

# CURRICULUM VITÆ

Ed Brinksma  
February, 2017

## General data

*full name:* Hendrik Brinksma

*date of birth:* 16 September 1957

*place of birth:* The Hague, Netherlands

*nationality:* Dutch

*sex:* male

## Professional career

- Full Professor of Computer Science, Faculty of Electrical Engineering, Mathematics and Computer Science, University of Twente, Netherlands (July 2005 – today)
- Rector Magnificus, University of Twente (January 2009 – November 2016; acting president May 2013 – October 2013)
- Scientific Director and Chairman, Embedded Systems Institute, Eindhoven (July 2005 – December 2008)
- Full Professor, Formal Methods for Embedded Systems, Faculty of Mathematics and Computer Science, Eindhoven University of Technology (July 2005 – December 2008)
- Full Professor, Chair of Formal Methods and Tools, Faculty of Electrical Engineering, Mathematics and Computer Science, University of Twente, Netherlands (May 1991 – July 2005)
- Adjoint Professor, Faculty of Engineering and Science, Aalborg University, Denmark (March 2004 – March 2009)
- Associate Professor, Department of Tele-Informatics and Open Systems, Faculty of Computer Science University of Twente (December 1988 - April 1991)
- Visiting Researcher, Swedish Institute for Computer Science, Stockholm (February 1990 - July 1990)
- Assistant Professor, Department of Tele-Informatics and Open Systems, Faculty of Computer Science, University of Twente (August 1982 - December 1988)
- Scientific Assistant, Computer Science Research Group, Department of Mathematics, University of Groningen (April 1982 - July 1982)
- Teaching Assistant, Department of Mathematics, Department of Philosophy, University of Groningen (September 1978 - April 1982)

## Academic Memberships

- Member Netherlands Academy of Technology and Innovation (AcTi) (2011 – present)
- Member Royal Holland Society of Sciences and Humanities (2007 – present)

## Distinctions

- Officer in the royal Order of Orange-Nassau (November 2016)

## Board & Committee Memberships

- Member Selection Committee of the Federal German Joint Science Conference for the Fostering of Junior Scientific Staff (Auswahlgremium des Bund-Länder-Programms zur Förderung des wissenschaftlichen Nachwuchses , October 2016 –present)
- Member Board Netherlands Academy of Technology and Innovation (Acti) (2015– present)
- Member Strategic Advisory Board TNO Industry (SAR) (2015 – present)
- Member Supervisory Board (RvC) SURF (2015 – present)
- Member Supervisory Board COMMIT research consortium (President 2011 – present)
- Member Programme Board Trendbureau of the Province of Overijssel (2010 – present)
- Member Steering Board Human Capital Agenda Twente (2015 – 2016)
- Member Preparatory Committee Science for Science Conference, Dutch Research Agenda (2015)
- Member Midterm Review Committee Kenniscentrum Technologie, Windesheim (2015)
- Member Supervisory Board CMI<sup>NE</sup> (Centre for Medical Imaging North-Eastern Netherlands, 2014 – 2016)
- Member Supervisory Board Medical Ethical Verification Committee Twente (2014 – 2017)
- Member Supervisory Board (RvC) SURFsara b.v. (2014 – 2015)
- Member Research Policy Working Group European University Association (2012 – 2015)
- Member Rectors Conference of the Netherlands Universities (2009 – today; President 2012 – 2013)
- Member Steering Committee of Research and Valorization, Association of Universities in the Netherlands (VSNU) (2011 – today; President 2011 – 2014)
- Member Supervisory Board NanoNextNL Consortium (2011 – 2016)
- Member General Board VSNU (2011 – 2013)
- Member Supervisory Board WETSUS Centre of Excellence for Sustainable Water Technology (2010 – 2017)
- Member SURF Platform ICT and Education (2009 – 2011)
- Member Steering Committee Educational Policy, VSNU (2009 – 2011)
- Member Board Netherlands Energy Research Association NERA (2010 – 2016)
- Member Thales Software and Technology Advisory Board (2010 – 2012)
- Member General Board 3TU Federation of Technical Universities (2009 – 2016)
- Member 3TU Board Committee for Research (2009 – 2016; President 2010 – 2012; 2014– 2016)
- Member 3TU Board Committee for Education (2009 – 2016)
- Member General Board, Stichting Universiteitsfonds Twente (2009 – 2016)
- Member General Resources Committee, Stichting Universiteitsfonds Twente (2009 – 2016)
- Member Program Council Point One strategic innovation programme in nano-electronics and embedded systems (2009 – 2012)
- Member NWO Theme Council on New Instruments in Healthcare (2009 – 2013).
- Member Advisory Board UMIC Excellence Cluster, RWTH Aachen (2008 – 2013).
- Strategic Management Board, ArtistDesign IST Network of Excellence on Embedded Systems (2008 - 2009)

