1984.

98. **Determinismo, Struttara di Horn e Complessità di Funzioni Booleane.** Dipartimento di Informatica, Università Pisa, 08.03.1984.

99. **Moderne Lösungen des Hilbertschen Entscheidungsproblems.**
Math. Institut, Universität Basel, 13.04.1984.

100. **Logic and Complexity.**
Kolloquium Math. Institut, Institut für Informatik, Universität Oslo, 04.06. - 06.06.1984.

101. **Determinism, Horn structure and complexity of Boolean functions.**
Departement of Computer Science, State University of New York at Buffalo, 17.08.1984.

102. **The Spektrum Problem.**
Departement of Mathematics, Departement of Electrical Engineering and Computer Science, University of Michigan, Ann Arbor, 30.08.1984.

103. **On Complexity of Halting Problems for Machines and Logical Decision Problems.**
Departement of Computer Science, University of Washington, Seattle, 04.09.1984.

104. **Complexity relations between machine and logical decision problems.**
6 hrs course, CISM, Udine, 24.09. - 05.10.1984.

105. **PROLOG-Definierbarkeit und Komplexität rekursiver Funktionen.**

Festkolloquium aus Anlaß der 100. Wiederkehr des Geburtstages des Institutsgründers, Institut für math. Logik und Grundlagenforschung der Universität Münster, 08.02. - 09.02.1985.

106. **Komplexität logischer Entscheidungsprobleme.**
Math. Institut, Universität Münster, 26.04.1985.

107. **Complexity of logical decision problems and normal forms for PROLOG programs.**
Meeting of the Association for Symbolic Logic, Stanford University, Center for the Study of Language and Information, 08.07. - 19.07.1985.

108. **On a modular theory of automata with an application to specifications of distributed systems.**
Departement of Electrical Engineering and Computer Science, Division of Computer Science and Engineering, University of Michigan, Ann Arbor, 30.07.1985.

109. **Mathematical properties of logic programs.**
Department of Computer Science, State University of New York at Buffalo, 02.08.1985.

110. **Logical decision problems and complexity of logic programs.**
8 Lectures, *Semester on Math. Problems in Computation Theory,* Stefan Banach International Math. Center, Institute of Mathematics. Polish Academy of Sciences, Warsaw, 17.09. - 27.09.1985.

111. **Mathematische Eigenschaften von Programmen.**
Fachbereich Mathematik-Informatik der Universität-Gesamthochschule Paderborn, 05.11.1985.

112. **Logical decision problems and complexity of logic programs.**
Math. Logik, Math. Forschungsinstitut Oberwolfach (W. Felscher, H. Schwichtenberg), Tagungsber. 45/1985, pg. 2.

113. **Die Unentscheidbarkeit der Erlaubtheitsbeziehung für Datenbankanfragen in MU-PROLOG.**
Informatik-Kolloquium, Universität Dortmund, 13.02.1986.

114. **Complessità strutturale e computazionale di programmi PROLOG.**
Meeting *Complessità di algoritmi*, Università di Bologna, 10.03. - 11.03.1986.

115. **Riflessioni sul rapporto tra logica e informatica.**
Invited Lecture, *X Incontro di Logica Matematica,* Università di Siena, 02.04. - 04.04.1986.

116. **Komplexitätsbeziehungen zwischen Programmen und logischen Ausdrücken.**
Sektion Mathematik, Universität Jena, 26.04. - 01.05.1986.

117. **Entscheidungsprobleme für MU-PROLOG Programme.**
- IBM Wissenschaftliches Zentrum Heidelberg, 12.05.1986;
- Informatik Kolloquium, RWTH Aachen, 15.05.1986.

118. **The Undecidability of the Floundering Property in MU-PROLOG.**
Invited Lecture, *Church's Thesis after fifty years*, University of Utrecht, 14.06. - 15.06.1986.

119. **Entscheidungsprobleme und Komplexitätseigenschaften von Prolog Programmen.**
- Informatik Kolloquium, Universität Frankfurt, 16.06.1986;
- Informatik Kolloquium, Universität Stuttgart, 03.07.1986.

120. **Logical and Computational Complexity of Classes of Logic Programs.**
Invited Lecture, *Logica e Informatica: Nuove Tendenze ed Applicazioni*, Seminario Matematico e Dipartimento di Informatica, Università di Torino, 13.10. - 15.10.1986. (See Rend. Sem. Mat. Univ. Pol. Torino, Fascicolo Speciale 1987, Logic and Computer Sciences, 153-163.)

121. **Entscheidungsprobleme in PROLOG.**
Informatik Kolloquium, Universität Bonn, 04.11.1986.

122. **The Undecidability of the Floundering Property in MU-PROLOG.**
Conference *Math. Logik*, Math. Forschungsinstitut Oberwolfach, 19.04. - 25.04.1987. (Abstract 17/1987, pg.3).

123. **On the Equivalence of Restricted Algol-Programs and a Class of Logic Programs.**
- *Computer Science Logic* Workshop, Univ. Karlsruhe, 12.10. - 16.10.1987;
- Informatik Kolloquium, Universität Frankfurt, 17.10.1987;
- Informatik Kolloquium ETH Zürich, April 1988.

124. **Über den logikorientierten Ansatz operationaler Semantik für Modula.**
Kolloquium der praktischen Informatik, Universität Duisburg, 19.05.1988.

125. **On the Complexity of Decision Problems of Procedural Languages.**
Invited Lecture *La Logique dans L'Informatique*, CIRM, Marseille-Luminy, 20.06. - 24.06.1988.

126. **Einführung in die Berechnungstheorie - erste Erfahrungen eines COSTOC-Kurses.**
- Informatik Kolloquium, Universität Dortmund, 11.10.1988
- Informatik Kolloquium, Universität Hagen 12.10.1988
- Informatik Kolloquium, Universität Oldenburg 14.10.1988
- Informatik Kolloquium, Universität Osnabrück 15.10.1988.

127. **Komplexität von Entscheidungsproblemen in der Logik.**
Kolloquium der angewandten Informatik, Universität Wien, 31.10.1988.

128. **First Order Description of Some Programming Constructs and Complexity Questions.**
Conference *Math. Logik*, Math. Forschungsinstitut Oberwolfach, 06. - 12.11.1988, Abstract 47/1988, pp. 1 - 2.

129. **A method of minimal logical description of algorithmic processes.**
IBM Almaden Research Center, San Jose, 10.05.1989.

16 Fall 1989 – 2010 (Abstract State Machines Method)

130. **On a logical operational semantics for full Prolog.**
- Invited Lecture, *Kurt-Gödel-Kolloquium*, Universität Salzburg, 22.09. - 23.09.1989;
- Invited Lecture *CSL '89*, Universität Kaiserslautern.

131. **Complexity of Logical Decision Problems. An Introduction.**
Invited Lecture *International School of Philosophy of Science*, Trieste, 02.10. - 14.10.1989.

132. **Gurevichs dynamische Algebren und Semantik von Prolog.**
Abteilung Mathematik, Universität Jena, 09.10.1989.

133. **Eine Beschreibung von PROLOG mittels dynamischer Algebren.**
Abteilung Informatik, Universität Leipzig, 11.10.1989.

134. **Eine formale Beschreibung der Gesamtsprache PROLOG.**
Abteilung Mathematik, Humboldt Universität und Akademie der Wissenschaften, Berlin, 12.10.1989.

135. **Gurevichs dynamische Algebren: eine Anwendung für Prolog und resultierende Anwendungen in der endlichen Modelltheorie.**
Abteilung Mathematik, Universität Greifswald, 13.10.1989.

136. **A logical operational semantics for full Prolog.**
- Invited Lecture, *Logic from Computer Science* Workshop, Mathematical Sciences Research Institute (MSRI), University of Berkeley, 13.11. - 17.11.1989;
- Stanford Research Institute (SRI), Menlo Park, 20.11.1989.

137. **Computational Complexity of Logical Theories.**
10 hrs course *First International School for Computer Science Researchers,* Acireale, Sicily, 03.12.-09.12.1989.

138. **Eine logische Semantik für Prolog mit eingebauten Prädikaten.**
Informatik Kolloquium, Universität Karlsruhe, 17.01.1990.

139. **Eine neuartige logische Semantikdefinition für Programmiersprachen und ihre Rückwirkungen auf endliche Modelltheorie.**
Math. Kolloquium, Universität Heidelberg, 23.01.1990.

140. **Eine mathematische Präzisierung von Kontrollprädikaten in Standard Prolog.**
Informatik Kolloquium, Institut für Mathematik u. Informatik, Universität Bern, 30.01.1990.

141. **Ein einfaches mathematisches Modell für den DIN/ISO-Prologstandard.** *DIN Prolog Standard Komitee,* München, 09.02.1990.

142. **Eine mathematische Präzisierung der eingebauten Datenbankprädikate in Standard Prolog.**
Informatik Kolloquium, Universität Oldenburg, 15.02.1990.

143. **Ein Vorschlag zur Semantik von ISO-PROLOG.**
DIN PROLOG Standard Seminar, Bad Kohlgrub, 23.02. - 27.02.1990.

144. **Wahlverwandtschaften von Logik und Computern.**
- IBM Kolloquium, Wissenschaftliches Zentrum Heidelberg, 09.03.1990;
- IBM Entwicklungslabor Böblingen, 22.03.1990.

145. **Eine neuartige logische Methode der Semantikdefinition für wirkliche Programmiersprachen am Fallbeispiel der Gesamtsprache PROLOG.**
IBM Germany, Institut für Wissensbasierte Systeme, Stuttgart, 26.04.1990.

146. **Eine abstrakte logische Semantik für Kontroll- und Datenbankprädikate in Prolog.**
Informatik Kolloquium, Universität Osnabrück, 27.04.1990.

147. **Proposal of a Logical Prolog Semantics for ISO Prolog Standardization.**
ISO WG 17 Meeting, Vienna, 30.04. - 04.05.1990.

148. **Der DIN-Prolog Semantikvorschlag für ISO WG 17.**
Kolloquium der Angewandten Informatik, Technische Universität Wien, 04.05.1990.

149. **Angewandte Logik am Fallbeispiel der Semantik von PROLOG.**
Informatik Kolloquium, Universität Freiburg, 15.06.1990.

150. **Eine Präzisierung des call und verwandter Konstrukte in Prolog.**
Informatik Kolloquium, RWTH Aachen, 21.06.1990.

151. **A Logical Prolog Machine.**
Invited Lecture *Symposium on Logic and Computer Science,* CIRM, Marseille-Luminy, 25.06. - 29.06.1990.

152. **Application of the dynamic algebra approach to Prolog and Prolog III.**
Computer Science Department, College of Swansea, University of Wales, 02.07.1990.

153. **A logical abstract interpreter for full Prolog.**
- Computer Science Department, University of Bristol, 04.07.1990,
- Joint *Theory and Formal Methods* and *Logic Programming Seminar,* Computer Science, Imperial College, University of London, GB, 11.07.1990.

154. **Gurevich's concept of dynamic algebras and its relevance for semantics of real programming languages.**
National Physical Laboratory, Teddington, Middlesex, 09.07.1990.

155. **A method of minimal logical implementation of computation formalisms and its application to complexity questions for logical decision problems.**
Colloquium, Department of Math., Queen Mary College, University of London, 12.07.1990.

156. **Ein abstrakter logischer Interpreter für die Gesamtsprache Prolog.**
Informatik Kolloquium, Universität Passau, 17.07.1990.

157. **Anwendung von Logik auf Semantik von Programmiersprachen.**
Kolloquium der Mathematik und Informatik, Univ. Würzburg, 10.08.1990.

158. **Eine neue logische Spezifikationsmethode für die Semantik interaktiver Programmiersprachen am Beispiel der ISO/DIN Prologstandardisierung.**
IBM Germany, Entwicklungslabor Böblingen, 14.08.1990.

