CURRICULUM VITÆ

Ed Brinksma

November, 2004

General data

full name:	Hendrik ("Ed") Brinksma
date of birth:	16 September 1957
place of birth:	The Hague, Netherlands
nationality:	Dutch
sex:	male

Education

- University of Twente

doctoral dissertation (PhD):	On the design of extended LOTOS
supervisor:	prof.dr.ir. C.A. Vissers
date:	24 November 1988

- University of Groningen

doctoraal examen (MSc):	mathematics
specialization:	mathematical logic
minor:	computer science
supervisor:	prof.dr. J.F.A.K. van Benthem
date:	11 March 1982 (cum laude)

Professional career

May 1991 - today
Hoogleraar (Full Professor)
Chair of Formal Methods and Tools
Faculty of Computer Science
University of Twente, Netherlands.

March 2004 - today
Adjoint Professor
Faculty of Engineering and Science
Aalborg University, Denmark.

December 1988 - April 1991
> Universitair Hoofddocent (Associate Professor)
> Department of Tele-Informatics and Open Systems
> Faculty of Computer Science
> University of Twente

February 1990 - July 1990
> Visiting Researcher
> Swedish Intitute for Computer Science
> Stockholm

August 1982 - December 1988
> Universitair Docent (Assistant Professor)
> Department of Tele-Informatics and Open Systems
> Faculty of Computer Science
> University of Twente

April 1982 - July 1982
> Wetenschappelijk Ambtenaar (Scientific Assistant)
> Computer Science Research Group
> Department of Mathematics
> University of Groningen

September 1978 - April 1982
> Student Assistent (Teaching Assistant)
> Department of Mathematics, Department of Philosophy
> University of Groningen

Publications

A. Books and journals

[A–1] P. Bouyer, E. Brinksma, K.G. Larsen. Optimal Infinite Scheduling for Multi-Priced Timed Automata, accepted for publication in Formal Methods in System Design, 23 pp., 2004.

[A–2] L. Brandn Briones, E. Brinksma. A test generation framework for quiescent real-time systems. Proceedings FATES 2004, to be published in Lecture Notes in Computer Science, Springer, 15 pp., 2004

[A–3] E. Brinksma. Testing Times: On Model-Driven Test Generation for Non-Deterministic Real-Time Systems. 4th International Conference on Application of Concurrency to System Design (ACSD 2004), 16-18 June 2004, Hamilton, Canada. IEEE Computer Society, 3-6, 2004.

[A–4] P. Bouyer, E. Brinksma, K.G. Larsen. Staying Alive as Cheaply as Possible. In: R. Alur, G.J. Pappas (Eds.): Hybrid Systems: Computation and Control, 7th International Workshop, HSCC 2004, Philadelphia, PA, USA, March 25-27, 2004, Proceedings. Lecture Notes in Computer Science 2993, Springer, 203-218, 2004.

[A–5] E. Brinksma, A.H. Mader. Prozessalgebra, Teil 1. Automatisierungstechnik 51(8), 2003, A13-A16.

[A–6] E. Brinksma, A.H. Mader. Prozessalgebra, Teil 2. Automatisierungstechnik 51(9), 2003, A17-A20.

[A–7] E. Brinksma. Compositional Theories of Qualitative and Quantitative Behaviour. In: W.M.P. van der Aalst, E. Best (Eds.): Applications and Theory of Petri Nets 2003, 24th International Conference, ICATPN 2003, Eindhoven, The Netherlands, June 23-27, 2003, Proceedings. Lecture Notes in Computer Science 2679, Springer, 37-42, 2003.

[A–8] Th.C. Ruys and E. Brinksma. Managing the verification trajectory, International Journal on Software Tools for Technology Transfer 4(2), 246-259, 2003.

[A–9] E. Brinksma and A. Mader. Model checking embedded system designs. 6th International Workshop on Discrete Event Systems (WODES 2002), IEEE Computer Society, Zaragoza, Spain, 151 - 160, 2002.

[A–10] E. Brinksma, K.G. Larsen: Computer Aided Verification, 14th International Conference, CAV 2002, Copenhagen, Denmark, July 27-31, 2002, Proceedings. Springer 2002

[A–11] E. Brinksma, A. Mader, and A. Fehnker. Verification and optimization of a PLC control schedule. International Journal on Software Tools for Technology Transfer 4(1), 21-33, 2002.

[A–12] E. Brinksma, H. Hermanns, and J.-P. Katoen (Eds.), Lectures on Formal Methods and Performance Analysis, First EEF/Euro Summer School on Trends in Computer Science, Berg en Dal, The Netherlands. Vol. 2090 of Lecture Notes in Computer Science, 429 pages.

Springer-Verlag.

[A–13] A. Mader, E. Brinksma, H. Wupper, and N. Bauer Design of a PLC Control Program for a Batch Plant, VHS Case Study 1. European Journal of Control, 7(4), 416-439, 2001.

[A–14] Brinksma, H. Verification is experimentation! International Journal on Software Tools for Technology Transfer, 3(2), 107-111, 2001.

[A–15] K.G. Larsen, G. Behrmann, E. Brinksma, A. Fehnker, P. Pettersson, and J.T.M. Romijn. As Cheap ad Possible: Efficient Cost-Optimal Reachability for Priced Timed Automata. In Berry, G., Comon H., Finkel, A. (Eds.), Computer Aided Verification, 13th International Conference, CAV 2001, Paris, France, Vol. 2102 of Lecture Notes in Computer Science, 493-505. Springer-Verlag, 2001.