- Member Academic Council Point One Strategic Innovation Programme in Nanoelectronics and Embedded Systems (2007 – 2008).
- Member Chamber B (Research Institutes) of the Artemis Industrial Association (2007 – 2008).
- Acting Head of the Chair of Pervasive Systems, Faculty of Mathematics, Electrical Engineering, and Computer Science, University of Twente (2007 - 2008)
- Member of the Executive Board of the Point One strategic innovation programme in nano-electronics and embedded systems (2006 – 2008).
- Member of the Board of the “Stichting Embedded House” (2006 – 2008)
- Member of the Board of Physical Sciences (GBE), Netherlands Organisation for Scientific Research NWO (2005-2006)
- Chairman of the Management Team of the Embedded Systems Institute (2005 – 2008)
- Strategic Management Board, ARTIST 2 IST Network of Excellence on Embedded Systems (2004 - 2008)
- Chairman of the Department of Computer Science, Member of the Board of the Faculty of Mathematics, Electrical Engineering, and Computer Science, University of Twente (2002 - 2005)
- President Research Advisory Committee for Computer Science (BCI) of the Netherlands Organisation for Scientific Research NWO (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)
- Committee Draft 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)
- Member of the Executive Board of the Graduate School of the Institute of Programming Science and Algorithmics (1994 - 2005)
- Dean of the Faculty of Computer Science, University of Twente (1995 - 1997)
- Chairman of the Department of Tele-Informatics and Open Systems, University of Twente (1994 - 1996)
- Director of Research, Board of the Faculty of Computer Science, University of Twente (1991 - 1993)
- 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)

## Education

- University of Twente: doctoral degree (PhD), November 24, 1988  
*dissertation*: On the design of extended LOTOS  
*supervisor*: prof.dr.ir. C.A. Vissers.
- University of Groningen: doctoraal examen (MSc), March 11, 1982 (cum laude)  
*subject*: mathematics, *major*: mathematical logic, *minor*: computer science  
*supervisor*: prof.dr. J.F.A.K. van Benthem

