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# CWI Visiting Committee on Computer Science

16 - 19 September 1991

List of Publications 1987 - 1991

July 1991

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16 - 19 September 1991

List of Publications 1987 - 1991

July 1991

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| CS1 | Multimedia Kernel Systems | D.C.A. Bulterman | 63 |

# Department of Software Technology

**Research Group AP1: Semantics**

*Papers in Journals and Proceedings*

**1987**

P. AMERICA, J.W. DE BAKKER (1987). Designing equivalent semantic models for process creation. M. VENTURINI ZILLI (ed.). *Mathematical Models for the Semantics of Parallelism,* Springer LNCS 280, 21-80.

J.W. DE BAKKER, J.-J.CH. MEYER (1987). Order and metric in the stream semantics of elemental concurrency. *Acta Informatica 24,* 491-511.

J.W. DE BAKKER, J.-J.CH. MEYER, E.-R. OLDEROG (1987). Infinite streams and finite observations in the semantics of uniform concurrency. *Theoretical Computer Science 49,* 87-112.

F.S. DE BOER (1987). A proof rule for process creation. M. WIRSING (ed.). *Proc. IFIP Working Conference on Formal Description of Programming Concepts-III,* North-Holland, 23-50.

J.N. KOK (1987). A fully abstract semantics for dataflow nets. J.W. DE BAKKER, A.J. NIJMAN, P.C. TRELEAVEN (eds.). *Proceedings PARLE (Parallel Architectures and Languages Europe), Vol. 2, Parallel Languages,* Springer LNCS 259, 351-369.

**1988**

P. AMERICA, J.W. DE BAKKER (1988). Designing equivalent semantic models for process creation. *Theoretical Computer Science, 60,* 109-176.

P. AMERICA, J.J.M.M. RUTTEN (1988). Solving reflexive domain equations in a category of complete metric spaces. M. MAIN, A. MELTON, M. MISLOVE, D. SCHMIDT (eds.). *Proc. of the Third Workshop on Mathematical Foundations of Programming Language Semantics,* LNCS 298, 254-288.

J.W. DE BAKKER, J.N. KOK (1988). Uniform abstraction, atomicity and contractions in the comparative semantics of Concurrent Prolog. *Proc. Int. Conference on Fifth Generation Computer Systems 1988, Institute for New Generation Computer Technology,* 347-355.

J.W. DE BAKKER, J.-J.CH. MEYER (1988). Metric semantics for concurrency. *BIT, 28,* 504-529.

J.W. DE BAKKER, J.-J.CH. MEYER, E.-R. OLDEROG, J.I. ZUCKER (1988). Transition systems, metric spaces and ready sets in the semantics of uniform concurrency. *Journal of Comp. and System Sciences, 36,* 158-224.

J.N. KOK (1988). A compositional semantics for concurrent Prolog. R. CORI, M. WIRSING (eds.). *Proc. of the 5th Annual Symposium on Theoretical Aspects of Computer Science,* Bordeaux, February 1988, LNCS 294, 373-388.

J.N. KOK, J.J.M.M. RUTTEN (1988). Contractions in comparing concurrency semantics. T. LEPISTO, A. SALOMAA (eds.). *Proc. 15th ICALP,* Tampere, Finland, LNCS 317, 317-332.

**1989**

P. AMERICA, J.W. DE BAKKER, J.N. KOK, J.J.M.M. RUTTEN (1989). Denotational semantics of a parallel object-oriented language. *Information and Computation, Vol. 83,* 152-205.

P. AMERICA, J.J.M.M. RUTTEN (1989). Solving reflexive domain equations in a category of complete metric spaces. *Journal of Computer and System Sciences, Vol 39,* nr. 3, 343-375.

J.W. DE BAKKER (1989). Designing concurrency semantics. G.X. RITTER (ed.) *Information Processing 89,* Elsevier, 591-598.

J.W. DE BAKKER, P.C. TRELEAVEN (eds.) (1989). Special issue on PARLE: Conference on Parallel Architectures and Languages - Europe, 1987. *Parallel Computing 9,* 127-278.