[A–16] E. Brinksma and H. Hermanns. Process Algebra and Markov Chains. In E. Brinksma, H. Hermanns, and J.-P. Katoen (Eds.), Lectures on Formal Methods and Performance Analysis, First EEF/Euro Summer School on Trends in Computer Science. Vol. 2090 of Lecture Notes in Computer Science, 183-231. Springer-Verlag, 2001.

[A–17] E. Brinksma and G.J. Tretmans. Testing Transition Systems: An Annotated Bibliography. In Cassez, F., Jard, C., Rozoy, B. and Dermot Ryan, M. (Eds.), Modeling and Verification of Parallel Processes, 4th Summer School, MOVEP 2000. Volume 2067 of of Lecture Notes in Computer Science, 187-195. Springer-Verlag, 2001.

[A–18] E. Brinksma and A. Mader. Verification and Optimization of a PLC Control Schedule. In Havelund, K., Penix, J., Vissers, W. (Eds.), SPIN Model Checking and Software Verification, 7th International SPIN Workshop, Vol 1885 of Lecture Notes in Computer Science, 73-92, Springer-Verlag, 2000.

[A–19] E. Brinksma. Verification is Experimentation! In Palamidessi, C. (Ed.), CONCUR 2000 - Concurrency Theory, 11th International Conference, Vol. 1877 of Lecture Notes in Computer Science, 17-24, Springer-Verlag, 2000.

[A–20] E. Brinksma and J. Tretmans. Testing Transition Systems: An Annotated Bibliography, in: F. Cassez, C. Jard, B. Rozoy and M. Ryan (eds.), Proceedings of the Summer School MOVEP'2k, Modelling and Verification of Parallel Processes, Nantes, France, 2000, 44-50.

[A–21] Th.C. Ruys and E. Brinksma. Model Checking: Verification or Debugging?, In: Proceedings of the International Conference on Parallel and Distributed Processing Techniques (PDPTA 2000), Las Vegas, Nevada, USA, 3009 - 3015, 2000.

[A–22] A. Mader, E. Brinksma, H. Wupper and N. Bauer, Design of a PLC Control Program for a Batch Plant - VHS Case Study 1, submitted to European Journal of Control, 2000, 30 pp.

[A–23] P.R. D'Argenio, J.-P. Katoen, and E. Brinksma. Specification and analysis of soft real-time systems: Quantity and quality. In: Proceedings of the 20th IEEE Real-Time Systems Symposium, Phoenix, Arizona, USA, IEEE Society Press, 1999, 104-114.

[A–24] E. Brinksma. Formal Methods for Conformance testing: Theory can be Practical! In: N. Halbwachs and D. Peled, editors, Computer Aided Verification, Lecture Notes in Computer Science **1633**. Springer-Verlag, 1999, 44-46.

[A–25] R. Langerak and E. Brinksma. A complete finite prefix for process algebra. In N. Halbwachs and D. Peled, editors, Computer Aided Verification, Lecture Notes in Computer Science **1633**. Springer-Verlag, 1999, 184-195.

[A–26] E. Brinksma. Cache Consistency by Design, *Distributed Computing* 12 (1999) 2-3, 61-74.

[A–27] P.R. D'Argenio, J.-P. Katoen, and E. Brinksma. General purpose discrete event simulation using SPADES. In: C. Priami, editor, Proc. of 6th International Workshop on Process Algebras and Performance Modeling, PAPM'98, Nice, France, 1998, 85-102.

[A–28] P.R. D'Argenio, J.-P. Katoen and E. Brinksma, A Compositional Approach to Generalised Semi-Markov Processes, In: Proceedings of the 4th International Workshop on Discrete Event Systems, WODES'98, Caligari, Italy, IEE, August 1998, 391-387.

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[A–29] P.R. D'Argenio, J.-P. Katoen and E. Brinksma, An Algebraic Approach to the Specification of Stochastic Systems, In: D. Gries and W.-P. de Roever, editors, Proceedings of the IFIP Working conference on Programming Concepts and Methods, PROCOMET'98, Shelter Island, New York, USA, IFIP Series, Chapman & Hall, 1998, 126-147.

[A–30] Th. Ruys and E. Brinksma, Experience with Literate Programming in the Modelling and Validation of Systems, In: B. Steffen (ed.), Tools and Algorithms for the Construction and Analysis of Systems, LNCS **1384**, Springer-Verlag, 1998, 393-408

[A–31] E. Brinksma, L. Heerink and J. Tretmans, Factorized test generation for multi-input/output transition systems, In: A. Petrenko and N. Yevtushenko, editors, Int. Workshop on Testing of Communicating Systems XI, Kluwer Academic Publishers, 1998, 67-82.

[A–32] J.-P. Katoen, R. Langerak, D. Latella, E. Brinksma, and T. Bolognesi. A consistent causality-based view on timed process algebra including urgent interactions. In: Formal Methods in System Design, Volume **12**, 189-216 (1998).

[A–33] E. Brinksma, J.-P. Katoen, R. Langerak and D. Latella, Partial Order Models for Quantitative Extensions of LOTOS, *Computer Networks and ISDN Systems*, 30:925-950, 1998.

[A–34] E. Brinksma, L. Heerink, J. Tretmans, Developments in testing transition systems, In: M. Kim, S. Kang and K. Hong (eds), Testing of Communicating Systems (Volume 10), Chapman & Hall, 1997, pp.143-166. (Invited presentation 10th IFIP International Workshop on Testing for Communicating Systems, Cheju Island, Korea, September 1997)

[A–35] P.R. D'Argenio, J.-P. Katoen and E. Brinksma, A Stochastic automata Model and its Algebraic Approach, In: E. Brinksma and A. Nymeyer (eds.), Proceedings 5th Int. Workshop on Process Algebra and Performance Modelling (PAPM'97), Enschede, June 1997, 21-40.