## Publications

### A. Refereed journals & conferences

1. Brinksma, H. and Stoelinga, M.I.A. and Timmer, M. Testing Divergent Transition Systems, submitted for KimFest 2017, 19pp.
2. Timmer, M. and Brinksma, H. and Stoelinga, M.I.A. Model-Based Testing. In: Software and Systems Safety: Specification and Verification. NATO Science for Peace and Security Series D: Information and Communication Security 30. IOS Press, Amsterdam, pp. 1-32 (2011).
3. P. Bouyer, E. Brinksma, K.G. Larsen: Optimal infinite scheduling for multi-priced timed automata. *Formal Methods in System Design* 32(1): 3-23 (2008).
4. Brinksma, H. and Hooman, J.: Dependability for high-tech systems: an industry-as-laboratory approach. In: Design, Automation and Test in Europe, 2008. DATE '08, 10-14 March 2008, Munich. pp. 1226-1231. IEEE Computer Society Press (2008).
5. E. Brinksma: The Challenges of Embedded Systems Engineering. In: Alberto Bemporad, Antonio Bicchi, Giorgio C. Buttazzo (Eds.): Hybrid Systems: Computation and Control, 10th International Workshop, HSCC 2007, Pisa, Italy, April 3-5, 2007, Proceedings. *Lecture Notes in Computer Science* 4416 Springer 2007, p. 3.
6. L. Brandán Briones, E. Brinksma, M. Stoelinga: A Semantic Framework for Test Coverage. In: Susanne Graf, Wenhui Zhang (Eds.): Automated Technology for Verification and Analysis, 4th International Symposium, ATVA 2006, Beijing, China, October 23-26, 2006. *Lecture Notes in Computer Science* 4218 Springer 2006: 399-414.
7. V. Jones, A. Rensink, E. Brinksma: Modelling mobile health systems: an application of augmented MDA for the extended healthcare enterprise. In: Ninth IEEE International Enterprise Distributed Object Computing Conference (EDOC 2005), 19-23 September 2005, Enschede, The Netherlands. IEEE Computer Society 2005 : 58-69.
8. L. Brandán Briones, E. Brinksma: Testing Real-Time Multi Input-Output Systems. In: Kung-Kiu Lau, Richard Banach (Eds.): Formal Methods and Software Engineering, 7th International Conference on Formal Engineering Methods, ICFEM 2005, Manchester, UK, November 1-4, 2005, Proceedings. *Lecture Notes in Computer Science* 3785 Springer 2005: 264-279.
9. Gerd Behrmann, Ed Brinksma, Martijn Hendriks, Angelika Mader: Production Scheduling by Reachability Analysis - A Case Study. In: 19th International Parallel and Distributed Processing Symposium (IPDPS 2005), CD-ROM / Abstracts Proceedings, 4-8 April 2005, Denver, CA, USA. IEEE Computer Society 2005
10. G. Behrmann, E. Brinksma, M. Hendriks, A. Mader. Scheduling Laquer Production by Reachability Analysis: A Case Study. In: CD-ROM Proceedings 16th IFAC WORLD CONGRESS, Prague, July 3-8, 2005, Prague, 6pp.

11. E. Brinksma, T. Krilavicius, Y. Usenko. A process-algebraic approach to hybrid systems. In: CD-ROM Proceedings 16th IFAC WORLD CONGRESS, Prague, July 3-8, 2005, Prague, 6 pp.
12. P. Bouyer, E. Brinksma, K.G. Larsen. Optimal Infinite Scheduling for Multi-Priced Timed Automata, accepted for publication in Formal Methods in System Design., 2004, 23 pp.
13. L. Brandán Briones, E. Brinksma. A test generation framework for quiescent realtime systems. In: Jens Grabowski, Brian Nielsen (Eds.): Formal Approaches to Software Testing, 4th International Workshop, FATES 2004, Linz, Austria, September 21, 2004, Revised Selected Papers. Lecture Notes in Computer Science 3395 Springer 2005: 64-78.
14. E. Brinksma. Testing Times: On Model-Driven Test Generation for Non-Deterministic Real-Time Systems. In: 4th International Conference on Application of Concurrency to System Design (ACSD 2004), 16-18 June 2004, Hamilton, Canada. IEEE Computer Society 2004, 3-6.
15. 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, 2004: 203-218.
16. 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, 2003: 37-42.
17. Th.C. Ruys and E. Brinksma. Managing the verification trajectory, International Journal on Software Tools for Technology Transfer 4(2), 246-259, 2003.
18. E. Brinksma and A. Mader. Model checking embedded system designs. In: 6th International Workshop on Discrete Event Systems (WODES 2002), IEEE Computer Society, Zaragoza, Spain, 2002: 151 - 160.
19. 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.
20. 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), 2001: 416-439.
21. E. Brinksma. Verification is experimentation! International Journal on Software Tools for Technology Transfer, 3(2), 2001: 107-111.
22. K.G. Larsen, G. Behrmann, E. Brinksma, A. Fehnker, P. Pettersson, and J.T.M. Romijn. As Cheap as 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. Springer-Verlag, 2001: 493-505.
23. 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. Springer-Verlag, 2001: 183-231.
24. 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, Springer-Verlag, 2001: 187-195.
25. 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, Springer-Verlag, 2000: 73-92.