F.S. DE BOER (1989). Compositionality in the temporal logic of concurrent systems. E. ODIJK, M. REM, J.-C. SYRE (eds.). *Proc. PARLE 89,* LNCS 366, Springer, 406-423.

F.S. DE BOER, J.N. KOK, C. PALAMIDESSI, J.J.M.M. RUTTEN (1989). Control flow versus logic: a denotational and a declarative model for guarded Horn clauses. A. KRECZMAR, G. MIRKOWSKA (eds.). *Proceedings Mathematical Foundations of Computer Science, MFCS 89,* LNCS 379, Springer, 165-176.

F.S. DE BOER, J.N. KOK, C. PALAMIDESSI, J.J.M.M. RUTTEN (1989). Semantic models for a version of PARLOG. *Proceedings Int. Conference on Logic Programming, (ICLP 89),* MIT Press, 621-636.

E.-R. OLDEROG (1989). Strong bisimilarity on nets: a new concept for comparing net semantics. *Proceedings REX School/Workshop,* Noordwijkerhout, June 1988, LNCS 354, Springer, 549-573.

J.J.M.M. RUTTEN (1989). Correctness and full abstraction of metric semantics for concurrency. *Proceedings REX School/Workshop,* Noordwijkerhout, June 1988, LNCS 354, Springer, 628-659.

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Horn Clause Logic. M.Z. KWIATKOWSKA, M.W. SHIELDS, R.M. THOMAS (eds.). *Proc. of the international BCS-FACS Workshop on Semantics for Concurrency,* Leicester, July 1990, Workshops in computing, Springer, 38-60.

J.M. JACQUET, L. MONTEIRO (1990). Comparative semantics for a parallel contextual programming language. S. DEBRAY, M. HERMENEGILDO (eds.). *Proceedings of the North American Conference on Logic Programming,* MIT Press, 195-214.

J.N. KOK, J.J.M.M. RUTTEN (1990). Contractions in comparing concurrency semantics. *Theoretical Computer Science 76,* 180-222.

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J.J.M.M. RUTTEN (1990). Semantic correctness for a parallel object-oriented language. *SIAM Journal on Computing, 19 (3),* 341-383.

J.J.M.M. RUTTEN, J.I. ZUCKER (1990). A metric approach to fairness. *Fundamenta Informaticae,* to appear.

**1991**

P. AMERICA, J.J.M.M. RUTTEN (1991). A layered semantics for a parallel object-oriented language. J.W. DE BAKKER, W.P. DE ROEVER, G. ROZENBERG (eds.). *Proceedings REX/FOOL Workshop on the Foundations of Object-Oriented Language* (also to appear in FACS).

J.W. DE BAKKER (1991). Comparative semantics for flow of control in logic programming without logic, to appear in *Information and Computation.*

J.W. DE BAKKER, J.J.M.M. RUTTEN (1991). Concurrency semantics based on metric domain equations. G.M. REED, A.W. ROSCOE, R.F. WACHTER (eds.). *Topology and Computation,* Oxford University Press (to appear).

J.W. DE BAKKER, E.P. DE VINK (1991). CCS for LP and OO. S. ABRAMSKY, T.S.E. MAIBAUM (eds.). *Proceedings TAPSOFT 1991,* LNCS 494, Springer-Verlag, 1-28.

J.W. DE BAKKER, E.P. DE VINK (1991). Rendez-vous with metric semantics. E.H.L. AARTS, J. VAN LEEUWEN, M. REM (eds.). *Proceedings PARLE91,* LNCS 506, Springer-Verlag, 27-57.

J.W. DE BAKKER, J.H.A. WARMERDAM (1991). Four domains for concurrency. D. BJØRNER, V.E. KOTOV (eds.). *Ershov Memorial Images of Programming,* North-Holland, to appear (also to appear in TCS).

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F.S. DE BOER, J.N. KOK, C. PALAMIDESSI, J.J.M.M. RUTTEN (1991). From Failure to Success: Comparing a Denotational and a Declarative Semantics for Horn Clause Logic, to appear in *Theoretical Computer Science.*

F.S. DE BOER, J.N. KOK, C. PALAMIDESSI, J.J.M.M. RUTTEN (1991). The failure of failures: towards a paradigm for asynchronous communication.