[A–36] R. Langerak, E. Brinksma and J.P. Katoen, Causal ambiguity and partial orders in event structures, In: A. Mazurkiewicz and J. Winkowski (eds.), CONCUR '97: Concurrency Theory, Lecture Notes in Computer Science **1243**, Springer-Verlag (1997), 317-331

[A–37] E. Brinksma (ed.), Tools and Algorithms for the Construction and Analysis of Systems, TACAS'97, Lecture Notes in Computer Science **1217**, Springer Verlag, 1997, pp 431.

[A–38] E. Brinksma. Using Formal Methods: if you're so smart, how come you ain't rich? In: R. Gotzhein en J. Bredereke (eds.), Formal Description Techniques IX, Theory, application and tools, Proceedings FORTE/PSTV'96, Kaiserslautern, Germany, October 1996, Chapman & Hall, 1996, 333. (Abstract, invited talk)

[A–39] E. Brinksma and A. Rensink and W. Vogler. Applications of Fair Testing. In: R. Gotzhein en J. Bredereke (eds.), Formal Description Techniques IX, Theory, appli-

cation and tools, Proceedings FORTE/PSTV'96, Kaiserslautern, Germany, October 1996, Chapman & Hall, 1996, 145 – 160.

[A–40] P.R. D'Argenio and E. Brinksma. A Calculus for Timed Automata (Extended Abstract). In: B. Jonsson and J. Parrow (eds.), Proceedings of the Fourth International School and Symposium on Formal Techniques in Real Time and Fault Tolerant Systems, Uppsala, Sweden, September 1996, Lecture Notes in Computer Science **1135**, Springer Verlag, 1996, 110–129.

[A–41] J.-P. Katoen, R. Langerak, D. Latella, and E. Brinksma. On specifying real-time systems in a causality-based setting. In: B. Jonsson and J. Parrow (eds.), Proceedings of the Fourth International School and Symposium on Formal Techniques in Real Time and Fault Tolerant Systems, Uppsala, Sweden, September 1996, Lecture Notes in Computer Science **1135**, Springer Verlag, 1996, 385–404.

[A–42] J.-P. Katoen, E. Brinksma, D. Latella and R. Langerak. Stochastic simulation of event structures. In: M. Ribaudo (ed.), Proceedings 4th Int. Workshop on Process Algebra and Performance Modelling (PAPM'96), Torino (I), July 1996, 21-40.

[A–43] J.-P. Katoen, D. Latella, R. Langerak, E. Brinksma, and T. Bolognesi. A consistent causality-based view on a timed process algebra. *Proceedings 3rd Amast Workshop on Real-Time Systems*, Salt Lake City, Utah, USA, March 1996, 212-227.

[A–44] Brinksma, E., Cleaveland, W.R., Larsen, K.G., Margaria, T., Steffen, B. (eds.), *Tools and Algorithms for the Construction and Analysis of Systems*, Lecture Notes in Computer Science **1019**, Springer Verlag (1995), 289 pp.

[A–45] Brinksma, E., Performance and Formal Design: A Process-Algebraic Perspective, in: *Proceedings PNPM'95*, IEEE Computer Society Press (1995), pp 124 – 125. (invited)

[A–46] Brinksma, E., Katoen J.-P., Langerak, R. and Latella, D., *A Stochastic Causality-Based Process Algebra*, The Computer Journal, Vol. 38, No. **7** (1995), pp 553 – 565.

[A–47] Brinksma, E., Rensink, A., Vogler, W., Fair Testing, in: Insup Lee and Scott A. Smolka (eds.), *CONCUR'95, Concurrency Theory*, Lecture Notes in Computer Science **962**, Springer Verlag (1995), pp 313 – 327.

[A–48] Heerink, L., Brinksma, E., Validation in Context, in: Dembiński, P. and Średniawa, M. (eds.) , *Protocol Specification, Testing, and Verification, XV*, Chapman & Hall (1996) pp 221 – 236.

[A–49] Brinksma, E., Langerak, R., *Functionality Decomposition by Compositional Correctness Preserving Transformation*, South African Computer Journal **13** (April 1995), 2 – 13. (Proceedings WOFACS'94, Cape Town, June/July 1994, invited contribution)

[A–50] Brinksma, E., Leih, G., Enhancements of LOTOS, in: Bolognesi, T., Van de Lagemaat, J., and Vissers, C. (eds.), *LOTOSphere, Software Development with LOTOS*, Kluwer Academic Publishers, (1995), 453-466.

[A–51] Brinksma, E., Cache Consistency by Design (extended abstract), in: Vuong, S. and Chanson, S. (eds.), *Protocol Specification, Testing, and Verification, XIV*, Chapman & Hall,(1995), 53–67. (invited address)

[A–52] Brinksma, E., Katoen, J.-P., Langerak, R., Latella, D., Performance Analysis and True Concurrency Semantics, in: Rus, T., Rattray, C. (eds.) *Theories & Experiences for Real-time System Develeopment*, Springer WIC Series, (1994), 309–337.

[A–53] Brinksma, E., Katoen, J.-P., Langerak, R., Latella, D., Performance Analysis and True Concurrency Semantics (extended abstract), in: *2nd Workshop on process algebras and performance modelling*, Erlangen, (1994), ISSN: 0344-3515, 157–174.