26. E. Brinksma. Verification is Experimentation! In Palamidessi, C. (Ed.), *CONCUR 2000 - Concurrency Theory*, 11th International Conference, Vol. 1877 of Lecture Notes in Computer Science, Springer-Verlag, 2000: 17-24.
27. Howard Bowman, John Derrick, Ed Brinksma: Guest Editors' Introduction: Formal Methods for Object Oriented Distributed Systems. *IEEE Trans. Software Eng.* 26(7): 577-578 (2000).
28. 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, 2000: 3009 - 3015.
29. 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.
30. E. Brinksma. Formal Methods for Conformance testing: Theory can be Practical! In: N. Halbwegs and D. Peled, editors, *Computer Aided Verification*, Lecture Notes in Computer Science 1633. Springer-Verlag, 1999, 44-46.
31. R. Langerak and E. Brinksma. A complete finite prefix for process algebra. In N. Halbwegs and D. Peled, editors, *Computer Aided Verification*, Lecture Notes in Computer Science 1633. Springer-Verlag, 1999, 184-195.
32. E. Brinksma. Cache Consistency by Design, *Distributed Computing* 12 (1999) 2-3, 61-74.
33. 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.
34. 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.
35. 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.
36. 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
37. E. Brinksma, L. Heerink and J. Tretmans, Factorized test generation for multiinput/ output transition systems, In: A. Petrenko and N. Yevtushenko, editors, *Int. Workshop on Testing of Communicating Systems XI*, Kluwer Academic Publishers, 1998, 67-82.
38. 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).
39. 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.
40. 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.
41. 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 5<sup>th</sup> Int. Workshop on Process Algebra and Performance Modelling (PAPM'97)*, Enschede, June 1997, 21-40.
42. 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.

43. E. Brinksma. Using Formal Methods: if you're so smart, how come you ain't rich? In: R. Gotzhein en J. Brederke (eds.), *Formal Description Techniques IX, Theory, application and tools*, Proceedings FORTE/PSTV'96, Kaiserslautern, Germany, October 1996, Chapman & Hall, 1996, 333.
44. E. Brinksma and A. Rensink and W. Vogler. Applications of Fair Testing. In: R. Gotzhein en J. Brederke (eds.), *Formal Description Techniques IX, Theory, application and tools*, Proceedings FORTE/PSTV'96, Kaiserslautern, Germany, October 1996, Chapman & Hall, 1996, 145 – 160.
45. 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.
46. 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.
47. 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.
48. 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.
49. E. Brinksma, E., Performance and Formal Design: A Process-Algebraic Perspective, In: *Proceedings PNPMM'95*, IEEE Computer Society Press (1995), pp 124 – 125.
50. E. Brinksma, J.P. Katoen, R. Langerak, and D. Latella, D., *A Stochastic Causality-Based Process Algebra*, The Computer Journal, Vol. 38, No. 7 (1995), pp 553 – 565.
51. E. Brinksma, A. Rensink, W. Vogler, 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.
52. 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.
53. 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)
54. 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.
55. 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.
56. 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 Development*, Springer WIC Series, (1994), 309–337.
57. 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.

58. 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.
59. 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.
60. 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.
61. 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.
62. Brinksma, E., *Tussen Droom en daad: Formele methoden en gereedschappen bij specificatie en implementatie van open systemen* (in Dutch), Informatie 35 (9), Kluwer Bedrijfswetenschappen, 1992, pp. 20-30.
63. 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.
64. 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.
65. Brinksma, E., On the Design and Implementation of Distributed Systems Using LOTOS, in: *Anais/X Simpósio Brasileiro de Redes de Computadores*, Editora Universitáaia-UFPE, 1992, 1 pp..
66. 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.
67. 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.
68. 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.
69. 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.
70. Brinksma, E., Jonsson, B., Orava, F., Re.ning 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.
71. 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.
72. Brinksma, E., Scollo, G., Vissers, C.A., *Introduction to the PSTV-IX*, Computer Networks and ISDN Systems **22** (1991), North-Holland, pp. 1-6.
73. Brinksma, E., Speci.cation Modules in LOTOS, in: Vuong, S.T. (ed.), *Formal Description Techniques, II*, North-Holland, 1990, pp. 101-115.
74. 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 E.elsberg, W. (eds.), *Protocol Test Systems*, North-Holland, 1990, pp. 349-363.