159. **A Logical Semantics for Dynamic Code in Prolog.**
Invited Lecture *Mathematical Foundations of Computer Science* (MFCS '90), Banska Bystrica, CSSR, 27.08.-31.08.1990.

160. **A Formal Model for Semantics of Constraint Logic Programming Systems.**
Invited Lecture *Logic and Computer Science* (LIRA), Dubrovnik, 06.09. - 09.09.1990.

161. **The Dynamic Algebra Approach to Semantics of Prolog and Prolog III.**
2 Invited Lectures *International Summer Seminar on Artificial Intelligence* (CAS), Dubrovnik, 03.09. - 07.09.1990.

162. **Une Semantique Logique pour Prolog Standard et pour Prolog III qui se base sur les algebres dynamiques de Y. Gurevich.**
- 6 hrs course Groupe de Logique et Informatique, Faculté des Sciences de Luminy, Marseille, 10.09. - 14.09.1990;
- 6 hrs course Groupe de Logique et Informatique, Université de Montpellier, 17.09. - 19.09.1990.

163. **Operational Semantics for Prolog III using Dynamic algebras.**
Computer Science Logic Workshop CSL '90, Heidelberg, 01.10. - 05.10.1990 (co-author P.Schmitt).

164. **Logical specification of sequential and parallel logic and constraint logic programming systems.**
European Computer-Industry Research Center (ECRC), München, 12.10.1990.

165. **Dynamic Algebras as Specification Tool for Implementation of High Level Programming Languages.**
3 Lectures, Institut für Informatik V, Universität Bonn, 14.10. - 20.10.1990.

166. **Eine logische Beschreibung von Prolog III als Verfeinerung von Standard-Prolog.**
Informatik Kolloquium, Universität Dortmund, 16.10.1990.

167. **Leibnizens Idee einer Universalsprache und eines allgemeinen Problemlösungskalküls im Lichte der Logikprogrammierung.**
Leibniz-Gesellschaft, Hannover, 17.10.1990.

168. **Über das Spannungsfeld zwischen Logik und Informatik.**
Kolloquium der Fakultät für Mathematik und Informatik, Universität Mannheim, 23.10.1990.

169. **Neuere Entwicklungen zur Semantik von Logikprogrammierungssystemen.** Internes Kolloquium, *IWBS,* IBM Heidelberg, 25.10.1990.

170. **Eine logische Semantik für die Gesamtsprache Prolog.**
Mathematische Logik (W. Felscher, H. Schwichtenberg, A. S. Troelstra), Mathematisches Forschungsinstitut Oberwolfach, 16.12. - 22.12.1990. Tagungsbericht 55/1990, p.2.

171. **A formal specification of the Warren Abstract Machine and its correctness proof with respect to an abstract Prolog specification.**
4 Invited Lectures to *The 3rd Logic Programming Winter School and Seminar. LOP'91.*, Brno, 28.01. - 31.01.1991.

172. **Eine Herleitung der Warren Abstract Machine aus einer abstrakten Prologspezifikation mittels dynamischer Algebren.**
IBM Germany, IWBS Stuttgart, 31.01. - 02.02.1991.

173. **On formal specification of logic programming systems using Gurevich's notion of evolving algebras.**
Department of Electrical Engeneering and Computer Science, University of Michigan, Ann Arbor, 13.03.1991.

174. **The Jones-Matijasevic proof for unsolvability of exponential diophantine equations using register machines.**
Department of Electrical Engineering and Computer Science, University of Michigan, Ann Arbor, 18.03. - 22.03.1991.

175. **A formal specification of full Prolog and related languages.**
Joint Colloquium Talk, Department of Computer Science and Department of Mathematics, University of Pennsylvania, Philadelphia, 19.03. - 21.03.1991.

176. **A simple proof of a strong form of Goedel's first incompleteness theorem using diophantine description of r.e.sets.**
Logic Seminar, Department of Mathematics, University of Michigan, Ann Arbor, 04.04.1991.

177. **An application of logic to semantics of programming.**
Department of Mathematics and Computer Science, University of Illinois, Urbana 12.04. - 13.04.1991.

178. **A formal derivation of the WAM out of a formal description of Prolog and its correctness proof.**
Logic Group, University of Indiana, Bloomington, 15.04.1991.

179. **A formal definition of Parlog.**
Theory Seminar, Dept. of Electrical Engineering and Computer Science, University of Michigan, Ann Arbor, 24.04.1991.

180. **Eine formale Spezifikationsmethode am Beispiel der Warren Abstract Machine und möglicher Erweiterungen.**
Deutsches Forschungsinstitut für Künstliche Intelligenz, Universität Kaiserslautern, 26.04. - 27.04.1991.

181. **Formal Analysis of Prolog Database Views and Their Uniform Implementation.**
Conference *Deductive Systems* (W. W. Bledsoe, G. Jäger, M. M.Richter), Mathematisches Forschungsinstitut Oberwolfach, 28.04. - 04.05.1991. Tagungsbericht 19/1991, p.7.

182. **Algebre dinamiche come metodo di specifica di sistemi di programmazione logica.**
Dipartimento di Matematica e Informatica, Università di Padova, 23.05. - 24.05.1991.

183. **Un metodo logico di definire la semantica del linguaggio intero Prolog.**
Dipartimento di Filosofia, Università di Firenze, 01.06.1991.

184. **An Analysis of Database Views and their Uniform Implementation.**
Invited Lecture, 13th International Conference on *Information Technology Interface* (ITI'91),
Dubrovnik-Cavtat, Yugoslavia, 10.06. - 14.06.1991.

185. **Correctness proof for a class of Prolog Compilers on Warren's Abstract Machine.**
Invited Lecture, 13th International Conference on *Information Technology Interface*(ITI'91),
Dubrovnik-Cavtat, Yugoslavia, 10.06. - 14.06.1991.

186. **Evolving algebras in logic programming.**
Workshop *Semantics of Programming Languages and Model Theory* (M. Droste, Y .Gurevich), Dagstuhl, 23.06. - 29.06.1991. Dagstuhl-Seminar-Report 16, pg.1

187. **Evolving algebra analysis of Prolog database views and their uniform implementation.**
Workshop *Semantics of Programming Languages and Model Theory* (M. Droste, Y. Gurevich), Dagstuhl, 23.06. - 29.06.1991 (co-author D. Rosenzweig). Dagstuhl-Seminar-Report 16, pg.2

188. **An evolving algebra semantics of Parlog.**
Workshop *Semantics of Programming Languages and Model Theory* (M. Droste, Y. Gurevich), Dagstuhl, 23.06. - 29.06.1991 (co-author E. Riccobene). Dagstuhl-Seminar-Report 16, pg.3

189. **Problems with assert, retract and abolish in Prolog.**
ISO WG 17 Meeting, Paris, 01.07. - 03.07.1991 (co-author D. Rosenzweig).

190. **A formal analysis of built-in predicates for dynamic Prolog code.**
IBM Germany, Scientific Center, IWBS Stuttgart, 04.07. - 05.07.1991.

191. **A Framework to Specify Database Update Views.**
PLILP'91 (Third International Symposium on Programming Languages Implementation and Logic Programming). Passau, 26.08. - 28.08.1991 (co-author B. Demoen).

192. **Logical Operational Semantics of Parlog: Or-Parallelism.**
Russian Conference on Logic Programming, Leningrad, 11.09. - 16.09.1991 (co-author E. Riccobene).

193. **WAM-Algebras: A Mathematical Study of Implementation.**
Russian Conference on Logic Programming, Leningrad, 11.09. - 16.09.1991 (submitted by title).

194. **A WAM Extension for Type-Constrained Logic Programming and its Correctness Proof.**
Computer Science Logic CSL'91, Bern, 07.10. - 11.10.1991 (co-author C. Beierle).

195. **A Formal specification of Constraint Logic Programming Systems.**
Conference *Theorem Proving and Logic Programming with Constraints* (H. Comon, H. Ganzinger, H. Kirchner, G. Smolka, M. Dincbas, C. Kirchner, J.-L. Lassez), Dagstuhl, 21.10. - 25.10.1991. Seminar-Report 16, pg.1.

196. **The evolving algebra approach for formal specification of logic programming systems, with particular emphasis on a formal semantics for full Prolog.**
Invited Lecture to: Special Session *Standardization of Prolog: proposals for formal semantics*, ILPS'91 (International Logic Programming Symposium), San Diego (California), 28.10. - 01.11.1991.

197. **A Formal Specification of Standard Prolog and Related Systems.**
The Baskin Center for Computer Engineering and Information Sciences, University of California at Santa Cruz, 04.11.1991.

198. **Tree algebras and their projection into Börger's stack algebras as model for Prolog.**
Quintus Company, Palo Alto, 05.11.1991.

199. **The evolving algebra approach for logic programming.**
Computer Science Department, Stanford University, Palo Alto 05.11.1991.

200. **A Correctness Proof for a Class of Prolog Compilers for the Warren Abstract Machine.**
Computer Science Department, University of Austin, 07.11. - 09.11.1991.

201. **A rational reconstruction of the WAM and its correctness proof.**
Argonne National Laboratory, Argonne (Chicago), 11.11.1991.

202. **An evolving algebra specification of Parlog and Concurrent Prolog.**
Dept. of Electrical Engineering and Computer Science, University of Michigan, Ann Arbor, 12.11.1991.

203. **Evolving algebras as formal specification tool for logic programming systems.**
Department of Computer Science, Syracuse University, Syracuse (NY), 13.11. - 15.11.1991.

204. **Evolving Algebras: A Computation Model and Specification Method.**
Computer Science Colloquium, City University of New York, Brooklyn College, New York, 18.11.1991.

205. **An evolving algebra specification of the and-or structure in Warren's Abstract Machine and its correctness with respect to Börger's Prolog Algebras.**
Seminar in *Applications of Logic and Theoretical Computer Science,* City University of New York, Graduate Center, New York, 19.11.1991.

206. **The correctness of a formally specified class of compilers on the WAM with respect to Börger's Prolog Algebras.**
Seminar in *Applications of Logic and Theoretical Computer Science,* City University of New York, Graduate Center, New York, 19.11.1991.

207. **An evolving algebra specification of constrained logic programming systems, in particular of Prolog III.**
Computer Science Colloquium, University of Leuven, Leuven, 05.12.1991.

208. **Eine neuartige logische Spezifikationsmethode für die Semantik interaktiver Programmiersprachen am Beispiel der ISO/DIN Prologstandardisierung.**
Kolloquium der Informatik, Universität Frankfurt, Frankfurt/M., 20.02.1992.

209. **Die Methode dynamischer Algebren für Korrektheitsbeweise komplexer Systeme am Beispiel von Prologcompilern auf der WAM.**
- Kolloquium der Informatik, Universität Kiel, 21.02.1992,
- Kolloquium der Informatik, Universität Bonn, 24.02.1992.

210. **Dynamische Baumalgebren für Prolog und ihre Implementierung auf dem Stack.**
IBM Germany Scientific Center, IWBS Stuttgart, 25.02. - 26.02.1992.

211. **A new methodology for specification and correctness proofs for large systems.**
Computer Science Colloquium, Univ. of Goeteborg, Goeteborg, 05.03.1992.

212. **Una specifica formale di standard Prolog e di altri sistemi di programmazione logica.**
Dipartimento di Scienze dell'Informazione, Università degli Studi di Milano, Milano, 26.03.1992.

213. **Recent results on formal specification and correctness proof for Prolog compilers on the WAM.**
First Compulog-Network Meeting on Programming Languages, Pisa, 06.04. - 07.04.1992.

214. **Logical Tools for Specification of Programming Languages.**
Conference *Mathematische Logik* (W. Felscher, H. Schwichtenberg, A. S. Troelstra), Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, 12.04. - 18.04.1992. Abstract in: Tagungsbericht 16/1992, pg.2.