[A–54] Brinksma, E., Sur la couverture des validations partielles, in: Dssouli R. and Von Bochmann, G. (eds.), *Actes du Colloque Francophone sur l'Ingénierie des Protocoles*, Editions Hermès, 1993, pp. 359–364, (invited).

[A–55] Brinksma, E., On the coverage of partial validations, in: Nivat, M., Rattray, C.M.I., Rus, T., and Scollo, G. (eds.), *AMAST'93*, BCS-FACS Workshops in Computing Series, Springer-Verlag, pp. 247–254.

[A–56] Brinksma, E., Eertink, H., Goal-driven LOTOS execution, in: Danthine A., Leduc G., and Wolper, P. (eds.), *Protocol Specification, Testing, and Verification, XIII*, IFIP Transaction Series **C-16**, North-Holland, 1993, pp. 45–60.

[A–57] Verhaard, L., Tretmans, J., Kars, P., Brinksma, E., On asynchronous testing, in: Bochmann G.V., Dssouli R., and Das A. (eds.), *Protocol test Systems, V*, IFIP Transactions **C-11**, North-Holland, (1992), 55-66.

[A–58] Brinksma, E., *Tussen Droom en daad: Formele methoden en gereedschappen bij specificatie en implementatie van open systemen* (in Dutch), Informatie **35** (9), Kluwer Bedrijfswetenschappen, pp. 20-30 (invited).

[A–59] Brinksma, E., Langerak, R, Broekroelofs, P., Functionality Decomposition by Compositional Correctness Preserving Transformation, in: C. Courcoubetis (ed.), *Computer Aided Verification*, Lecture Notes in Computer Science **679**, Springer-Verlag, 1993, pp. 371-384.

[A–60] Brinksma, E., On the uniqueness of fixpoints modulo observation congruence, in: Cleaveland, W.R., (ed.), *CONCUR '92*, Lecture Notes in Computer Science **630**, Springer-Verlag, 1992, pp. 47-61.

[A–61] Brinksma, E., On the Design and Implementation of Distributed Systems Using LOTOS, in: *Anais/X Simpósio Brasileiro de Redes de Computadores*, Editora Universitária-UFPE, 1992, 1 pp. (abstract, invited).

[A–62] Kroon, J., Heijink, R.J., Brinksma, E. (eds.), *Protocol Test Systems, IV*, IFIP Transactions **C-3**, North-Holland, 1992, 310 pp.

[A–63] Brinksma, E., What is the Method in Formal Methods?, in: Parker, K.R., Rose, G.A. (eds.), *Formal description Techniques, IV*, IFIP Transactions **C-2**, North-Holland, 1992, pp. 33-50 (invited).

[A–64] Tretmans, J., Kars, W.T.M., Brinksma, E., Protocol Conformance Testing: A Formal Perspective on ISO IS-9646, in: Kroon, J., Heijink, R.J., Brinksma, E. (eds.), *Protocol Test Systems, IV*, IFIP Transactions **C-3**, North-Holland, 1992, pp. 131-142.

[A–65] Brinksma, E., From Data Structure to Process Structure, in: Larsen, K. and Skou, A. (eds.), *Computer Aided Verification*, Lecture Notes in Computer Science **575**, Springer-Verlag, 1992, pp. 244-254.

[A–66] Brinksma, E., Tretmans, J., Verhaard, L., A Framework for Test Selection, in: B. Jonsson, J. Parrow, B. Pehrson (eds.), *Protocol Specification, Testing, and Verification, XI*, North-Holland, 1991, pp. 233-248.

[A–67] Brinksma, E., Jonsson, B., Orava, F., Refining Interfaces of Communicating Systems, in: Abramsky, S. and Maibaum, T.S.E. (eds.), *TAPSOFT'91*, Lecture Notes in Computer Science **494**, Springer Verlag, 1991, pp. 233-248.

[A–68] Vissers, C.A., Scollo, G., Sinderen, M. van, Brinksma, E., *Specification Styles in Distributed Systems Design and Verification*, Theoretical Computer Science **89** (1991), Elsevier Science Publishers B.V., pp. 179-206.

[A–69] Brinksma, E., Scollo, G., Vissers, C.A., *Introduction to the PSTV-IX*, Computer Networks and ISDN Systems **22** (1991), North-Holland, pp. 1-6.

[A–70] Brinksma, E., Scollo, G., Vissers, C.A. (eds.), *Protocol Specification, Testing, and Verification, IX*, North-Holland, 1990, 401 pp.

[A–71] Brinksma, E., Specification Modules in LOTOS, in: Vuong, S.T. (ed.), *Formal description Techniques, II*, North-Holland, 1990, pp. 101-115.

[A–72] Brinksma, E., Alderden, R.B., Langerak, R., Van de Lagemaat, J., Tretmans, J., A formal approach to conformance testing, in: De Meer, J., Mackert, L., and Effelsberg, W. (eds.), *Protocol Test Systems*, North-Holland, 1990, pp. 349-363.

[A–73] Brinksma, E., Constraint-oriented specification in a constructive specification technique, in: De Bakker, J.W., De Roever, W.-P., and Rozenberg, G. (eds.), *Stepwise Refinement of Distributed Systems*, Lecture Notes in Computer Science **430**, Springer-Verlag, 1990, pp. 130-152 (invited).