75. 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.
76. 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.
77. 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.
78. 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.
79. Bolognesi, T., Brinksma, E., *An Introduction to LOTOS*, Computer Networks and ISDN Systems 14, Number 1, 1987, pp. 25-59.
80. 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.
81. 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.
82. 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.
83. 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.
84. Brinksma, E., A tutorial on LOTOS, in: Diaz, J. (ed.), *Protocol Specification, Testing, and Verification, V*, North-Holland, 1985, pp. 171-195.
85. 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.
86. Brinksma, E., The specification language LOTOS, in: *Proceedings NGI/SION Informatica Symposium 1985*, NGI-SIC, 1985, pp. 374-387.
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88. 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.
89. 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.

## **B. Edited volumes**

1. Ed Brinksma, Wolfgang Grieskamp, Jan Tretmans (Eds.): Perspectives of Model-Based Testing, 5.-10. September 2004. Dagstuhl Seminar Proceedings 04371 IBFI, Schloss Dagstuhl, Germany 2005

2. Ed Brinksma, Kim Guldstrand Larsen: Computer Aided Verification, 14th International Conference, CAV 2002, Copenhagen, Denmark, July 27-31, 2002, Proceedings. Lecture Notes in Computer Science 2404 Springer 2002, ISBN 3-540-43997-8
3. Ed Brinksma, Holger Hermanns, Joost-Pieter Katoen (Eds.): Lectures on Formal Methods and Performance Analysis, First EEF/Euro Summer School on Trends in Computer Science, Bergen Dal, The Netherlands, July 3-7, 2000, Revised Lectures. Lecture Notes in Computer Science 2090, Springer 2001, ISBN 3-540-42479-2.
4. Ed Brinksma (Ed.): Tools and Algorithms for Construction and Analysis of Systems, Third International Workshop, TACAS '97, Enschede, The Netherlands, April 2-4, 1997, Proceedings. Lecture Notes in Computer Science 1217, Springer 1997, ISBN 3-540-62790-1.
5. Ed Brinksma, Rance Cleaveland, Kim Guldstrand Larsen, Tiziana Margaria, Bernhard Steffen (Eds.): Tools and Algorithms for Construction and Analysis of Systems, First International Workshop, TACAS '95, Aarhus, Denmark, May 19-20, 1995, Proceedings. Lecture Notes in Computer Science 1019 Springer 1995, ISBN 3-540-60630-0
6. Jan Kroon, Rudolf Jan Heijink, Ed Brinksma (Eds.): Protocol Test Systems, IV, Proceedings of the IFIP TC6/WG6.1 Fourth International Workshop on Protocol Test Systems, Leidschendam, The Netherlands, 15-17 October, 1991. IFIP Transactions C-3 North-Holland 1992, ISBN 0-444-89517-5
7. Ed Brinksma, Giuseppe Scollo, Chris A. Vissers (Eds.): Protocol Specification, Testing and Verification IX, Proceedings of the IFIP WG6.1 Ninth International Symposium on Protocol Specification, Testing and Verification, Enschede, The Netherlands, 6-9 June, 1989. North-Holland 1990, ISBN 0-444-88343-6

### C. Other Publications

1. E. Brinksma, The Art of Making Connections, In: B. de Graaf, A. Rinnooy Kann, and H. Molenaar (Eds.), The Dutch national Science Agenda in Perspective, a reflection on research and science policy in practice. Amsterdam University Press, March 2017, 15pp (to appear).
2. E. Brinksma, A.H. Mader. Prozessalgebra, Teil 1. Automatisierungstechnik 51(8), 2003, A13-A16.
3. E. Brinksma, A.H. Mader. Prozessalgebra, Teil 2. Automatisierungstechnik 51(9), 2003, A17-A20.
4. E. Brinksma, *On the design of Extended LOTOS*, Doctoral Dissertation University of Twente (ISBN 90-9002545-6), 1988, 238 pp
5. E. Brinksma (editor). International Standard ISO 8807:1989. Information processing systems -- Open Systems Interconnection -- LOTOS -- A formal description technique based on the temporal ordering of observational behaviour.