215. **The method of evolving algebras for formal specification of hierarchical systems.**
Invited Lecture *XV Incontro di Logica Mathematica,* Università di Camerino, Camerino, 22.04. - 24.04.1992.

216. **Evolving Algebras and Logic Programming.**
Invited Lecture *3rd Workshop Logic and Computer Science,* CIRM, Marseille-Luminy, 15.06. - 19.06.1992.

217. **A rational reconstruction of the Warren Abstract Machine.**
4th International School for Computer Science Researchers, Acireale, Sicily, 22.06. - 03.07.1992.

218. **A new specification and correctness proof for the WAM.**
Workshop *Computer Science Logic* (E.Börger, Y. Gurevich, H.Kleine Büning, M.M.Richter), Dagstuhl, 13.07. - 17.07.1992. s.Dagstuhl-Seminar-Report 40, pg.7

219. **On the Horn complexity as measure for Boolean functions.**
Invited Lecture *4th European Summer School on Logic, Language and Information,* Workshop *Structurally Related Complexity Theory* (P. Young, Chairman), University of Essex, Colchester (GB), 20.08.1992.

220. **Complexity of logical decision problems and finite model theory.**
10 hrs course *4th European Summer School on Logic, Language and Information,* University of Essex, Colchester (GB), 17.08. - 28.08.1992.

221. **A Methodology for Proving Prolog Compilers Correct.**
INRIA Rocquencourt (Paris), 03.12.1992.

222. **Ein abstraktes prozedurales Modell der neuen Programmiersprache Gödel.**
Kolloquium der Informatik, Universität Stuttgart, 17.03.1993.

223. **Eine mathematische Einführung der neuen Programmiersprache Gödel.**
IBM Germany Scientific Center, Heidelberg, 19.03.1993.

224. **La metodologia delle algebre dinamiche: Compilazione di Prolog sulla WAM.**
Dipartimento di Mathematica, Università di Roma, 25.03.1993.

225. **Eine formale Spezifikation von OCCAM im Hinblick auf beweisbar korrekte Kompilierung auf dem Transputer.**
Fachbereich Mathematik-Informatik, Universität Paderborn, 12.05.1993.

226. **Formale Spezifikation eines beweisbar korrekten Kompilierungsschemas für Prolog auf der WAM.**
6 hrs course, Fachbereich Mathematik-Informatik, Universität Paderborn, 19.05. - 26.05.1993.

227. **Die neue Programmiersprache Gödel.**
- Informatik Kolloquium, RWTH Aachen, 01.06.1993
- Informatik Kolloquium, Universität Bonn, 02.06.1993
- Informatik Kolloquium, Universität Saarbrücken, 04.06.1993.

228. **Simple Mathematical Interpreters for OCCAM.**
Semantics of Programming Languages and Algebra, (Y. Gurevich, M. Droste) Schloß Dagstuhl 07.06. - 11.06.1993.
s. Dagstuhl-Seminar-Report 65, pg.4

229. **Evolving algebra based specification of logic programming systems.**
10 hrs course *5th International School for CS Researchers,* Lipari, Sicily, 21.06. - 03.07.1993.

230. **Full Prolog in a Nutshell.**
Poster presentation (co-author D. Rosenzweig) *10th International Conference on Logic Programming,* ICLP '93, Budapest, 21.06. - 24.06.1993.
f.D.S.Warren (Ed.): *Logic Programming (Proc.)*, MIT Press 1993, pg.832.

231. **Die Methode der dynamischen Algebren zur Spezifikation von Logikprogrammiersystemen.**
Informatik Kolloquium, Universität Dortmund, 06.07.1993.

232. **Der Klassifikationssatz von Gurevich für logische Entscheidungsprobleme.**
Fachbereich Mathematik-Informatik, Universität Paderborn, 07.07.1993.

233. **Formale Spezifikation beweisbar korrekter Kompilierung für Occam auf dem Transputer.**
Institut für Informatik, TU München, 12.07.1993.

234. **Spezifikation der Kontrollstrukturen in der Programmiersprache GOEDEL mittels dynamischer Algebren.**
Centrum für Informations- und Sprachverarbeitung, Universität München, 13.07.1993.

235. **Die Spezifikationsmethode der dynamischen Algebren. Ein sequentielles und ein verteiltes Fallbeispiel: WAM-Architektur und Transputer.**
Fachbereich Mathematik-Informatik, Universität Paderborn, 14.07.1993.

236. **Mathematische Korrektheitsbeweise fuer grosse Softwaresysteme.**
Fakultät für Mathematik und Technische Fakultät, Universität Bielefeld, 20.07.1993.

237. **The Mathematics of Set Predicates in Prolog.**
Invited Lecture *Third Kurt Gödel Colloquium*, Brno 24.-27.8.1993

238. **The methodology of evolving algebras for correctness proofs of compilation schemes: the case of OCCAM and TRANSPUTER.**
Oxford University Computing Laboratory, Programming Research Group, Oxford 9.9.1993

239. **The methodology of evolving algebras for specification and verification of large software systems.**
University of Leeds, Centre for Theoretical Computer Sciene, 10.9.1993

240. **Evolving algebras and temporal reasoning.**
Conference *Computer Science Logic*, Swansea 13.-17.9.1993

241. **The CLAM Specification and Compiler Correctness.**
co-author Rosario Salamone, Project Meeting *Modelli della Computazione e dei Linguaggi di Programmazione*, CNR (Italian Research Council), Centro Studi, Volterra 20.-22.9.1993

242. **Logic versus Logic Programming: A Model for control in the language GÖDEL.**
Workshop *Non-classical Logics in Computer Science* (V.Marek, A.Nerode, P.H.Schmitt), Schloß Dagstuhl 20.09. - 24.09.1993. cf. Seminar-Report 73, pg.8

243. **Evolving algebras for specification of logic programming systems.**
Invited Lecture *9.Workshop Logische Programmierung*,ALP/G and FG 1.2/1.1 GI, University of Hagen, 11.-13.9.1993

244. **Formale Spezifikation beweisbar korrekter Kompilierung für Occam auf dem Transputer.**
- Informatik Kolloquium, Universität Siegen, 12.10.1993
- Informatik Kolloquium, Universität Frankfurt, 13.10.1993

245. **Dynamische Algebren als Instrument zur Entwicklung sicherheitskritischer Software.**
Institut für Informatik und Gesellschaft, Universität Freiburg, 14.10.1993

246. **A formal model for the APE100 architecture viewed through the APESE language.**
Dip. di Fisica, Università di Pisa, co-author D.Rosenzweig, 28.10.1993

247. **Occam and the Transputer Instruction Set Architecture.**
Heinz Nixdorf Institut, Universität Paderborn, 16.11.1993

248. **Una specifica formale di Occam ed una prova di correttezza per uno schema di compilazione di programmi Occam sul Transputer.**
Dipartimento di Matematica, Universita di Catania, 11.1.1994

249. **A Mathematical Specification of the APE100 Architecture.**
Invited Lecture to ProCos Working Group Workshop, Lyngby-Copenhague, 18.-20.1.1994

250. **A formal specification of Occam and its compilation to the Transputer Instruction Set.**
BRICS Seminar, Department of Computer Science, University of Aarhus, 21.1.1994

251. **zCPU in APE100: A mathematical Model for ZIC and LEX.**
co-author D.Rosenzweig. Dip. di Fisica, Università di Pisa, 28.2.1994

252. **Logical tools for reliable system specification.**
Workshop *Logical Theory for Program Construction* (Jean-Pierre Finance, Stefan Jähnichen, Jacques Loeckx, Douglas Smith, Martin Wirsing), Schloß Dagstuhl 7.3. - 11.3.1994. cf. Seminar-Report 84, pp.33-34.

253. **The primary model for Occam.**
Informatikkolloquium, Universität Oldenburg, 21.3.1994

254. **The compilation chain in the APE100 parallel architecture.**
Kolloqium Heinz Nixdorf Institut, Universität Paderborn, 24.3.1994

255. **Evolving algebras as a tool for mathematical analysis of distributed algorithms. The example of Lamport's Bakery Algorithm.**
Siemens Corporate Research ZFE, München, 5.5.1994

256. **Evolving algebras as a tool to describe dynamics in formal grammars.**
Centrum für Informations- und Sprachverarbeitung, Universität München, 6.5. + 13.5.1994

257. **Dynamische Algebren zur Spezifikation beweisbar korrekter Kompilierung für Occam auf dem Transputer.**
Universität Hamburg, 19.5.1994

258. **A formal specification of the parallel virtual machine.**
PVM 1994 Users' Group Meeting, Oak Ridge/Tennessee, 19.-20.5.1994 (co-author U.Glässer)

259. **The evolving algebra approach for a formal specification of VHDL'92.** Technische Universität München, 24.5.1994

260. **Evolving algebra analysis of distributed algorithms.**
Universität München, Institut für Informatik, 25.5.1994

261. **Reliable system design and logical specification concepts.**
Workshop der GI-Fachgruppe *Logik in der Informatik*, Universität Paderborn, 27.5.1994, cf. Technical Report tr-ri-94-146, pg.26

262. **A formal specification of the PVM architecture**
Workshop der GI-Fachgruppe *Logik in der Informatik*, Universität Paderborn, 27.5.1994, cf. Technical Report tr-ri-94-146, pp.8-10 (co-author U.Glässer)

263. **An evolving algebra correctness proof for Lamport's Bakery Algorithm**
Informatik-Kolloquium, Universität Stuttgart, 30.5.1994

264. **Occam: specification and compiler correctness**
IFIP TC2 working Conference *Programming Concepts, Methods and Calculi*, San Miniato, 6.-10.6.1994

265. **An illustration of the evolving algebra approach to formal specification: a simple and abstract correctness proof for Lamport's Bakery Algorithm.**
IFIP WG 2.2 Meeting, San Miniato, 11.-13.6.1994

266. **On reliable system specification with evolving algebras.**
Invited Lecture *Logic and Computer Science*, CIRM, Luminy 27.6.-1.7.1994

267. **Evolving algebras for specification and verification of parallel algorithms and architectures.**
6th International School for CS Researchers, Lipari, Sicily, 4.07. - 15.07.1994.

268. **A simple abstract account of different procedure disciplines in programming.**
Universität Paderborn, 23.-27.8.1994

269. **Logic Programming: The Evolving Algebra Approach.**
IFIP 13th World Computer Congress 1994, Hamburg 29.9.-2.10.1994

270. **Evolving algebras as a specification tool for the working computer scientist.**
Prolog Forum, ETH and Universität Zürich, 15.-16.9.1994

271. **The semantics of behavioral VHDL'92 descriptions.**
European Design Automation Conference with EURO-VHDL (EURODDAC), Grenoble, 19.-23.9.1994 (co-author W.Müller)

272. **How formal methods can correspond to a practical need.**
Panel on *Formal Semantics: Practical Need or Academic Pleasure?* at the *European Design Automation Conference with EURO-VHDL* (EURODDAC), Grenoble, 19.-23.9.1994

273. **An abstract model of the parallel virtual machine (PVM).**
7th International Conference on Parallel and Distributed Computing Systems (PDCS'94), Las Vegas/Nevada, 5.-9.10.1994 (co-author U.Glässer) and *First European PVM Users Group Meeting*, Roma 9.-10.10.1994

274. **Verteilte dynamische Algebren am Fallbeispiel des Lamportschen Bakery Algorithmus.**
Universität Bonn, Abteilung Informatik, 9.12.1994

275. **Evolving algebras and parallel architectures.**
Invited course (3 hrs) to the Workshop *Models of Parallel Computation*, Istituto per le Applicazioni del Calcolo, CNR, Roma 12.-14.12.1994

276. **A mathematical model for the IEEE standard hardware description language VHDL.**
University of Cambridge, GB, 9.1.1995

277. **Proof of correctness of a scheme for compilation of Occam programs on the Transputer.**
ProCoS Working Group Workshop, University of Oxford, 10.-11.1.1995

278. **Eine Methode für korrekten Entwurf von Hardware am Beispiel eines allgemeinen Pipelining Schemas für RISC Architekturen.**
Arbeitskreis SPIQ (Software Process Improvement and Quality), Universität Freiburg, 12.1.1995.