[A–74] Vissers, C.A., Scollo, G., Van Sinderen, M. & Brinksma, E., On the use of specification styles in the design of distributed systems, in: J.Diaz. & F.Orejas (eds.), *TAPSOFT'89*, Lecture Notes in Computer Science **352**, Springer-Verlag, 1989, pp. 60 (abstract, invited).

[A–75] Brinksma, E., *On the design of Extended LOTOS*, Doctoral Dissertation University of Twente (ISBN 90-9002545-6), 1988, 238 pp.

[A–76] Brinksma, E., A theory for the derivation of tests, in: Aggarwal, S., and Sabnani, K. (eds.): *Protocol Specification, Testing, and Verification, VIII*, North-Holland, 1988, pp. 63-74.

[A–77]   Brinksma, E., Scollo, G., and Vissers, C.A., Experience with and Future of LOTOS as a Specification Language, in: P.Tilanus, and R.Sarracco (eds.), *SDL'87*, North-Holland, 1987, pp.439-450 (invited).

[A–78]   Bolognesi, T., Brinksma, E., *An Introduction to LOTOS*, Computer Networks and ISDN Systems **14**, Number 1, 1987, pp. 25-59.

[A–79]   Diaz, M., Courtiat, J.P., Dembinski, P. and Brinksma, E., Formal description techniques in SEDOS, Software Environment for the Design of Open distributed Systems, in: CEC Directorate General XIII, Telecommunications, Information, Industries and Innovation (ed.), *Esprit 1986, Results and Achievements*, North-Holland, 1986, 20 pp (invited).

[A–80]   Brinksma, E., On the formal specification of OSI services and protocols, in: Kuehn, P.J. (ed.), *Proceedings 8th International Conference on Computer Communication*, North-Holland, 1986, pp. 159-164 (invited).

[A–81]   Brinksma, E., Scollo, G. and Steenbergen, C., LOTOS specifications, implementations, and their tests, in: Sarikaya, B., and Bochmann, G. v. (eds.), *Protocol Specification, Testing, and Verification, VI*, North-Holland, 1987, pp. 349-360.

[A–82]   Brinksma, E. and Scollo, G. On the relation between specification and implementation in LOTOS, *Proceedings NGI-SION 1986 Symposium*, SIC-NGI, 1986, pp. 485-495.

[A–83]   Brinksma, E., A tutorial on LOTOS, in: Diaz, J. (ed.), *Protocol Specification, Testing, and Verification, V*, North-Holland, 1985, pp. 171-195.

[A–84]   Scollo, G. Pappalardo, G., Logrippo L., Brinksma, E., Formal models in LOTOS of the OSI Transport Service, in: Csaba, L., Tarnay, K., and Szentiványi, T. (eds.), *Computer Network Usage: Recent Experiences*, North-Holland, 1985, pp. 465-489 (invited).

[A–85]   Brinksma, E., The specification language LOTOS, in: *Proceedings NGI/SION Informatica Symposium 1985* , NGI-SIC, 1985, pp. 374-387.

[A–86]   Brinksma, E. and Karjoth, G., A specification of the OSI Transport Service in LOTOS, in: Yemeni, Y., Strom, R., and Yemeni, S. (eds.), *Protocol Specification, Testing and Verification, IV*, North-Holland, 1985, pp. 227-253.

[A–87]   Brinksma, E., Over de formele specificatie van OSI services en protocollen, (in Dutch) in: *Proceedings NGI-SION Informatica Symposium 1984*, NGI, 1984, pp. 388-398 (invited).

[A–88]   Brinksma, E., An algebraic language for the specification of the temporal order of events in services and protocols, in: Kalin, T. (ed.), *EUTECO*, North-Holland, 1983, pp. 533-542 (invited).

Teaching experience

University of Twente:

- Testing methods

- Algorithms, data structures, and complexity

- Formal Methods for Software Engineering

- Protocol Validation

- Specification Methods

- Specification and Verification of Distributed Systems

- Design of Distributed Systems

- Mathematical Logic for Computer Science

- Capita Selecta Computer Networks

- Programming Courses

- Supervision of graduate and undergraduate students

University of Groningen:

- Mathematical Logic

- Recursion Theory

- Theoretical Computer Science

Managerial Experience

- Chairman of the Department of Computer Science, Member of the Board of the Faculty of Mathematics, Electrical Engineering, and Computer Science
  (2002 - present)

- Project manager NWO project 612 064 207, Systematic Testing of Realtime Embedded Software Systems (STRESS)
  (2002 - present)

- Project manager STW project TES4999, Verification of Hard and Softly Timed Systems (HaaST)
  (2000 - 2004)

- Project manager Telematics Institute project SVC, Systems Validation Centre
  (1998 - 1999)

- Project manager STW project TIF66.4111, Conformance Testing of Reactive Systems (*Cote-de-Resyste*)
  (1997 - present)

- Project manager SION project 612 33 006, Testing and Verification of Timed Systems
  (1995 - 1999)

- Member of the Executive Board of the Graduate School of the Institute of Programming Science and Algorithmics
  (1994 - present)

- Dean of the Faculty of Computer Science
  (1995 - 1997)

- Chairman of the Department of Tele-Informatics and Open Systems
  (1994 - 1996)

- Director of Research, Board of the Faculty of Computer Science
  (1991 - 1993)

- Workpackage Manager, Workpackage 'Design Methods', ESPRIT/LOTOSPHERE, project number 2304
  (1989 - 1992)

- Task Manager, Subtask C2 'LOTOS verification aspects', ESPRIT/SEDOS, project number ST 410
  (1984 - 1988)

- Member of the Board of the Department of Tele-Informatics and Open Systems, Faculty of Computer Science, University of Twente
  (1982 - 1986, 1988 - 1991)

- Member of the Board of the Faculty of Mathematics and Science, University of Groningen
  (1980 - 1982)

- Member of the Board of the Department of Mathematics, University of Groningen
  (1978 - 1980)

Recent Presentations

- Model-Based Testing, Invited Lecture MOVEP 2004 Winter School, Brussels, Belgium, 14 December 2004.