*Proceedings CONCUR '91,* LNCS, Springer-Verlag, to appear.

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F.S. DE BOER, C. PALAMIDESSI (1991). Embedding as a tool for language comparison: on the CSP hierarchy. *Proceedings CONCUR'91,* LNCS, Springer-Verlag, to appear.

J.M. JACQUET (1991). Negation in Conclog. *Proceedings 1st ACPC Conference,* LNCS, Springer-Verlag, to appear.

J.M. JACQUET, L. MONTEIRO (1991). Comparative semantics of generalized Horn clauses. *Proceedings of 10th Japanese Conference on Logic Programming,* to appear.

J.M. JACQUET, L. MONTEIRO (1991). Extended Horn clauses: the framework and some semantics. *Proceedings of CONCUR'91,* LNCS, Springer-Verlag, to appear.

J.J.M.M. RUTTEN (1991). Non wellfounded sets and programming language semantics. *Proceedings of Mathematical Foundations of Programming Semantics,* Pittsburgh, LNCS, Springer-Verlag.

*Reports*

**1987**

CS-R8709 P. AMERICA, J.J.M.M. RUTTEN. *Solving reflexive domain equations in a category of complete metric spaces.*

CS-R8710 F.S. DE BOER. *A proof rule for process-creation.*

CS-R8724 J.N. KOK. *A fully abstract semantics for data flow nets.*

CS-R8732 P. AMERICA, J.W. DE BAKKER. *Designing equivalent semantic models for process creation.*

CS-R8755 J.N. KOK, J.J.M.M. RUTTEN. *Contractions in comparing concurrency semantics.*

CS-R8759 J.J.M.M. RUTTEN, J.I. ZUCKER. *A semantic approach to fairness.*

**1988**

CS-R8803 J.W. DE BAKKER, J.-J.CH. MEYER. *Metric semantics for concurrency.*

CS-R8809 J.N. KOK. *A compositional semantics for Concurrent Prolog.*

CS-R8831 J.J.M.M. RUTTEN. *Correctness and full abstraction of metric semantics for concurrency.*

CS-R8834 J.W. DE BAKKER, J.N. KOK. *Uniform abstraction, atomicity and*

*contractions in the comparative semantics of Concurrent Prolog.*

CS-R8835 J.N. KOK. *Data flow semantics.*

CS-R8840 J.W. DE BAKKER. *Comparative semantics for flow of control in logic programming without logic.*

CS-R8843 J.J.M.M. RUTTEN. *Semantic correctness for a parallel object-oriented language.*

**1989**

CS-R8902 J.W. DE BAKKER. *Designing concurrency semantics.*

CS-R8904 P. AMERICA, F.S. DE BOER. *Proving total correctness of recursive procedures.*

CS-R8951 F.S. DE BOER, J.N. KOK, C. PALAMIDESSI, J.J.M.M. RUTTEN. *Semantic models for a version of Parlog.*

CS-R8952 F.S. DE BOER, J.N. KOK, C. PALAMIDESSI, J.J.M.M. RUTTEN. *Control flow versus logic: a denotational and declarative model for guarded Horn clauses.*

CS-R8953 P.H.M. AMERICA, J.J.M.M. RUTTEN. *A parallel object-oriented language: design and semantic foundations.*

CS-R8954 J.W. DE BAKKER, J.J.M.M. RUTTEN. *Concurrency semantics based on metric domain equations.*

CS-R8955 J.J.M.M. RUTTEN. *Deriving models for bisimulation from structured operational semantics.*

**1990**

CS-R9018 J.-M. JACQUET, L. MONTEIRO. *Comparative semantics for a parallel contextual programming language.*

CS-R9019 F.S. DE BOER, J.N. KOK, C. PALAMIDESSI, J.J.M.M. RUTTEN. *From failure to success: comparing a denotational and a declarative semantics for Horn clause logic.*

CS-R9027 E. HORITA, J.W. DE BAKKER, J.J.M.M. RUTTEN. *Fully abstract denotational models for nonuniform concurrent languages.*