279. **Ein neuer Korrektheitsbeweis für den Lamportschen Bakery Algorithmus.**
Universität Heidelberg, Abteilung math. Logik, 13.1.1995

280. **Ein formales Modell fuer VHDL'93.**
Universität Frankfurt/M., Fachbereich Informatik, 30.3.1995

281. **Beweisbar korrekte Kompilierung von Occamprogrammen auf dem Transputer.**
Universität Karlsruhe, Institut für Informatik, 31.3.1995

282. **Logical foundation of formal specification methods.**
Mathematisches Forschungsinstitut Oberwolfach, 3.04. - 8.04.1995.

283. **Über den Einsatz dynamischer Algebren in der Softwaretechnik.**
Universität Freiburg, 8.5.1995

284. **Mathematische Analyse nebenläufiger Systeme mittels dynamischer Algebren.**
Universität Bonn, Institut für Informatik, 15.5.1995

285. **Beweisbar korrektes Pipelining in RISC Architekturen.**
Universität Karlsruhe, Institut für Angewandte Informatik und Formale Beschreibungsverfahren, 2.6.1995

286. **On the correctness of a general pipelining scheme in RISC architectures.**
IFIP WG 2.2 Meeting, Amsterdam, CWI, 13.6.1995

287. **The APE100 Reverse Engineering Project.**
Istituto per le Applicazioni del Calcolo, CNR, Roma 21.6.1995

288. **Spezifikation von Pipelining Methoden in RISC Architekturen mittels dynamischer Algebren.**
Universität Paderborn, Heinz-Nixdorf Institut, 27.7.1995.

289. **A formal model for the IEEE VHDL'93 standard definition.**
ProCoS Working Group Workshop *Linking Theorie*, Vedbaek (Copenhague) 21-23 August 1995.

290. **Eine praktische Methode für den kontrollierten Entwurf komplexer HW- und SW-Systeme.**
IBM Germany, Entwicklungslabor Böblingen, 12.09.1995.

291. **Spezifikation komplexer Systeme mittels dynamischer Algebren.**
Universität Ulm, 13.9.1995.

292. **Eine Methodik zur beweisbar korrekten Kompilierung imperativer Programme.**
GMD-FIRST, Abteilung Softwaretechnologie, Berlin, 15.9.1995.

293. **Die Methodik der dynamischen Algebren zur beweisbar korrekten Spezifikation komplexer Systeme.**
Universität Koblenz, 21.9.1995.

294. **Eine praktische Methode für kontrolliertes HW/SW-Co-Design .**
ETH Zürich, Institut für technische Informatik und Kommunikationsnetze, 22.09.1995.

295. **A survey of the evolving algebra approach to specification and verification of computer systems.**
Rutgers University, DIMACS, 6.10.1995.

296. **A correctness proof for pipelining on RISC architectures using evolving algebras.**
New Jersey Institute of Technology, Newark, Real-time Computing Lab, 10.10.1995.

297. **Evolving algebras and Parnas tables.**
McMaster University, Faculty of EE, Communications Research Lab, Hamilton (Ontario), Dept of EE, 18.10.1995

298. **The evolving algebra approach to modular development of well documented software. A case study: the steam-boiler control program.**
McMaster University, Faculty of EE, Communications Research Lab, Hamilton (Ontario), Dept of EE, 20.10.1995.

299. **An illustration of the evolving algebra approach to formal specification: a simple and abstract correctness proof for Lamport's Bakery Algorithm.**
CUNY, Graduate School, New York 26.10.1995.

300. **An evolving algebra specification of pipelining on RISC architectures.**
ATT Research Labs, Murray Hill, NJ, 27.10.1995.

301. **rigorous definition of the ISO'95 Prolog standard and of its implementation.**
The University of Chicago, Dep of CS, 1.11.1995.

302. **An evolving algebra specification of pipelining on RISC architectures.**
University of Michigan, Dept of EECS, Ann Arbor 2.11.1995.

303. **A formal method for provably correct composition of a real–life processor out of basic components (The APE100 reverse engineering project).**
First IEEE Int. Conf. on Engineering of Complex Computer Systems, Ft. Lauderdale (Florida) Nov 6–10, 1995.

304. **Why use evolving algebras for hardware and software engineering.**
Invited lecture SOFSEM'95 22nd Seminar on Current Trends in Theory and Practice of Informatics, Milovy (Czech Republic), 23.11.-1.12.1995.

305. **Die Methodik der dynamischen Algebren zur Spezifikation und Verifikation der Semantik von Programmiersprachen.**
Universität Tübingen, 4.12.1995.

306. **Beweisbar korrektes Pipelining in RISC Architekturen.**
Universität Frankfurt/M, 5.12.1995.

307. **An introduction into the evolving algebra approach for the specification of large programming systems.**
University of Oslo, CS Dept., 6.12.1995.

308. **An evolving algebra specification and an abstract correctness proof for Lamport's Bakery Algorithm.**
University of Oslo, CS Dept., 7.12.1995

309. **Methodisches zum beweisbar korrekten Entwurf von RISC Architekturen mit Pipelining.**
LM Universität München, 6.2.1996

310. **A survey of the evolving algebra approach for the provably correct specification of complex computer systems.**
Mitre Corporation Research Center, Boston 19.2.1996

311. **A formal specification and a correctness proof for pipelining in RISC architectures.**
CAV-Seminar, Stanford University, Palo Alto 20.2.1996.

312. **Evolving algebras as a specification tool for the working computer scientist.**
CSL Seminar, SRI, Menlo Park 21.2.1996

313. **The evolving algebra approach to modular development of well documented software. A case study: The Steam-Boiler control program.**
CS Dept Seminar, Stanford University, Palo Alto 22.2.1996

314. **The classical decision problem and Turing's reduction method.**
Logic Seminar, Stanford University, Palo Alto 23.2.1996

315. **A formal specification and a correctness proof for pipelining in RISC architectures.**
CAV-Seminar, University of California at Berkeley, 26.2.1996

316. **Tutorial on the evolving algebra approach for controlled design and analysis of large software systems.**
Rockwell Science Center, Software Engineering Group, Thousand Oaks (Los Angeles, CA) 28.-29.2.1996

317. **The evolving algebra method for specification of distributed systems. The example of Lamport's Bakery Algorithm.**
Logic Colloquium UCLA, Los Angeles 1.3.1996

318. **Über den Einsatz dynamischer Algebren in der Softwaretechnik.**
Deutsche Telekom, Forschungs- und Technologiezentrum,
Darmstadt 5.3.1996

319. **Systematische Codeentwicklung mittels dynamischer Algebren am Beispiel eines C++-Programms zur Steuerung der Fertigungszelle.**
Siemens Corporate Research ZFE T Software Engineering,
München 15.3.1996

320. **Eine Methode zur Unterstützung korrekten Entwurf von Hardware (demonstriert am Beispiel von Pipelining in RISC Architekturen).**
Siemens Corporate Research ZFE T Software Engineering,
München 20.3.1996

321. **On the use of evolving algebras for classical computation theory.**
Invited lecture, Workshop on Computability, Complexity and Logic, March 27-30, 1996, Usedom

322. **How to use evolving algebras for controllable hardware design.**
Invited lecture, 2'nd annual meeting of the ESPRIT Working Group NADA (New Hardware Design Methods), 14-16 April 1966, Marielund (Uppsala).

323. **Eine Methode zur Unterstützung korrekten Entwurfs von Hardware (demonstriert am Beispiel von Pipelining in RISC Architekturen).**
Fachgruppe Rechnersysteme, Institut für Datentechnik, TH Darmstadt, 8.5.1996

324. **Evolving algebras as a specification tool for the working computer scientist.**
CS Seminar, SUNY at Stony Brook, 10.5.1996

325. **The evolving algebra approach to modular development of well-documented software for complex computer systems. A case study: the production cell control program.**
DIMACS Workshop on Controllers for Manufactoring and Automation: Specification, Synthesis, and Verification Issues, May 13-15, 1996, DIMACS, Rutgers University (NJ)

326. **How to use evolving algebras for a verification driven design of RISC architectures with correct pipelining.**
CS Seminar, Wesleyan University, Middletown/CT 16.5.1996

327. **Il metodo della algebre dinamiche per specifica e verifica rigorosa di sistemi hw/sw complessi.**
Dipartimento di Elettronica e Informazione, Politecnico di Milano, Milano 28.5.1996

328. **Die Methode der dynamischen Algebren für modulare Entwicklung wohl dokumentierter Software. Fallstudie: Das Steam-Boiler Kontrollprogramm.**
Institut für Informatik, Universität Stuttgart, 18.6.1996
Institut für Informatik, Technische Universität München, 4.7.1996

329. **Evolving algebras and Parnas tables.**
Workshop *Specification and Semantics* (Hartmut Ehrig, Friedrich von Henke, Jose Meseguer, Martin Wirsing), Schloß Dagstuhl 8.7. - 12.7.1996.

330. **Eine abstrakte Modellierung von Fahrstrassenanforderungen in Stellwerken für den Fernverkehr**
VT Siemens, Braunschweig 9.7.1996
Siemens Corporate Research ZFE T Software Engineering, München 19.7.1996

331. **Die Methode der dynamischen Algebren für Spezifikation und Verifikation von Logikprogrammiersystemen.**
Institut für Informatik, Universität Passau, 23.7.1996

332. **Dynamische Algebren als Spezifikationswerkzeug für den angewandten Informatiker.**
Informatikkolloquium, Universität Augsburg, 29.7.1996

333. **Remarks on the history and some perspective of Abstract State Machines in software engineering.**
Workshop *The History of Software Engineering*, (W. Aspray, R. Keli-Slwaik, D.L.Parnas), Seminar No.9635, Schloß Dagstuhl August 1996.

334. **Methodik zur Erfassung von Kundenfunktionalitäten durch Pseudo-Code (abstrakte Euris-Diagramme)**
VT Siemens, Braunschweig 14.8.1996 und Siemens Corporate Research ZFE T Software Engineering, München 13./21.8.1996

335. **Ueber den Einsatz dynamischer Algebren in der Softwaretechnik.**
GMD-FIRST, Abteilung Softwaretechnologie, Berlin, 11.9.1996.

336. **Parnas Tables and Abstract State Machines**
IFIP WG 2.2 meeting, 23 – 27 September 1996, Macau

337. **Formal Specification and Verification of Pipelining in RISC Architectures.**
Academy of Sciences, Bejing, 10.1996

338. **A Provably Correct Compilation Scheme for OCCAM Programs into Transputer Code.**
Academy of Sciences, Bejing, 10.1996

339. **Korrektheitsbeweise im Kompilerbau mittels strukturierbarer abstrakter Maschinen.**
Abteilung Informatik, Universität Dresden,7.10.1996

340. **Eine Methodik für systematischen Entwurf wohl dokumentierten und formal inspizierbaren Codes, am Beispiel der Entwicklung eines C++-Steuerprogramms zur Dampfkesselkontrolle.**
Joint Seminar GMD-FIRST (Abteilung Softwaretechnologie) und TU, Berlin, 1o.10.1996.