- Testing Times: On Model-Based Functional Testing for Real-Time Embedded Systems, Invited Lecture CS/CISS Seminar, Aalborg, Denmark, 1 December, 2004.

- A hybrid process calculus, Invited Presentation FMCO 2004, Leiden, Netherlands, 4 November 2004.

- Model-Based Conformance Testing, Keynote Speech CISS Seminar on Testing, Aalborg, Denmark, 25 August 2004.

- Testing Times: On Model-Driven Test Generation for Non-Deterministic Real-Time Systems, Invited Presentation 4th International Conference on Application of Concurrency to System Design (ACSD 2004), Hamilton, Canada, 16 June 2004.

- A hybrid process calculus, IPA Springdays, Heeze, Netherlands, 15 April 2004.

- A Generic Approach to Schedulability Analysis of Real-Time Systems, Opposition Presentation, Uppsala, Sweden, 26 November 2003.

- On the verification Modelling of Embedded Systems, Monterey Workshop on Software Engineering for Embedded Systems, Chicago, USA, 26 September 2003.

- Compositional Theories of Qualitative and Quantitative Behaviour, Invited Presentation, Applications and Theory of Petri Nets 2003, Eindhoven, Netherlands, 26 June 2003.

- Components, Performance, and Compositionality, IFIP WG 2.2 Meeting, Amsterdam, Netherlands, 15 May 2003.

- Model-Checking Embedded System Designs, Invited Presentation WODES 2002, Zaragoza, Spain, 3 October 2002.

- Stochastic Process Algebra, ARTIST project meeting, Oldenburg, Germany, 3 September 2002.

- Invited Tutorial on Model-based Testing, ARTES Summerschool, Naesslingen, Sweden, 21 August 2002.

- Qualitative and Quantitative Validation of Software Systems: a Model-based View on Integrated Analysis, Joint ISSTA/WOSP 2002 Keynote Speaker, Rome, 24 July 2002.

Supervision of Doctoral Dissertations

Supervisor of the doctoral dissertations of:

- Rom Langerak, Transformations and Semantics for LOTOS, November 1992.

- Jan Tretmans, A formal Approach to Conformance Testing, December 1992.

- Arend Rensink, Models and Methods for Action refinement, August 1993.

- Henk Eertink, Simulation Techniques for the Validation of LOTOS Specifications, March 1994.

- Joost-Pieter Katoen, Quantitative and Qualitative Extensions of Event Structures, April 1996 (together with Prof. C.A. Vissers).

- Pim Kars, Process-algebraic Transformations in Context, June 1997.

- Lex Heerink, Ins and Outs in Refusal Testing, May 1998.

- Judi Romijn, Analysing Industrial Protocols with Formal Methods, October 1999 (together with Prof. F.W. Vaandrager).

- Pedro D'Argenio, Algebras and Automata for Timed and Stochastic Systems, November 1999.

- Theo Ruys, Towards Effective Model Checking, March 2001.

- Eric Sluiman, Linear Data Structures for Storage Allocation in Attribute Evaluators, March 2002.

- Dino Distefano, On Model Checking the Dynamics of Object-Base Software, November 2003.

- Nicolae Goga, Control and Selection Techniques for the Automated Testing of Reactive Systems, October 2004 (together with Prof. L.M.G. Feijs).

External examiner of the dissertations of:

- Hubert Garavel, Compilation et vérification de programmes LOTOS, University of Grenoble, November 1989.

- Guy Leduc, On the role of implementation relations in the design of distributed systems using LOTOS, University of Liege, March 1990.

- Peter Sjödin, From LOTOS Specifications to Distributed Implementations, University of Uppsala, December 1991.

- Jørgen F. Søgaard-Andersen, Correctness of Protocols in Distributed Systems, Technical University of Denmark, April 1994.

- Marc Phallipou, Relations d'implantation et hypothèses de test sur des automates à entrées et sorties, Université de Bordeaux I, Bordeaux, July 1994.

- Petra van Haaften, Distributed Optimisation Algorithms for Network Problems, University of Utrecht, October 1994.

- Jacob Brunekreef, Modular Algebraic Protocol Specification, University of Amsterdam, februari 1995

- Wishnu Prasetya, Mechanically Supported Design of Self-stabilizing Algorithms, University of Utrecht, October 1995.

- Mieke Massink, Functional Techniques in Concurrency, University of Nijmegen, Februari 1996.

- Qiangming Tan, On Conformance Testing of Systems Communicating by Rendezvous, University of Montreal, February 1998.

- Holger Hermanns, Interactive Markov Chains, Universität Erlangen-Nürnberg, July 1998.

- Andreas Ulrich, Testfallableitung und Testrealisiering in verteilten Systemen, Universität Magdeburg, September 1998.

- Kåre Kristoffersen, Compositional Verification of Concurrent Systems - A Possible Cure for the State/Explosion Problem, University of Aalborg, January 1999.

- Mihaela Sighireanu, Contribution to the definition and implementation of E-LOTOS, University of Grenoble, January 1999.

- Christel Baier, On Algorithmic Verification Methods for Probabilistic Systems, Habilitation Thesis, University of Mannheim, April 1999.