CS-R9031 L. CHERKASOVA. *A fully abstract model for concurrent nondeterministic processes based on posets with non-actions.*

CS-R9033 J.W. DE BAKKER, J.H.A. WARMERDAM. *Metric pomset semantics for a concurrent language with recursion.*

CS-R9046 F.S. DE BOER, C. PALAMIDESSI. *A fully abstract model for concurrent logic languages.*

CS-R9052 P.H.M. AMERICA, J.J.M.M. RUTTEN. *A layered semantics for a parallel object-oriented language.*

CS-R9062 J.J.M.M. RUTTEN. *Explicit canonical representatives for weak bisimulation equivalence and congruence.*

CS-R9063 J.J.M.M. RUTTEN. *Nonwellfounded sets and programming language semantics.*

CS-R9068 J.W. DE BAKKER, J.H.A. WARMERDAM. *Four domains for concurrency.*

**1991**

CS-R91xx J.M. JACQUET, L. MONTEIRO. *Communicating clauses: towards synchronous communication in contextual logic programming.*

CS-R91xx J.J.M.M. RUTTEN. *Hereditarily-finite sets and complete metric spaces.*

*Other publications: books, theses, etc.*

**1987**

J.W. DE BAKKER (ed.) (1987). *Deliverable ESPRIT Project 415 Working Group on Semantics and Proof Techniques, Year 1986-1987.*

J.W. DE BAKKER, J.-J.CH. MEYER (1987). *Metric Semantics for Concurrency.* Report IR-139, Wiskunde en Informatica, VU Amsterdam.

J.W. DE BAKKER, A.J. NIJMAN, P.C. TRELEAVEN (eds.) (1987). *Proceedings PARLE (Parallel Architectures and Languages Europe), Vol. 1, Parallel Architectures,* Springer LNCS 258.

J.W. DE BAKKER, A.J. NIJMAN, P.C. TRELEAVEN (eds.) (1987). *Proceedings PARLE (Parallel Architectures and Languages Europe), Vol. 2, Parallel Languages,* Springer LNCS 259.

**1988**

J.W. DE BAKKER (ed.) (1988). *Deliverable ESPRIT Project 415 Working Group on Semantics and Proof Techniques, Year 1987-1988,* november.

**1989**

J.N. KOK (1989). *Semantic Models for Parallel Computation in Dataflow, Logic and Object-Oriented Programming* Doctoral thesis, VU Amsterdam.

J.J.M.M. RUTTEN (1989). *A Parallel Object-Oriented Language: Design and Semantic Foundations.* Doctoral thesis, VU Amsterdam.

J.W. DE BAKKER (ed.) (1989). *Languages for Parallel Architectures: Design, Semantics, Implementation Models,* Wiley.

J.W. DE BAKKER, W.-P. DE ROEVER, G. ROZENBERG (eds.) (1989). *Linear Time, Branching Time and Partial Order in Logics and Models for Concurrency,* Proceedings REX School/Workshop, Noordwijkerhout, June 1988, LNCS 354, Springer.

P. AMERICA, J.J.M.M. RUTTEN (1989). A parallel object-oriented language: design and semantic foundations. J.W. DE BAKKER (ed.). *Languages for*

*Parallel Architectures: Design, Semantics, Implementation Models,* 1-49, Wiley.

F.S. DE BOER (1989). A summary of the work on the proof theory for the language POOL. *J.W. de Bakker, 25 jaar Semantiek, Liber Amicorum,* CWI, Amsterdam.

R.J. VAN GLABBEEK, J.J.M.M. RUTTEN (1989). The processes of De Bakker and Zucker represent bisimulation equivalence classes. *J.W. de Bakker, 25 jaar Semantiek, Liber Amicorum,* CWI, Amsterdam.

**1990**

J.W. DE BAKKER, W.P. DE ROEVER, G. ROZENBERG (eds.) (1990). *Proceedings REX Workshop on Stepwise Refinement of Distributed Systems: Models, Formalisms, Correctness,* Plasmolen, May/June 1989, LNCS 430, Springer, 808 pp.