341. **Eine praktische Methode fuer kontrollierten Entwurf komplexer Hardware- und Softwaresysteme.**
Technische Universität Braunschweig, 14.10.1996

342. **On the use of Gurevich's Abstract State Machines for modular development of well documented formally inspectable software. A case study: The Steam-Boiler control program.**
Invited Lecture, Verifix-Workshop, Universität Karlsruhe, 28.-29.10.1996

343. **Über Anwendungen der Gurevischen Abstrakten Zustandssyteme fuer Softwaredokumentation und Reverse Engineering**
ZT AN1 Siemens, Klausurtagung Eggersberg, 4.12.1996

344. **Theory and practical applications of Gurevich's Abstract State Machines.**
Invited Lecture *Colloquium on Computability, Complexity, and Logic*, Abteilung Theoretische Informatik, Universität Stuttgart, 5.-6.12. 1996

345. **Über den Einsatz von Abstract State Machines in der Softwaretechnik.** Kolloquium der Abteilung Informatik, Technische Universität, Berlin, 9.12. 1996

346. **Anwendungen der Gurevichen Abstract State Machines im Softwareengineering.**
Kolloquium der Abteilung Informatik, Universität Dortmund, 10.12. 1996

347. **Über beweisbar korrekten Entwurf von Hardware mittels der Gurevichen Abstract State Machines.**
Kolloquium der Abteilung Informatik, Universität Ulm, 11.12. 1996

348. **How to use Abstract State Machines in Software Engineering.**
Dagstuhl Seminar on *Logic for System Engineering* (Organizers S. Jähnichen, J. Loeckx, D.R. Smith, M. Wirsing), Dagstuhl 3.-7.3.1997

349. **Industrial Use of ASMs for System Documentation.**
Dagstuhl Seminar on *Logic for System Engineering* (Organizers S. Jähnichen, J. Loeckx, D.R. Smith, M. Wirsing), presented by Co-author P. Päppinghaus, Dagstuhl 3.-7.3.1997

350. **Specifying and Programming the Steam Boiler Control: Report on a Competition of Formal Methods.**
Invited Lecture *ZUM'97*, Reading 3.-4.4.1997

351. **On the use of Abstract State Machines for developing well documented and formally inspectable code: The production cell case study.**
Procos Meeting, Reading (GB) 7.-9.4.1997

352. **Das Hilbertsche Entscheidungsproblem und seine Beziehungen zur Komplexität von Berechnungssytemen.**
LMU Kolloqium, Universität München, 17.7.1997

353. **An ASM model defining the semantics of Java.**
BRICS, University of Aarhus (DK), 2.9.1997.

354. **The ASM approach to modular development of well documented software for complex systems. A case study.**
BRICS, University of Aarhus (DK), 4.9.1997.

355. **An ASM definition of the semantics of Java.**
IFIP WG 2.2, University of Graz, 22.-26.9.1997.

356. **On the use of ASMs for software engineering.**
Fraunhofer Institute for Experimental Software Engineering (IESE) and Informatik-Kolloquium University of Kaiserslautern, 27.10.1997.

357. **A rational reconstruction of the Java language and of the Java VM.**
Siemens Corporate Research, ZT Software Engineering 4, München 21.11.1997

358. **A new ASM model for the Java language.**
Siemens Corporate Research, ZT Software Engineering 4, München 15.1.1998

359. **A rigorous definition for the semantics of Java.**
INRIA, Sophia-Antipolis, 27.4.1998.

360. **Modeling Java and the Java VM for a mathematical analysis of Java programs.**
GSN'98 (Grand Seminaire d'informatique de Nantes) (IRIN- EMN-IRCYN), 7.5.1998

361. **A programmer friendly modular definition of the semantics of Java.**
MFPS XIV (Conference on the Mathematical Foundations of Programming Semantics), Queen Mary - Westfield College of the University of London, London, May 10 to May 13, 1998 (presented by co-author W. Schulte)

362. **Construction de modeles de bases et leur transformation en code executable.**
IUT, Universite de Nantes, 11.5.1998

363. **Une preuve de correction pour un schema de compilation de programmes Java en code sur la machine virtuelle pour Java.**
Ecole Des Mines de Nantes, 18.5.1998

364. **Une approche pratique au developement certifie de compilateurs pour de vrais langages de programmation.**
Seminaire du Laboratoire de Recherche en Informatique, Universite Paris XI, 22.5.1998

365. **Modeling Java and the Java VM for proving compilers to be correct and programs to be safe.**
Invited lecture, LUC-Symposium on Logic and Computer Science, Hasselt, Belgium, 27.5.1998

366. **Operational models for compiler verification.**
Dagstuhl Seminar on *Programs: Improvements, Complexity and Meaning*, 7.-12.6. 1998, Organizers: A.D.Gordon (Cambridge), N.D.Jones (Copenhague), O.de Moor (Oxford), J.S.Royer (Syracuse). Dagstuhl-Seminar-Report 213 (98231), p.10.

367. **On the integration of formal and semi-formal techniques using ASMs.**
Dagstuhl Seminar on *Semi-Formal and Formal Specification Techniques for Software Systems*, 12.07.1998 - 17.07.1998, Organizers: H. Ehrig (TU, Berlin), G. Engels (Paderborn), F. Orejas (Barcelona), M. Wirsing (Universität München). See Dagstuhl-Seminar-Report 218 (98281), 6-8.

368. **The ASM Approach to System Design**.
Hungarian Academy of Sciences, Research Institute of Computing and Automatisation, Budapest 19.8.1998

369. **Mathematical Analysis of Java programs**.
Invited Lecture MFCS'98, Brno, Cech Republic, 24.-28.8.1998

370. **ASM Tutorial: Applications.**
MFCS'98, Brno, Cech Republic, 24.-28.8.1998

371. **After 10 years of ASMs: Where are we and where should we go?**
Invited Lecture ASM workshop, GI-Jahrestagung Informatik'98, Magdeburg 21.-22.9.1998

372. **Modellierung von Java und der Java Virtual Machine.**
Universität Paderborn, Heinz-Nixdorf Institut, 22.9.1998.

373. **The Abstract State Machines Method for the Design and Analysis of Complex Computing Systems.**
Invited Lecture, International Workshop on Current Trends in Applied Formal Methods, Boppard 7.-9.10.1998.

374. **Eine mathematische Definition der Semantik von Java.**
Graduiertenkolleg *Intelligente Systeme für die Informations- und Automatisierungstechnik*, Technische Universität Darmstadt, 7.12.1998

375. **Eine mathematische Definition der Implementierung von Java.**
Graduiertenkolleg, Universität Darmstadt, 8.12.1998

376. **Modellierung von Java und der JVM.**
Informatikkolloquium, Universität Frankfurt (Main), 8.12.1998

377. **Models of Java and of its implementation on the JVM.**
Workshop "Tecniche formali", Università di Roma, 21.-23.12.1998

378. **Java Formal Semantics.**
Invited Lecture, III Simposio Brasileiro de Linguagens de Programacao (SBLP'99), Porto Alegre 5.-7.5.1998

379. **Formal Specification of Programming Languages.**
Invited Tutorial, III Simposio Brasileiro de Linguagens de Programacao (SBLP'99), Porto Alegre 5.-7.5.1998

380. **Eine Definition der Java Virtual Machine.**
Informatik-Kolloquium, Humboldt University, Berlin, 10.6.1999

381. **Structuring the Java VM.**
IFIP WG 2.2, University of Udine, 28.6.-1.7.1999

382. **Rigorous Methods for Requirements Capture and Software Architecture.**
Research Evaluation, Dipartimento di Informatica, Universita di Pisa, Pisa 8.-9.7.1999

383. **Modeling the Java Virtual Machine using ASM composition principles.**
Meeting IFIP Working Group 1.3 on Foundations of System Specification, Bonas (FRANCE) 13.-15.9.1999

384. **Composition Principles for ASMs.**
Workshop ADTS, Bonas (France) 16.-18.9.1999

385. **Introduction and Survey of ASMs.**
Opening talk to the ASM UG Meeting at the FM'99 Congress, Toulouse (France),20.-24.9.1999

386. **Using ASMs for Integrating Different Design And Analysis Methods.**
Dagstuhl Seminar "Rigorous Analysis and Design for Software Intensive Systems", 07.11.1999 - 12.11.1999, Organizers: S. Jaehnichen (Berlin), M. Lemoine (Toulouse), T. Maibaum (London), M. Wirsing (Univ. Muenchen).

387. **Analyse der Fehlerbehandlung in Java und auf der Java Virtual Machine.**
University of Munich (LMU), 14.12.1999.

388. **Composition and Submachine Concepts for Sequential ASMs.**
Microsoft Research Redmond, 9.2.2000

389. **Sulla Semantica di UML Activity Diagrams e di UML State Machines.** Workshop SALADIN Project, Universita di Pisa, 13.3.2000.

390. **Structured Design for the Java Virtual Machine.**
Invited Lecture, ASM workshop, Ascona/Switzerland, 20.-24.3.2000.

391. **The ASM refinement method.**
ASM crash course (second lecture), Microsoft Research Redmond, 13.4.2000

392. **Using ASMs for Software Development.**
MTA SZTAKI Computer and Automation Research Institute, Budapest, 2.5.2000

393. **Ueber den Einsatz von ASMs in industrieller Softwareentwicklung.**
Institut fuer Informatik, Universität Linz (Austria), 4.5.2000

394. **Ein Korrektheitsbeweis fuer Fehlerbehandlung in Java und der JVM.**
Technische Universität Wien, 5.5.2000

395. **Reliable Practical Software Development using ASMs.**
Institute for Information Processing and Computer Supported New Media, Graz University of Technology, 6.5.2000

396. **An ASM Semantics for UML Activity Diagrams.**
AMAST'2000, Iowa/USA, 23.-27.5.2000

397. **Abstract State Machines and their Industrial Employment: A Survey.**
Tutorial, Fifth NASA Langley Formal Methods Workshop (Lfm2000), 13.-15.6.2000, Williamsburgh, Virginia, USA.

398. **Using Abstract State Machines in Requirements Engineering.**
Tutorial, Fourth International IEEE Conference on Requirement Engineering (ICRE'2000), 19.-23.6.2000, Schaumburg, Illinois, USA.

399. **Submachine Concepts for ASMs.**
IFIP WG 1.3 Meeting, 29.6.-1.7.2000, Stanford University, Palo Alto/CA.

400. **A Modular Definition of Java and of its Implementation on the JVM.**
Kestrel Institute, Palo Alto/CA, 5.7.2000

401. **A correctness proof for the exception handling in Java/JVM.**
Stanford Research Institute (SRI), Palo Alto/CA, 6.7.2000

402. **Reliable Software Development Using Abstract State Machines.**
University of California at Berkeley, EECS, Berkeley/CA, 7.7.2000

403. **Structuring Abstract State Machines.**
Invited Lecture, Gurevich Symposium at CSL'2000, Munich/Germany, 21.-26.8.2000

404. **Using ASMs as oracle for testing.**
Microsoft Research Redmond/WA, 6.9.2000

405. **Abstract State Machines tailored to UML diagram visualizable machines.**
Microsoft Research Redmond/WA, 20.9.2000

406. **Modeling Virtual Machines by ASMs.**
University of Minnesota, Institute of Technology, Department of Computer Science, Minneapolis/MN, 22.9.2000

407. **A modular high-level definition of the dynamics of C sharp.**
Microsoft, C sharp Development Group, Redmond 27.9.2000

408. **Applying ASMs to the formal definition of Java and its provably correct implementation on the Java Virtual Machine.**
Part II of the Tutorial on *Abstract State Machines and their Applications* (with U. Glässer, R. Gotzhein, A. Prinz), FORTE/PSTV 2000, IFIP TC6/WG6.1 International Conference, Pisa 10.-13.10.2000. See http://forte-pstv-2000.cpr.it/WEB-PAGES/online-slides.html

409. **Proposing ASMs for database applications.** Dagstuhl Seminar on Semantics of Databases, organized by L.Bertossi (Santiago), G.Katona (Budapest), K.-D.Schewe (Massey), B. Thalheim (Cottbus), Dagstuhl (Germany), 8.-12.1.2001

410. **Design for Reuse: Java compilation and JVM bytecode verification.**
Universität Kaiserslautern, 12.1.2001

411. **Analyse von Java und seiner Implementierung auf der JVM.**
Universität Karlsruhe (Germany), 15.1.2001