- Michel Reniers, Message Sequence Chart, Syntax and Semantics, Eindhoven University of Technology, June 1999.

- David Griffioen, Studies in Computer Aided Verification of Protocols, University of Nijmegen, May 2000.

- Brian Nielsen, Specification and Test of Real-Time Systems, University of Aalborg, November 2000.

- Albert Hofkamp, Reactive Machine Control, Technical University of Eindhoven, November 2001.

- Ansgar Fehnker, Citius, Vilius, Melius: Guiding and Cost-Optimality in Model Checking of Timed and Hybrid Systems, University of Nijmegen, April 2002.

- Yasmina Abdeddaim, Modélisation et résolution de problèmes d'ordonnancement à l'aide d'automates temporisés, Université de Grenoble, November 2002.

- Elena Fersman, A Generic Approach to Schedulability Analysis of Real-Time Systems, Uppsala Universitet, November 2003.

- Thierry Jéron, Contribution à la génération automatique de tests pour les systèmes réactifs, Habilitation à diriger des recherches, Université de Rennes, March 2004.

- Ronald Lutje Spelberg, Model checking real-time systems based on partition refinement, Delft Technical University, May 2004.

- Pieter Cuijpers, Hybrid Process Algebra, Technical University of Eindhoven, December 2004.

Scientific committees

- Strategic Management Board, ARTIST 2 IST Network of Excellence on Embedded Systems
  (2004 - present)

- President Research Advisory Committee for Computer Science (BCI) of the Netherlands Organisation for Scientific Research
  (1999 - 2004)

- Vice-president Executive Board of the Graduate School of the Institute of Programming Science and Algorithmics
  (1994 - 2003)

- Advisory Board of the Department of Programming (AP), Centre for Mathematics and Computer Science (CWI), Amsterdam
  (1992 - 1995)

- Draft Committee Management Plan 1996 – 2001 of the Foundation for Computer Science Research in The Netherlands (SION)
  (1995/1995)

- Scientific Advisory Board (WAR) of the Foundation for Computer Science Research in The Netherlands (SION)
  (1992 - 1995)

- Advisory Board of the Department of Algorithmics and Architecture (AA), Centre for Mathematics and Computer Science (CWI), Amsterdam
  (1989 - 1990)

- Chairman ISO/IEC TC97/SC21/WG1/ad hoc FDT/C
  (1983 - 1988)

- Member IFIP Working Group 6.1 on Architecture and Protocols for Computer Networks,
  (1988 - present)

Editorial Boards

- Editor Software and System Modelling (Springer).
  (2002 - present)

- Associate Editor Springer International Journal on Software Tools for Technology Transfer.
  (1997 - present)

- Associate Editor IEEE Transactions on Software Engineering.
  (1997 - 2001)

- Member of the editorial board of *Revue Électronique sur les Réseaux et l' informatique répartie / Electronic Journal on Networks and Distributed computing* (formerly *Réseaux et informatique répartie / Networking and Distributed Computing*,Hermes, France).
  (1991 – present)

- Member of the editorial board of IEEE Networks.
  (1991 - 1994)

Steering committees

- Tools and Algorithms for the Construction and Analysis of Systems (TACAS)
  (1995 - present)

- IFIP WG6.1 conferences on Protocol Specifation, Testing, and Verification (PSTV) and
  Formal Description Techniques (FORTE)
  (1995 - 2004)

- International Workshop on Process Algebra and Performance Modelling (PAPM)
  (1997 - 2004)

- European Joint Conferences on Theory and Practice of Software (ETAPS)
  (1996 - 1999, 2001 - 2002)

Programme committees

- Programme Committee HSCS 2005.

- Programme Committee ISOLA 2004.

- Programme Committee FATES, 2001–2002.

- Programme Committee WODES, 2000, 2002.

- Programme Committee FORTE/PSTV, 1996–2002.

- Programme Committee Africom 2001.

- Programme Committee International Symposium on Protocol Specification, Verifica-
  tion, and Testing (PSTV), 1987–1995

- Programme Committee Formal Description Techniques (FORTE), 1988–1995

- Programme Committee Computer Aided Verification (CAV), 1991–1994, 2000, 2002
  (programme co-chair)

- Programme Committee International Workshop on Protocol Testing (IWPTS), 1991–
  1995

- Programme Committee International Workshop on Testing of Communicating Systems
  (IWTCS), 1996–1999

- Programme Committee IFIP WCC ICS 2000, Beijing, PRC, 2000

- Programme Committee MOVEP 2000, 2002, 2004.

- Programme Committee International SPIN Workshop, 1999, 2001–2002

- Programme Committee Colloque francophone sur l'ingenierie des protocoles (CFIP),
  1997–1998

- Programme Committee Tools and Algorithms for the Construction and Analysis of Systems (TACAS), 1995–2001, 2003–2004

- Programme Committee Workshop on Formal Methods for Open Object-Based Distributed Systems (FMOODS), 1996–1999

- Programme Committee World Congress on Formal Methods, 1999, 2005

- Programme Committee FASE'97: Formal Aspects of Software Engineering, Lille, France, April 1997

- Programme Committee IPA/BRICS/TUCS International School on Embedded Systems, Veldhoven, The Netherlands, November 1996

Organization

- Dagstuhl Seminar on Perspectives of Model-Based Testing, Scholß Dagstuhl, Germany, September 2004.

- FATES'01 (Formal Approaches to Testing of Software), Aalborg, Denmark, August 2001.

- Dutch Model Checking Day, Enschede, The Netherlands, January 2001.