J.W. DE BAKKER, J.J.M.M. RUTTEN (eds.) (1990). *Deliverables First Year and Periodic Progress Report,* ESPRIT Basic Research Action Integration, July.

**1991**

J.W. DE BAKKER, W.P. DE ROEVER, G. ROZENBERG (eds.) (1991). *Proceedings REX School/Workshop on Foundations of Object-Oriented Languages,* Noordwijkerhout, May/June 1990, LNCS 489, Springer, 442 p.

J.W. BAKKER, W.P. DE ROEVER, G. ROZENBERG (1991). Real-time theory in practice. *Proceedings REX Workshop,* Plasmolen, June 1991, LNCS, Springer-Verlag, to appear.

J.W. DE BAKKER, J.J.M.M. RUTTEN (eds.) (1991). *Studies in Concurrency Semantics: Selected Papers of the Amsterdam Concurrency Group,* World Scientific Publishers, to appear.

J.W. DE BAKKER, J.J.M.M. RUTTEN (eds.) (1991). *Deliverables Second Year and Periodic Progress Report,* ESPRIT Basic Research Action Integration, June.

F.S. DE BOER (1991). *Reasoning about Dynamically Evolving Process Structures: a Proof Theory for the Object-Oriented Language POOL,* Ph.D. thesis, VU Amsterdam.

A. ELIËNS (1991). *DLP: a Language for Distributed Logic Programming,* Ph.D. thesis, University of Amsterdam [jointly with AP3].

## Research Group AP2: Concurrency and Real Time Systems

*Papers in Journals and Proceedings*

### 1987

J.C.M. BAETEN, J.A. BERGSTRA, J.W. KLOP (1987). Conditional axioms and $\alpha/\beta$-calculus in process algebra. M. WIRSING (ed.). *Proc. IFIP Working Conference on Formal Description of Programming Concepts-III,* North-Holland, 53-73.

J.C.M. BAETEN, J.A. BERGSTRA, J.W. KLOP (1987). Term rewriting systems with priorities. P. LESCANNE (ed.). *Proc. Conf. on Rewriting Techniques and Applications,* Bordeaux 1987, Springer LNCS 256, 83-94.

J.C.M. BAETEN, J.A. BERGSTRA, J.W. KLOP (1987). Decidability of bisimulation equivalence for processes generating context-free languages. J.W. DE BAKKER, A.J. NIJMAN, P.C. TRELEAVEN (eds.). *Proceedings PARLE (Parallel Architectures and Languages Europe), Vol. 2, Parallel Languages,* Springer LNCS 259, 94-112.

J.C.M. BAETEN, J.A. BERGSTRA, J.W. KLOP (1987). Ready-trace semantics for concrete process algebra with the priority operator. *British Computer Journal,* Vol. 30, No. 6, 498-506.

J.C.M. BAETEN, J.A. BERGSTRA, J.W. KLOP (1987). On the consistency of Koomen's fair abstraction rule. *Theoretical Computer Science 51,* 129-176.

J.C.M. BAETEN, R.J. VAN GLABBEEK (1987). Another look at abstraction in process algebra. TH. OTTMAN (ed.). *ICALP 87,* Springer LNCS 267, 84-94.

J.C.M. BAETEN, R.J. VAN GLABBEEK (1987). Merge and termination in process algebra. K.V. NORI (ed.). *Proc. 7th Conf. on Foundations of Software Technology and Theoretical Computer Science,* Puna, India, Springer LNCS 287, 153-172.

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J.A. BERGSTRA, J.V. TUCKER (1987). Algebraic specifications of computable and semi-computable data types. *Theoretical Computer Science 50,* 137-181.

R.J. VAN GLABBEEK (1987). Bounded nondeterminism and the approximation induction principle in process algebra. F.J. BRANDENBURG, G. VIDAL-NAQUET, M. WIRSING (eds.). *STACS 87,* Springer LNCS 247, 336-347.

R.J. VAN GLABBEEK, F.W. VAANDRAGER (1987). Petri net models for algebraic theories of concurrency. J.W. DE BAKKER, A.J. NIJMAN, P.C. TRELEAVEN (eds.). *Proceedings PARLE (Parallel Architectures and Languages Europe), Vol. 2, Parallel Languages,* Springer LNCS 259, 224-242.