412. **Modeling, Analysing and Verifying Java and its Implementation on the JVM.**
Programming Research Lab, Oxford University, 29.1.2001, and University of Manchester, 31.1.2001

413. **Problems with Formal Methods in Design and Analysis of Software Systems.**
University of Manchester, 2.2.2001

414. **Structuring the JVM Architecture.**
Workshop Project Saladin (Software Architecture and Languages to Coordinate Mobile Distributed Components), Universita di Venezia, 14.-16.2.2001

415. **Using ASMs to define, verify and validate Java and the JVM: Surveying a real-life case study book.**
International ASM Workshop at EUROCAST'2000, Las Palmas

416. **Design for reuse via composition techniques applied to Abstract State Machines.**
IFIP WG1.3, Genova, 30.-31.3. 2001

417. **Abstract State Machines: Surveying their Theory and their Industrial Employment.**
Tutorial at ETAPS'2001, Genova, 1.4.2001

418. **Identifying the modular structure of the Java Virtual Machine.**
IFIP Working Group 2.2 meeting, Rennes, May 14–17, 2001

419. **Modeling, Validating and Verifying Java and its Implementation on the JVM.**
Ecole des Mines de Nantes, 18.5.2001

420. **A Mathematical Analysis of Java and the JVM.**
Universite de Paris 12 (Creteil), 21.5.2001

421. **Some formal methods cope with software-intensive systems, IF ... .**
Dagstuhl Seminar on *Can formal methods cope with software-intensive systems?* 28.5.-1.6.2001

422. **Java and the Java Virtual Machine. Verifying and validating bytecode verification and execution.**
INRIA, Sophia-Antipolis, 13.7.2001

423. **Die ASM-Methodik für industriellen Softwareentwurf und Analyse.**
Festvortrag at Diron, Münster i.W., 7.9.2001

424. **Analyse der Java Virtual Machine und ihres Bytecode Verifiers.**
Abteilung Informatik, Universität Halle, 12.9.2001

425. **The Abstract State Machines Method in Software Engineering.**
Course delivered at the Summer School on "Formalware Engineering", CISM, Udine (Italy), 24.-29.9.2001

426. **To what extent is Java/JVM a safe programming environment for the internet?**
Invited Lecture, JCCS-2001 (XXI Conferencia Internacional de la Sociedad Chilena de Ciencia de la Computacin). Talk presented by Joachim Schmid, Chile 5.-9.11.2001

427. **ASM Component Model.**
2nd Workshop "Saladin" on Software Architectures and Languages to Coordinate Mobile Distributed Components. L'Aquila, 6.-8.2.2002

428. **Definitional Suggestions for Computation Theory.**
Dagstuhl Seminar "Theory and Applications of Abstract State Machines", Schloss Dagstuhl, Germany, March 4-8, 2002. See Abstract in Dagstuhl Seminar Reports at http://www.dagstuhl.de/02101/

429. **Using ASMs for Requirmeents Engineering.**
Lectures at Lipari Summer School on Software Engineering, July 1-12, 2002, Lipari Island/Sicily

430. **Analysis of the Java Virtual Machine.**
18.7.2002, Colloquium at Dept. of Computer Science, University of Aarhus

431. **Computation and Specification Models. A Comparative Study**
Invited Lecture at *Workshop on Action Semantics*, 21.7.2002, FLOC'02, Copenhague

432. **Refinement Method for Abstract State Machines**
Invited Lecture at *REFINE 2002*, Workshop on Refinement, FLOC'02, 20.7.2002, Copenhague

433. **Abstract Operational Model for the Semantics of C#**
Rotor Workshop 23.-26.7.2002, Microsoft Research, Cambridge, Queen's College

434. **Turbo ASMs: marrying sequential execution and synchronous parallelism**.
Formal Methods and Tools Day, CNR Pisa (Italian National Research Council), 17.10. 2002

435. **Remarks on Turbo ASMs for Functional Equations and Recursion Schemes**
Workshop Abstract State Machines 2003, Taormina, March 3-8, 2003

436. **Abstract State Processes**
Invited Lecture, Workshop Abstract State Machines 2003, Taormina, March 3-8, 2003

437. **The Abstract State Machines Refinement Method**
Seminar on "Formal Approaches to Software", ETH Zürich, 21.5.2003

438. **The Abstract State Machines Ground Model Method**
Invited Lecture to *International Symposium on Verification* (Manna Symposium), Taormina 29.6.-4.7.2003

439. **The Abstract State Machine Method: bridging the gap between specification and design**
Keynote Lecture to FDL'03 (Forum on Specification and Design Languages), Frankfurt 23.-26.9.2003. See Proc. FDL'03, ISSN 1636-9874

440. **Exploiting the "A" in Abstract State Machines for Specification Reuse. A Java/C# Case Study**
Invited Lecture to FMCO 2003, University of Leiden, Lorentz Center, 4.-7.11.2003. Lecture Slides at http://fmco.liacs.nl/fmco03.html

441. **Il doppio ruolo della logica tra sapienza e tecnologia**
Incontro *Informatica e Civiltà: Logica, Tecnologia e Sapienza*, Università di Pisa, Pisa 9.12.2003

442. **Teaching ASMs to Practice-Oriented Students with Limited Mathematical Background**
Workshop *Teaching Formal Methods: Practice and Experience*, Oxford Brookes University (Applied Formal Methods Group in association with BCS-FACS), Oxford 12.12.2003

443. **The ASM refinement notion**
Workshop Sahara, University of Bologna, 29.-30.1.2004

444. **Exploiting abstractions for specification reuse. The Java/C# case study**.
Invited Lecture, Workshop CASSIS (Construction and Analysis of Safe, Secure and Interoperable Smart cards), March 10-13, 2004, Marseille. See http://www-sop.inria.fr/everest/events/cassis04/

445. **Modeling with Abstract State Machines: A support for accurate system design and analysis**
GI-Meeting *Modellierung 2004*, Industrieforum, Marburg 23.-26.3.2004 (See GI-Edition Lecture Notes in Informatics, Vol. P-45 (B. Rumpe and W. Hesse, Eds.), pg. 235-239)

446. **A comparative analysis of Java and C#**.
University of Braunschweig (10.5.2004) and University of Frankfurt/M (11.5.2004)

447. **An introduction into ASMs**.
University of Braunschweig, 10.5.2004

448. **Turning the ASM model for Java into a model of C#.**
Invited Lecture at *ASM 2004*, Halle-Wittenberg 24.-28.5.2004

449. **Von endlichen Automaten zu abstrakten Zustandsmaschinen**.
Praezisionswerkzeug Logik - Gedenkkolloquium für Dieter Rödding, Universität Osnabrück, 4.5.2004.

450. **Describing the semantics of object-oriented programming languages**.
IFIP WG 2.2 Meeting at Bertinoro (Bologna), 15.-18.9.2004

451. **A comparative analysis of Java and C#**.
    - Humboldt Universität Berlin (4.10.2004)
    - University of Stuttgart (6.10.2004)
    - Max Planck Institut Saarbrücken (7.10.2004)
    - University of Bielefeld (8.10.2004)

452. **Java and C#: two instances of one language type**. Informatikkolloquium, Universität Kiel, 22.10.2004

453. **From Java to C#: a mathematical analysis**. PAM Seminar at CWI, Amsterdam, 17.11.2004.

454. **A practice-oriented course on the principles of computation, programming and system design and analysis**. CoLogNet/Formal Methods Europe Symposium TFM'04 (Teaching Formal Methods), Gent 18.-19.11.2004

455. **From FSMs to ASMs. An Introduction**.
Guest Lecture to Prof. B. Meyer's course "Trusted Components: Reuse, Contracts and Patterns", ETH Zürich, 8.12.2004.
See http://se.inf.ethz.ch/teaching/ws2004/0239/slides/AsmMethZh04.PDF

456. **The ASM Ground Model and Refinement Method**.
Two Guest Lectures to Prof. B. Meyer's course "Trusted Components: Reuse, Contracts and Patterns", ETH Zürich, 13.12.2004.
See http://se.inf.ethz.ch/teaching/ws2004/0239/slides/AsmMethZh04.PDF

457. **Asynchronous ASMs and Event-B Models**.
Guest Lecture to Prof. B. Meyer's course "Trusted Components: Reuse, Contracts and Patterns", ETH Zürich, 15.12.2004.
See http://se.inf.ethz.ch/teaching/ws2004/0239/slides/AsmMethZh04.PDF

458. **Identifying a common structure of Java and C#**.
FATS Seminar (Formal Approaches to Software), ETH Zürich, 15.12.2004

459. **The Abstract State Machines Method for High-Level System Design and Analysis**.
Dagstuhl Workshop *Modellbasierte Entwicklung eingebetteter Systeme (Model-Based Development of Embedded Systems)* (MBEES 2005), organizers T. Klein, B. Rumpe, B. Schätz, 10.-14.1.2005.
See http://beam.to/mbees

460. **Die ASM Modellierungsmethodik**.
SAP Research, Karlsruhe 7.2.2005

461. **An Abstract State Machine model for Status and Action Management status schemes**.
SAP Research, Karlsruhe 23.2.2005

462. **The ASM Method: A Cornerstone in Computer Science Education**.
Invited Lecture, *International Abstract State Machines Workshop 2005*, Special Session on Education, Paris, 8.-11.3.2005. See http://www.univ-paris12.fr/lacl/Asm05/, login Paris, password Asm05

463. **Design Pattern Abstractions and Abstract State Machines**.
International Abstract State Machines Workshop 2005, Paris, 8.-11.3.2005.
See http://www.univ-paris12.fr/lacl/Asm05/, login Paris, password Asm05

464. **A Comparative Analysis of Java and C#**.
Abteilung Informatik, Universität Erlangen, 4.5.2005

465. **Eine vergleichende Analyse von Java/C# und JVM/.NET CLR**.
Kolloquium der Informatik, Universität Heidelberg, 15.5.2005

466. **A Mathematical Model for Process Mediation**.
Institut für Angewandte Informatik und Formale Beschreibungsverfahren, Universität Karlsruhe, 10.6.2005

467. **Using ASM for investigating the complexity of computational systems**.
Invited Lecture at DCFS'05 (Descriptional Complexity of Formal Systems), IFIP WG Descriptional Complexity, Como 30.6.-2.7. 2005. See C. Mereghetti, B. Palano, G. Pighizzini, D. Wotschke (Eds.): Proc. 7th. International Workshop on Descriptional Complexity of Formal Systems, Dip. di Informatica e Comunicazione, Universita di Milano, TR 06-05, pp. 15-22

468. **A model for web service mediators**.
CS Department, Concordia University in Montreal (Canada) 6.7.2005

469. **Web Service Interaction Patterns**.
CS Department, Simon Fraser University, Vancouver (Canada) 14.7.2005

470. **The ASM Method for System Design and Analysis. A Tutorial Presentation**.
Tutorial invited to FroCoS'05 (5th International Workshop on Frontiers of Combining Systems), Wien (Austria) 19.-21.9.2005

471. **Adding a Semantical Foundation for Program Correctness to Hoare's Verifying Compiler Challenge**.
Technische Universität Wien (Austria), 20.9.2005

472. **An Introduction into the ASM Method**.
Invited Lecture on the ASM Method to: WSMO Choreography and Orchestration Meeting. DERI Institut, Computer Science Department, Universität Innsbruck (Austria), 22.-23.9.2005

473. **A Compositional Framework for Service Interaction Patterns and Interaction Flows**.
Invited Lecture to ICFEM'05 (International Conference on Formal Engineering Methods), Manchester, 1.-4.11.2005

474. **Experiments for a New Theory of Meta-Programming**.
Computer Science Department, Universität Innsbruck (Austria), 16.1.2006

475. **An Analysis of Object-Oriented Programming constructs, illustrated through Java and C#**.
Department of Computer Science, Complutense University, Madrid, 2.3.2006