- First Euro Summerschool on Trends in Computer Science: Formal Methods and Performance Analysis, Berg en Dal, Netherlands, July 2000.

- Fourth Dutch Testing Day, October 1998.

- Dagstuhl Seminar on Test Automation for Reactive Systems - Theory and Practice, Scholß Dagstuhl, Germany, September 1998.

- Fifth International Workshop on Process Algebra and Performance Modelling, Enschede, The Netherlands, June 1997.

- Third International Workshop on Tools and Algorithms for the Construction and Analysis of Systems, Enschede, The Netherlands, April 1997.

- Third Dutch Specification Day, Enschede, The Netherlands, March 1996.

- Fourth IFIP WG 6.1 International Workshop on Protocol Test Systems, The Hague, The Netherlands, October, 1991.

- Ninth IFIP WG 6.1 International Symposium on Protocol Specification, Testing, and Verification, Enschede, The Netherlands, June 1989.

Grants and Contracts

- Advanced Real-Time Systems (ARTIST2), EU IST Network of Excellence, (2004 – present)

- Hybrid Control (HYCON), EU IST Network of Excellence, (2004 - present)

- Implementing McMillan Prefixes against State Space Explosion (IMPASSE), NWO project, (2002 – present)

- Analysis and Design of Hybrid Systems using optimal Control (ADHOC), NWO project, (2002 – present)

- Systematic Testing of Embedded Software Systems (STRESS), NWO project, (2002 – present)

- Advanced Real-Time Systems (ARTIST), EU IST project, (2002 – present)

- Advanced Methods for Timed Systems (AMETIST), EU IST project, (2002 – present)

- Compositional Analysis and Specification of Hybrid Systems, NWO project, (2000 – present),

- Specification-based Performability Checking, NWO project, (2000 – present),

- Verification of Hard and Softly Times Systems, STW PROGRESS project TES.4999, (1999 – present),

- System Validation Centre, Telematics Institute research project, joint project with Telematics Institute and CWI, (1998 - present),

- Validation of the BOS-BESW-interface, contract Rijkswaterstaat. (1997 – present),

- The introduction of formal methods at CMG, contract CMG. (1997 – present),

- Conformance Testing of Reactive Systems, STW project TIF66.4111. (1997 – present),

- The use of formal methods for the BOS-system, contract with CMG. (1995 – 1996),

- Validation of CAM-protocols, contract with Bosch-Blaupunkt, Hildesheim. (1995 – 1996),

- Specification, Testing and Verification of Software for Technical Applications, joint project with Philips and SMC. (1995 – present),

- Testing and Verification of timed systems, NWO/SION Project 612-33-006, together with prof.dr. F. Vaandrager (KUN) (1995 – present),

- Formal specification of distributed information systems, NWO/SION Project 612-323-804, together with Prof.dr. P.M.G. Apers (UT) (1993 – 1997),

- COST action 247, Verification and Validation Methods for Formal Description (1994 – 1997),

- ESPRIT BRA Project 6021 Building Correct Reactive Systems (REACT) (1992 – 1995),

- ESPRIT Project 2304 Lotosphere (1989 – 1992),

- ESPRIT Project 410 SEDOS (1984 – 1988),

- COST action 11 bis & ter, Formal Description Techniques (1982 – 1987)

Miscellaneous

- Lecturer Winter School on Modelling and Verification of Parallel Processes MOVEP 2004, Brussels, Belgium, 13–17, 2004.

- Lecturer ARTES Summerschool, Naesslingen, Sweden, 21 August 2002.

- Reviewer of the EUREKA ITEA project ESAPS (Engineering Software Architectures, Processes and Platforms for System Families) on behalf of the Dutch Ministry of Economic Affairs, 2000-2002.

- Lecturer First Euro Summerschool on Trends in Computer Science: Formal Methods and Performance Analysis, Berg en Dal, Netherlands, 3 –7 July, 2000.

- Lecturer Summer School on Modelling and Verification of Parallel Processes MOVEP'2k, Nantes, France, 19 – 23 June, 2000.

- Invited visitor Research Festival of the Department of Computer Science, University of Glasgow, 17 – 28 July 1995.

- Foreign Evaluator for the Foundation for Research Development (South Africa) of the Research Manpower in Computer Science (RMiCS) research programme.
  (1994/1995)

- Editor ISO International Standard 8807, LOTOS - A formal description technique based on the temporal ordering of observational behaviour.
  (1987 – 1989)

- Lecturer Workshop on Formal Methods in Computer Science, University of Cape Town, June/July 1994.

- Lecturer Nordic Summer School on Design Methods for Distributed Systems, Naesslingen, August 1987.

- Lecturer BSI Course "Formal Description Techniques in OSI", Windsor, November 1984.

- Referee/reviewer for various journals and conferences, such as TOPLAS, IEEE Transactions on SE, IEEE Transactions on Networking, Distributed Computing,Computer Networks and ISDN Systems, Formal Aspects of Computing, Formal Methods in System Design, Information Processing Letters, Science of Computer Programming, Journal of Logic and Algebraic Programming, etc.

Membership of Professional Organizations

- Association for Computing Machinery (ACM),

- Special Interest Group on Data Communication (ACM/SIGCOMM),

- European Association for Theoretical Computer Science (EATCS),

- European Association for Programming Languages and Systems (EAPLS)

- Institute of Electrical and Electronics Engineers (IEEE),

- Vereniging voor Theoretische Informatica (VTI, Dutch),

- Nederlands Genootschap voor Informatica (NGI, Dutch).