W.P. WEIJLAND (1987). A systolic algorithm for matrix-vector multiplication. *Proceedings Computing Science in the Netherlands,* 143-160.

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J.C.M. BAETEN, J.A. BERGSTRA (1988). Global renaming operators in concrete process algebra. *Information & Computation 78 (3),* 205-245.

J.C.M. BAETEN, J.A. BERGSTRA (1988). Processen en processexpressies. *Informatie 30 (3),* 214-222. (in Dutch)

J.C.M. BAETEN, J.A. BERGSTRA (1988). Recursive process definitions with the state operator. *Proc. CSN88,* CWI Amsterdam, 279-294.

J.A. BERGSTRA, J.W. KLOP (1988). A complete inference system for regular processes with silent moves. F.R. DRAKE, J.K. TRUSS (eds.). *Proc. Logic Colloquium '86,* Elsevier Science Publishers B.V. (North-Holland), 21-81.

J.C.M. BAETEN, W.P. WEIJLAND (1988). Semantics for Prolog via term rewrite systems. S. KAPLAN, J.P. JOUANNAUD (eds.). *Proc. 1st Int'l Workshop on Conditional Term Rewriting, Orsay, 1987,* LNCS 308, Springer, 3-14.

W.P. WEIJLAND (1988). Semantics for logic programs without occur check. T. LEPISTO, A. SALOMAA (eds.). *Proc. 15th ICALP,* Tampere, Finland, LNCS 317, Springer, 710-726.

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J.C.M. BAETEN (1989). Algebra and communicating processes. *Proceedings AMAST Conference,* Iowa City, 35-38.

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J.C.M. BAETEN, J.A. BERGSTRA, J.W. KLOP, W.P. WEIJLAND (1989). Term rewriting systems with rule priorities. *Theoretical Computer Science 67,* 283-301.

J.C.M. BAETEN, R.J. VAN GLABBEEK (1989). Abstraction and empty process in process algebra. *Fundamenta Informaticae XII,* 221-242.

R.J. VAN GLABBEEK, F.W. VAANDRAGER (1989). Modular specifications in process algebra (with curious queues). M. WIRSING (ed.). *Algebraic Methods: Theory, Tools & Applications, Workshop Passau 1987,* LNCS 394, Springer, 465-506.

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J.F. GROOTE, F.W. VAANDRAGER (1989). Structured operational semantics and bisimulation as a congruence (extended abstract). G. AUSIELLO, M. DEZANI-CIANCAGLINI, S. RONCHI DELLA ROCCO (eds.). *Proc. ICALP 89,* Stresa, Italy, July 1989, LNCS 372, Springer.

W.P. WEIJLAND (1989). The algebra of synchronous processes. *Fundamenta Informaticae XII,* 139-162.

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J.C.M. BAETEN, J.A. BERGSTRA (1990). Process algebra with a zero object. J.C.M. BAETEN, J.W. KLOP (eds.). *Proceedings CONCUR 90,* LNCS 458, Springer-Verlag, 83-98.

J.F. GROOTE (1990). Specification and verification of real time systems in ACP. L. LOGRIPPO, R.L. PROBERT, H. URAL (eds). *Proceedings 10th International IFIP WG 6.1 Symp. on Protocol Specification Testing & Verification,* North-Holland, 261-274.

J.F. GROOTE (1990). A new strategy for proving $\omega$-completeness applied to process algebra. J.C.M. BAETEN, J.W. KLOP (eds.). *Proceedings CONCUR 90,* Springer-Verlag, LNCS 458, 314-331.

J.F. GROOTE (1990). Transition system specifications with negative premises. J.C.M. BAETEN, J.W. KLOP (eds.). *Proceedings CONCUR 90,* LNCS 458, Springer-Verlag, 332-341.

J.F. GROOTE, F.W. VAANDRAGER (1990). An efficient algorithm for branching bisimulation and stuttering equivalence. M. PATERSON (ed.). *Proceedings ICALP,* LNCS 443, Springer-Verlag, 626-639.