476. **Überlegungen zum Einsatz von ASMs im Hardware-Verifikationsprozess**. OneSpin-Solutions, München, 26.4.2006

477. **Characterizing Event-B models as ASMs**.
Dagstuhl Seminar *Rigorous Methods for Software Construction and Analysis*, organized by J-R Abrial and U. Glässer, Dagstuhl 7.-12.5.2006. See http://drops.dagstuhl.de/portals/06191/

478. **The ASM Method for Controllable Development of Software-Based Systems**.
HPI-Kolloquium at Hasso-Plattner-Institut für IT Systems Engineering, Potsdam (Berlin) 17.5.2006

479. **The Role of Ground Models for Software System Development and Analysis**.
Dagstuhl Seminar *The Challenge of Software Verification*, organized by P. Cousot (ENS - Paris, F), P. O'Hearn (Queen Mary College - London, GB), J. Misra (Univ. of Texas at Austin, USA), M. Broy (TU München, D), Dagstuhl 09.07. - 13.07.2006

480. **An architecture for web service mediation and discovery**.
Dagstuhl Seminar *The Role of Business Processes in Service Oriented Architectures*, organized by F. Leymann, W. Reisig, S. R. Thatte, W. van der Aalst, Dagstuhl 16.-21.7.2006

481. **The Abstract State Machines Method for Modelling and Analysis of Software-Based Systems**.
Dagstuhl Seminar *Methods for Modelling Software Systems (MMOSS)*, organized by D. Harel (Weizmann Inst. - Rehovot, IL), P. Stevens (University of Edinburgh, GB), R. Wieringa (University of Twente, NL) , Dagstuhl 27.08. - 01.09.2006

482. **Contributions of the Abstract State Machines method to program verification and some future challenges**.
40 Years of IFIP WG 2.2 Anniversary Meeting, Udine, 11.-14.9.2006

483. **The ASM Ground Model Method as a Foundation of Requirements Engineering**.
CS Department, McMaster University, Hamilton (Canada), 10.1.2007

484. **The Abstract State Machines Method for Modeling and Analysis of Software-Based Systems**.// CS Department, University of Toronto (Canada), 11.1.2007

485. **A Compositional Framework for Service Interaction Patterns and Interaction Flows**.// CS Department, University of Waterloo (Canada), 12.1.2007

486. **The Abstract State Machines Method for High-Level System Design and Analysis**.
British Computer Science Formal Aspects of Computing Seminar, London, 21.3.2007

487. **Interaktions- und Arbeitsflussmuster: Eine Fallstudie fuer präzise Pflichtenhefterstellung**.
2 Lectures on Software Technology, Universität Freiburg, Fakultät für Informatik, 4.5.2007

488. **Illustrating ASM Ground Model Construction for Business Process Mediation**.
Universität Freiburg, Fakultät für Informatik, 4.5.2007

489. **A Semantical Foundation for Hoare's Verified Software Challenge**.
Fakultätskolloquium, Fakultät für Elektrotechnik, Informatik und Mathematik, University of Paderborn, 8.5.2007

490. **A Critical Analysis of Workflow Patterns**.
International Abstract State Machines Workshop 2007, Grimstadt, Norway, 6.-9.6.2007

491. **Hoare's Grand Verified Software Challenge and Semantical Program Correctness**.
Logic, Abstract State Machines and Databases Workshop, Massey University, Palmerston North, New Zealand, 2.-3.11.2007

492. **The ASM System Design and Analysis Method: An Illustration by Modeling Workflow Patterns from First Principles**.
26th International Conference on Conceptual Modeling (ER 2007) Keynote, Auckland, New Zealand, 5.-9.11.2007

493. **Coupling Design and Verification in Software Product Lines**.
The Fifth International Symposium on Foundations of Information and Knowledge Systems (FoIKS 2008) Keynote, February 11-15, 2008, Pisa, Italy, http://2008.foiks.org/

494. **Using ASMs for System Modeling: The Case of BPMN**.
Computer Science Department, University of Kiel, Germany, 6.3.2008.

495. **A Framework for Rigorous Modeling and Analysis of Business Processes**.
Computer Science Department, University of Kiel, Germany, 16.5.2008.

496. **Business Process Modeling Notations and the OR-Join Problem**.
Technische Universität Hamburg-Harburg, 19.5.2008

497. **The Abstract State Machines Method for Verifiable System Design. With an Application to Business Process Modeling Notations**.
SFB 637- Logistik (www.sfb637.uni-bremen.de), University of Bremen, Germany, 23.5.2008.

498. **System Modeling, Verification and Validation: From Programming Languages to Business Processes**.
Mathematical Rigour in Computer Science, Festkolloquium on the Occasion of Peter Schmitt's 60th Birthday, University of Karlsruhe, Germany, 30.5.2008.

499. **Semantics of Business Process Modeling: Methods and Techniques**.
Invited Lecture to *19th International Workshop on Algebraic Development Techniques* (WADT'08), Pisa, Italy, June 13-16, 2008.

500. **An Introduction to ASMs via Workflow Patterns**.
Hans-Plattner-Institut, Berlin-Potsdam, Germany, 25.6.2008.

501. **Modeling the Semantics of Object-Oriented Languages**.
Computer Science Department, University of Düsseldorf, Germany, 7.11.2008.

502. **The ASM Method for Modeling and Analysis of Software-Based Systems**.
Kolloquium, Elitestudiengang Softwaretechnik, Universitaet Augsburg, 3.2.2009

503. **Modeling Workflow Patterns and BPMN Constructs from First Principles**.
Siemens Research, München 5.2.2009.

504. **Coupling Design and Verification in Software Product Lines**.
University of Waterloo, Ontario (Canada), April 24, 2009.

505. **Abstract State Machines and their relation to Event-B programs.**
University of Sherbrooke, Quebec (Canada), April 28, 2009.

506. **An illustration of how to develop ASM models from requirements: the Java/JVM case study.**
University of Sherbrooke, Quebec (Canada), April 28, 2009.

507. **A rigorous semantics for the OMG BPMN Standard**.
University of Sherbrooke, Quebec (Canada), April 29, 2009.

508. **The Abstract State Machines Method for Modeling and Analysis of Software-Based Systems. Survey of its Mathematical Foundation and of Characteristic Applications**.
IRMCAS Centre (Interdisciplinary Research Institute for Mathematical Sciences and Computer Science), Simon Fraser University, Vancouver (Canada), 13.5.2009

509. **Modeling Workflow Patterns from First Principles**.
Computing Science at Simon Fraser University, Vancouver (Canada), 14.5.2009

510. **Modeling Business Processes: Semantics and Analysis of the OMG Standard for BPMN**.
Carleton University, School of Computer Science, Ottawa (Canada), 19.5.2009

511. **Festvortrag** Emeritierung Prof. Dr. Dr.h.c. V. Claus, CS Dept, University of Stuttgart, 3.7.2009

512. **Modeling Operating System Kernels**.
IFIP WG 1.3 meeting, Udine 11.-12.9.2009

513. **Refinement of programs of distributed agents**.
Dagstuhl Seminar *Refinement Based Methods for the Construction of Dependable Systems*, organized by Jean-Raymond Abrial (ETH Zürich, CH),

Michael Butler (University of Southampton, GB), Rajeev Joshi (Jet Propulsion Laboratory, USA), Elena Troubitsyna (Aabo Akademi University - Turku, FIN), Jim C. P. Woodcock (University of York, GB), Dagstuhl, September 13-18, 2009.

514. **Synchronous and Asynchronous Abstract State Machines**.
Dagstuhl Seminar *SYNCHRON 2009*, organized by Albert Benveniste (IRISA/INRIA Rennes, F), Stephen A. Edwards (Columbia University, US), Edward Lee (Univ. California - Berkeley, US), Klaus Schneider (TU Kaiserslautern, D), Reinhard von Hanxleden (Universität Kiel, D), Dagstuhl, November 22-27, 2009

515. **Coupling Design and Verification in Software Product Lines**.
Informatikkolloquium TU München, 1.12.2009

516. **Refinement of distributed ASMs**.
ETH Zürich 19.1.2010

517. **Modeling Mobile Ambients by Ambient ASMs**.
Politecnico di Milano, D'ASAP Project Meeting 17.-18.2.2010

518. **Synchronous Message Passing and Semaphores: An Equivalence Proof**.
ABZ2010 Conference, Orford, Canada, 22.-26.2.2010

519. **Execution Semantics for BPMN Modeling Concepts**.// ETH Zürich 2.3.2010

520. **Coupling Design and Verification in Software Product Lines**.//
Informatik Kolloquium ETH Zürich 22.3.2010

521. **Ambient Abstract State Machines**.

    - ETH Zürich 27.4.2010
    - Lecture at Amir Pnueli Memorial Symposium, Courant Institute, NYU, New York, 7.-9.5.2010

522. **Stepwise Refinements in System Design and Conservative Extensions for Property Verification**.
Institut für Informatik und angewandte Mathematik, Universität Bern 20.5.2010

523. **A Runtime-Based Verification Method for Stepwise Refined Concurrent Programs**.
Research Seminar of: Interdisciplinary Centre for Security, Reliability and Trust, University of Luxembourg, 27.5.2010

524. **Modeling Business Processes viewed through the OMG BPMN standard definition**.
Opening Lecture at AFADL 2010 (10es Journées Francophones Internationales sur les Approches Formelles dans l'Assistance au Développement de Logiciels), Poitiers 9.-11.6.2010 (Abstract in: Y. Ait-Ameur (Ed.): Proc. AFADL 2010, LISI/ENSAMA, p.1)

525. **Applying Incremental Design for the Verification of Software Product Lines**.
University of Passau 15.6.2010

526. **Ambient Abstract State Machines**.
Software Competence Centre Hagenberg (Linz, Austria), 30.8.2010

527. **Ambient Abstract State Machines for modeling an architecture of current WEB applications systems**.
Invited Lecture at the First Conference of the Academia Europaea (AIECS), Graz, 31.8.2010

528. **An execution model for the BPMN 2.0 OMG standard of 2010**.
Karlsruher Institut für Technologie, 4.10. 2010

529. **BPMN Core Modeling Concepts in the OMG 2010 Standard**.
Hochschule Bonn-Rhein-Sieg, Informatikkolloquium, 8.10.2010

17 Talks 2011 – 2021 (ASM Modeling Method)

530. **Ein ASM Modell fuer PASS**.
KIT, Karlsruhe (Germany), 14.-16.2.2011

531. **Design for Change: Das revidierte PASS-Modell als Fallstudie**.
KIT, Karlsruhe (Germany), 1.3.2011

532. **Wiederverwendung von ASMs am Beispiel des revidierten PASS Modells**.
Metasonic, Ingolstadt (Germany), 3.3.2011

533. **Abstrakte Zustandsmaschinen mit Umgebungsbegriff**.
Universität Augsburg (Germany), 4.3.2011

534. **A Subject-Oriented Interpreter Model for S-BPM**.
Universität Linz (Austria), 1.4.2011

535. **Course on the ASM Method for Software Engineers**.
FH Oberösterreich, Fakultät für Informatik, Kommunikation und Medien, Hagenberg bei Linz (Austria), 28.3.-15.4.2011

536. **The Abstract State Machines Method for Modeling and Analysis of Software-Based Systems. A Survey of its Mathematical Foundation and of Characteristic Industrial Applications**.
RISC Institute, Hagenberg bei Linz (Austria), 13.4.2011

537. **Einführung in die ASM-Methode**.
Course delivered at TU Braunschweig (Germany), Computer Science Department, May 2011

538. **Ambient ASMs: Agents, Patterns, Mobility**.
TU Braunschweig 6.6.2011

539. **Comparing S-BPM with BPMN, Workflow Patterns and YAWL**.
KIT, Karlsruhe (Germany), 10.6.2011

540. **Business Process Modeling: Standards or Accurately Modeled Tools?**
CS Kolloquium, TU Braunschweig (Germany) 20.6.2011

541. **How Business Process Modeling can be made Reliable using Methods from Logic**.
CS Kolloquium, RWTH Aachen (Germany) 21.6.2011

542. **Business Process Modeling: Analyzing Standards and Tools using Abstract State Machines**
CS Kolloquium, U Halle (Germany) 24.6.2011

543. **The Problem of Semantics for Business Processes**.
Invited lecture to 5th International Workshop on Semantics in Data and Knowledge Bases (SDKB 2011 at ICALP 2011), Zürich (CH) 4.7.2011

544. **Using ASMs for modeling and analysis of web services**.
ESF-Workshop at SCCH and RISC Hagenberg (Austria), 26.-28.9.2011

545. **Coupling Design and Verification in Software Product Lines**.
EPFL, Lausanne (CH) 30.11.2011

546. **Business Process Modeling. A Case Study: BPMN, YAWL, S-BPM**.
Universität Innsbruck (Austria), 12.3.2012

547. **Course on the ASM Method for Software Engineers**.
FH Oberösterreich, Fakultät für Informatik, Kommunikation und Medien, Hagenberg bei Linz (Austria), 13.-30.3.2012

548. **Business Process Modeling: Analyzing Standards and Tools**.
Universität Passau (Germany), 19.3.2012

549. **The Abstract State Machines Method for Modeling and Analysis of Software-Based Systems**.
Collegium Logicum, Kurt Gödel Society Lecture, TU Wien (Austria), 2.4.2012

550. **S-BPM and the Abstract State Machines Method**.
Keynote at S-BPM-One Workshop 2012, TU Wien (Austria), 4.4.2012

551. **Business Process Modeling: A Critical Analysis of BPMN 2.0 and of the Workflow Pattern Initiative**.
SAP Research, Darmstadt (Germany) 30.5.2012

552. **Rigorous Analysis of Web Application Frameworks**.
Opening Keynote at Joint iFM and ABZ 2012 Conference, Pisa 19.6.2012

553. **Accurate Models for Web Application Frameworks as a Prerequisite for Rigorous Analysis**.
Dagstuhl Seminar *Web Application Security*, organized by Lieven Desmet, Martin Johns, Benjamin Livshits, Andrei Sabelfeld, Dagstuhl 30.9.-5.10.2012

554. **Accurate Models for Web Application Frameworks**.
8.10.2012, Université du Luxembourg

555. **Business Process Modeling: Weaknesses of BPMN and Workflow Patterns**.
9.10.2012, Universität Ulm (Germany)

556. **Business Process Modeling: Criticism of BPMN and Workflow Patterns and an Interpreter for Subject-Oriented BPM**.
10.10.2012, FORTISS, München (Germany)

557. **Course on the ASM Method for Software Engineers**.
FH Oberösterreich, Fakultät für Informatik, Kommunikation und Medien, Hagenberg bei Linz (Austria), 5.3.-21.3.2013

558. **Accurate Models for Web Application Frameworks**.
11.3.2013, Universität Passau (Germany)

559. **Why Use the Abstract State Machines Method for Design and Analysis of Business Processes?**
Institute for Software Technology and Interactive Systems, TU Wien (Austria) 18.3.2013

560. **The Abstract State Machines Method for Modular Design and Analysis of Programming Languages: A Survey**.
Invited lecture at the workshop on *Scalable Language Specification* (SLS 2013), Microsoft Research Cambridge, June 25-27, 2013

561. **A proposal for including communication into Abstract State Machines**.
Dagstuhl Seminar *Integration of Tools for Rigorous Software Construction and Analysis*, organized by U. Glässer, S. Hallerstede, M. Leuschel, E. Riccobene, Dagstuhl September 8-13, 2013. http://drops.dagstuhl.de/opus/volltexte/2014/4358/

562. **Defining ASMs as Event-B Machines and vice-versa** (Joint with Laurent Voisin).
Dagstuhl Seminar *Integration of Tools for Rigorous Software Construction and Analysis*, organized by U. Glässer, S. Hallerstede, M. Leuschel, E. Riccobene, Dagstuhl September 8-13, 2013. http://drops.dagstuhl.de/opus/volltexte/2014/4358/

563. **How to guide PhD candidates**.
Software Competence Center Hagenberg, 17.10.2013

564. **Closing the Gap between Business Process Models and their Implementation. Towards Certified BPMs**.
Wirtschaftsinformatik, Hochschule Bonn-Rhein-Sieg, 21.10.2013.

565. **How Business Processes can be Certified**.
Informatik, Universität Düsseldorf, 22.10.2013

566. **How to Model and Verify Software Product Lines**.
Informatik, Universität Magdeburg, 23.10.2013

567. **System modeling with variable sharing or communication-based data exchange?**.
SAP Research Karlsruhe, 25.10.2013

568. **S-BPM: Über den praktischen Gewinn einer wissenschaftlichen Fundierung**.
Invited Lecture to *AIK-Symposium*, Universität Karlsruhe, 25.10.2013

569. **Proving serializability for concurrent programs running under an abstract transaction operator**.
Università di Pisa, 11.3.2014

570. **How to Achieve Reliability for Business Process Models and their Implementation**. University of Swansea, March 13, 2014

571. **BPMN, YAWL, Workflow Patterns, Petri Nets: A Critical Analysis of some Business Process Standards and Tools**.
University of Southampton, March 18, 2014

572. **Modeling and proving correctness of transaction control. A challenge for theorem provers**.
University of Southampton, March 18, 2014

573. **Course on the ASM Method for Software Engineers**.
FH Oberösterreich, Fakultät für Informatik, Kommunikation und Medien, Hagenberg bei Linz (Austria), 25.3.-10.4.2014

574. **An Abstract Transaction Operator for Concurrent Programs**.
Universität Passau, 28.3.2014

575. **Well-founded certification of industrial business process models: the role of "ground models"**.
Technische Universität Dortmund, 29.4.2014

576. **Validating and Verifying Business Process Models and their Implementation**.
RWTH Aachen, 12.5.2014

577. **Eine kritische Analyse von BPMN, Workflow Pattern und YAWL**.
Universität Duisburg, 20.5.2014

578. **S-BPM: Eine mathematisch fundierte Methode zur zertifizierbar korrekten Modellierung von Geschaeftsprozessen**.
Universität Heidelberg 22.5.2014

579. **Specifying Proven to Be Correct Transaction Control for Serializable Concurrent Program Executions**.
ABZ'2014 Conference, Toulouse 2.-6.6.2014

580. **Remarks on the Steam-Boiler and Landing Gear Case Studies.**
ABZ'2014 Conference, Landing Gear Case Study Track, Toulouse 2.-6.6.2014

581. **Modeling with Abstract State Machines**.
Invited Tutorial at Second BIOMICS Summer Workshop, June 18-20, 2014, University of St Andrews, Scotland

582. **Der subjektorientierte Ansatz zur Modellierung von Geschäftsprozessen**.
Kolloquium der Informatik, Hochschule Bonn-Rhein-Sieg, 23.6.2014

583. **A Transaction Operator for Distributed Pseudo-Code**.
    - Kolloquium der Informatik, Universität Bonn, 14.7.2014
    - Universität Oldenburg, 7.10.2014

584. **Ein Transaktionsoperator für nebenläufige Programme**.
Universität Freiburg, 17.7.2014

585. **The Role of Logic in Computing or On the Practical Advantage of a Scientific Foundation**.
Universität Kiel, 9.10.2014

586. **Methodik zur Modellierung von Geschäftsprozessen**
Berufsakademie der Wirtschaftsakademie Schleswig-Holstein, 10.10.2014

587. **Closing the Gap between Business Process Models and their Implementation**.
KIT Karlsruhe, 15.10.2014

588. **Abstract State Machine Nets. Closing the Gap between Business Process Models and their Implementation** .
Key Note, S-BPM ONE Conference, Kiel 23.-24.4.2015

589. **Modeling for Change via Component-Based Decomposition and ASM Refinement**.
S-BPM ONE Conference, Kiel 23.-24.4.2015

590. **Concurrent Abstract State Machines**.
Universität Ulm, 30.4.2015

591. **Course on the ASM Method for Software Engineers**.
FH Oberösterreich, Fakultät für Informatik, Kommunikation und Medien, Hagenberg bei Linz (Austria), 5.-22.5.2015

592. **The Abstract State Machines Method for the Design and Analysis of Software-Intensive Systems**.
Charles University of Prague, 18.5.2015

593. **How to avoid Petri net ideosyncrasies when modeling computational systems**. Invited Lecture, BIOMICS Workshop, Universität Passau, 8.-10.2.2016

594. **The ASM Method for Model Based System Engineering**. Invited Lecture to SysML Workshop, SCCH Hagenberg, 3.3.2016

595. **Modellieren und Analyse verteilter Algorithmen mit nebenläufigen Abstract State Machines**.
Universität Kaiserslautern, 11.4.2016

596. **Kritischer Vergleich von ASMs und Petrinetzen zur Modellierung verteilter Algorithmen**. Hochschule Bonn-Rhein-Sieg, 13.4.2016

597. **Modeling distributed algorithms by Abstract State Machines compared to Petri Nets**. Invited Lecture, ABZ 2016 Conference, Linz (Austria), May 23-27, 2016.

598. **A compact encoding of sequential ASMs in Event-B**. ABZ 2016 Conference, Linz (Austria), May 23-27, 2016 (presented by M. Leuschel)

599. **Entwurf verteilter Algorithmen mit nebenläufigen abstrakten Zustandsmachinen**.
30.6.2016, Universität Stuttgart

600. **Modeling distributed algorithms with ASMs: A comparison with Petri nets**.
31.5.2016, Universität Saarbrücken

601. **Using ASMs for System Engineering**.
Sardex, Cagliari 30.8.2016.

602. **Why the ASM Method is not a Formal but a Practical Method for Model Based System Engineering**.
26.-27.9.2016, Universität Ulm

603. **Modellierung verteilter Algorithmen: ASMs versus Petri Netze**.
RWTH Aachen, 28.9.2016

604. **ASM Kurs fuer Softwareentwickler**.
FH Oberösterreich, Fakultät für Informatik, Kommunikation und Medien, Hagenberg bei Linz (Austria), 24 lectures, 21.3.-6.4.2017.

605. **One-day tutorial on the ASM method**.
Sardex, Cagliari, 9.6.2017.

606. **Modeling AODV by ASMs**.
CS Department, U of Ulm, 2.3.2018

607. **The ASM Modeling Method**

    - Course in the Software Engineering Program at FH Oberösterreich, Fakultät für Informatik, Kommunikation und Medien, Hagenberg bei Linz (Austria), 24.4.-8.5.2018 and 26.3.-11.4.2019
    - Course for Master and Graduate Program of Universität Halle (Germany), October 14–November 8, 2019.
    - Course in the PhD Program, Università di Pisa, 18.-29.6.2018 and February 2021

608. **Modeling the Business Logic of a Mutual Credit System**.
Universität Passau, 1.4.2019

609. **Modellieren und Analyse verteilter Algorithmen mit nebenlaeufigen Abstract State Machines. (Ein Vergleich mit Petrinetzen)**.
TU Wien 8.4.2019

610. **The Abstract State Machines Method for High Level System Design and Analysis**.
Informatikkolloquium Universitäten Leipzig und Dresden, Leipzig 15.10.2019

611. **The Role of Modeling for Reliable System Development**.
Informatikkolloquium Universität Halle, 24.10.2019

612. **A characterization of Gurevich's partial order runs of distributed ASMs.**
IFIP WG 1.3 Meeting, Massa Marittima, 14.1.-16.1.2020

613. **Characterizing Recursion by Abstract State Machines: The Foundational Context.**
8th International Conference on Rigorous State Based Methods (ABZ 2021), Ulm 9.-11.6.2021