R. DE NICOLA, F.W. VAANDRAGER (1990). Action versus state based logics for transition systems. I. GUESSARIAN (ed.). *Proceedings Ecole de Printemps d'Informatique Semantique du Parallelisme,* LNCS 469, Springer-Verlag, 407-420.

R. DE NICOLA, F.W. VAANDRAGER (1990). Three logics for branching bisimulation (extended abstract). *Proceedings LICS 90,* Philadelphia, IEEE, 118-129.

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**1991**

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CS-R8760 K.R. APT, J.M. PUGIN. *Management of stratified databases.*

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CS-R8810 K.R. APT, H.A. BLAIR. *Arithmetic classification of perfect models of stratified programs.*
CS-R8811 K.R. APT, N. FRANCEZ, S. KATZ. *Appraising fairness in languages for distributed programming.*
CS-R8826 K.R. APT. *Introduction to logic programming (revised and extended version).*
CS-R8830 K.R. APT. *Efficient computing of least fixpoints.*
CS-R8833 C. PALAMIDESSI. *A fixpoint semantics for Guarded Horn Clauses.*
CS-R8837 M. BEZEM. *Completeness of resolution by transfinite induction.*

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CS-R8912 M. BEZEM. *Characterizing termination of logic programs with level mappings.*
CS-R8913 K.R. APT, R.N. BOL, J.W. KLOP. *On the safe termination of PROLOG programs.*
CS-R8917 R. BAGAI, M. BEZEM, M.H. VAN EMDEN. *On downward closure ordinals of logic programs.*
CS-R8918 H. WALINSKA DE HACKBEIL. *θ-government, thematic government and extraction asymmetries in zero derivation.*
CS-R8928 K.R. APT, H.A. BLAIR. *Arithmetic classification of perfect models of stratified programs (extended version).*
CS-R8940 H. WALINSKA. *The syntax of Slavic aspect, extended abstract.*
CS-R8942 R.N. BOL, K.R. APT, J.W. KLOP. *An analysis of loop checking mechanisms for logic programs.*
CS-R8943 D. TURI. *Logic programs with negation: classes, models, interpreters.*
CS-R8948 D. TURI. *Extending S-interpretations to logic programs with negation.*
CS-R8956 E.-R. OLDEROG, K.R. APT. *Using transformations to verify parallel programs.*

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CS-R9010 K.R. APT, M. BEZEM. *Acyclic programs (extended abstract).*
CS-R9016 K.R. APT, F.S. DE BOER, E.-R. OLDEROG. *Proving termination of parallel programs.*
CS-R9025 R.N. BOL. *Generalizing completeness results for loop checks.*
CS-R9026 R.N. BOL. *Towards more efficient loop checks.*
CS-R9036 K.R. APT, E.-R. OLDEROG. *Introduction to program verification.*
CS-R9038 D.J.N. VAN EIJCK. Quantifiers.
CS-R9039 D.J.N. VAN EIJCK. Determiners.
CS-R9048 K.R. APT, D. PEDRESCHI. *Studies in pure Prolog: termination.*

CS-R9054 R.N. BOL, J.F. GROOTE. *The meaning of negative premises in transition system specifications.*
CS-R9055 D.J.N. VAN EIJCK. *Formal semantics.*
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K.R. APT, E.-R. OLDEROG (1989). A note on disjoint parallelism. *J.W. de Bakker, 25 jaar Semantiek, Liber Amicorum,* CWI, Amsterdam.
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R.N. BOL (1991). Loop checking in logic programming. Ph.D. thesis to be defended on Oct. 18, at the University of Amsterdam, 199 + viii pages.

# Department of Algorithmics and Architecture

**Research Group AA1: Algorithms and Complexity**

*Papers in Journals and Proceedings*

**1987**

L.M. KIROUSIS, E. KRANAKIS, P.M.B. VITÁNYI (1987). Atomic multireader register. *Proc. of the 2nd International Workshop on Distributed Computing,* Amsterdam, Springer Lecture Notes in Computer Science.

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theory CT-90-01 (January 1990), University of Amsterdam.

CS-R9017 J.T. TROMP. *More computations on Gauss' lattice point problem.*

CS-R9040 E. KRANAKIS, D. KRIZANC. *Computing boolean functions on anonymous hypercube networks (extended abstract).*

CS-R9044 G. KISSIN. *Upper and lower bounds on switching energy in VLSI.*

CS-R9047 M. POCCHIOLA, E. KRANAKIS. *Camera placement in integer lattices (extended abstract).*

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M. LI, P.M.B. VITÁNYI (1990). *Average Case Complexity under Universal Distribution Equals Worst Case Complexity.* Report CS-90-15 Computer Science Department, University of Waterloo, Waterloo, Canada.

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CS-R9101 G. KISSIN, J. TROMP. *The energy complexity of threshold and other functions.*

CS-R91xx M. LI, P.M.B. VITÁNYI. *Combinatorics and Kolmogorov complexity.*

CS-R91xx M. LI, P.M.B. VITÁNYI. *Optimality of wait-free atomic multiwriter variables.*

CS-R9113 J. TROMP, P.M.B. VITÁNYI. *Randomized wait-free test-and-set.*

M. LI, P.M.B. VITÁNYI. *Kolmogorov Complexity Arguments in Combinatorics.* ITLI Prep. Series, Computation and Complexity Theory, Techn. Rept. CT-91-01, University of Amsterdam.

M. LI, J. TROMP, P.M.B. VITÁNYI. *How to Share Concurrent Wait-Free Variables (revised).* ITLI Prep. Series, Computation and Complexity Theory, Techn. Rept. CT-91-02, University of Amsterdam.

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**1987**

P.M.B. VITÁNYI (1987). Theoretische Informatica, Sectie C3. *Poly-Automatiserings Zakboekje,* Koninklijke PBNA B.V., Arnhem, 1-41 (second edition).

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M. LI, P.M.B. VITÁNYI (1990). Kolmogorov Complexity and its Applications. J. VAN LEEUWEN (ed.). *Handbook of Theoretical Computer Science,* Elsevier Science, 189-254.

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P. CLOTE, E. KRANAKIS (1991). *Boolean Functions, Parallel Computation and Proof Systems,* ca 400 pp. (to appear 1992).

E. KRANAKIS (1991). *Primality and Cryptography,* Wiley-Teubner Series in Computer Science, B.G. Teubner (Stuttgard) and John Wiley and Sons (Chichester), 1986, 235 + xv pp.

M. LI, P.M.B. VITÁNYI (1991). *Introduction to Kolmogorov Complexity and Its Applications,* Addison-Wesley, ca 500 pp. (to appear 1992).

## Research Group AA2: Cryptology

*Papers in Journals and Proceedings*

### 1987

D. CHAUM (1987). Highly secure but untraceable transactions. *Proc. of IFIP SEC'86,* North-Holland.

D. CHAUM (1987). Pay-as-you-go poker & showing satisfiability of an arbitrary predicate without revealing how both as secure as factoring. *Workshop record, Algorithms, Randomness and Complexity,* CIRM, Marseille-Luminy, March 1986.

D. CHAUM, J.-H. EVERTSE (1987). A secure and privacy-protecting protocol for transmitting personal information between organizations. A.M. ODLYZKO (ed.). *Proc Crypto '86,* LNCS 263, Springer-Verlag, 118-167.

D. CHAUM, J.-H. EVERTSE J.A.M. VAN DE GRAAF, R. PERALTA (1987). Demonstrating possession of a discrete logarithm without revealing it. A.M. ODLYZKO (ed.). *Proc. Crypto '86,* LNCS 263, Springer-Verlag, 200-212.

### 1988

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# Department of Computer Systems and Telematics

**Research Group CS1: Multimedia Kernel Systems**

*Reports*

**1990**

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*Other publications: books, theses, etc.*

**1991**

D.C.A. BULTERMAN, G. VAN ROSSUM, R. VAN LIERE (1991). A Structure for Transportable, Dynamic Multimedia Documents. *USENIX Summer Technical Conference on Multimedia,* June 1991.

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