### Invited presentations & lectures (since 2009)

- The Empathic Engineer, public lecture 54<sup>th</sup> Dies Natalis University of Twente, November 25, 2016.
- T-shaped Professionals, Meeting of the Directors-General Higher Education, Amsterdam, April 11, 2016.
- The art of connecting, public lecture 54<sup>th</sup> Dies Natalis University of Twente, November 27, 2015.
- Globalisering en netwerken: steden en universiteiten, Annual Conference Kennisinstituut Stedelijke Samenleving, Enschede. November 19, 2015.

- Het grote universiteitsdebat, panel member, De Rode Hoed, Amsterdam, June 7, 2015
- The expanding world of the University of Twente, public lecture 53<sup>rd</sup> Dies Natalis, November 28, 2014
- Bouwen aan een universiteit als Bauhaus, public lecture 52<sup>nd</sup> Dies Natalis University of Twente, November 29, 2013.
- The Great Wave of Change, TEDx, Zwolle, Netherlands, March 12, 2013.
- Stroomt Alles?, public lecture 51<sup>st</sup> Dies Natalis University of Twente, November 30, 2012.
- Model-Based Testing, lecture series Marktoberdorf 2012 NATO Summer School, Engineering Dependable Software Systems, Marktoberdorf, Germany, July 1 – August 12, 2012.
- Moore Overijssel, Jaarcongres Trendbureau Overijssel, March 28, 2012.
- Duurzaam Onderwijs, StrategiePlatform Onderwijs, Zeist, Netherlands, December 8, 2010.
- Duurzaam Onderwijs, public lecture 49<sup>th</sup> Dies Natalis University of Twente, November 26, 2010.
- High-Tech Human Touch: Interdisciplinarity Between Technical and Social Sciences, 6<sup>th</sup> World Technopolis Association University Presidents Forum, Hsinchu City, Taiwan, September 2, 2010.
- Model-Based Testing, lecture series Marktoberdorf 2010 NATO Summer School, Software and Systems Safety: Specification and Verification, Marktoberdorf, Germany, August 3-15, 2010.
- Testing Times: 20 Years of Research and Collaboration in Testing, Invited Speaker DisCoTec 2010, Amsterdam, June 8, 2010.
- Ed Brinksma, Dubbel Geïnspireerd, de kunst van de wetenschap, public lecture 48<sup>th</sup> Dies Natalis University of Twente, November 27, 2009.
- Technology in Context: Interdisciplinarity Between Technical and Social Sciences, Invited Speaker Symposium “Die Idee der Universität im Wandel der Zeit”, Braunschweig, Germany, November 20, 2009
- Testing Times: 20 Years of Research and Collaboration in Testing, Invited Speaker FATES/TESTCOM 2009 Symposium, Eindhoven, November 4, 2009.

### **Editorial Boards**

- Associate Editor Springer International Journal on Software Tools for Technology Transfer (1997 - today)
- Editor EURASIP Journal on Embedded Systems (2005 - 2009)
- Editor Software and System Modelling (Springer) (2002 - 2006)
- 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 – 1996)
- Member of the editorial board of IEEE Networks (1991 - 1994)

### **International conference steering committees**

- Tools and Algorithms for the Construction and Analysis of Systems (TACAS) (1995 - 2012)
- IFIP WG6.1 conferences on Protocol Specification, 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)

### **International conference programme committees**

- IEEE Real-Time Systems Symposium 2008
- Design, Automation and Test in Europe 2007, 2008
- IFAC Workshop on Dependable Control of Discrete Systems 2007.
- International Conference on Formal Modelling and Analysis of Timed Systems (FORMATS) 2005, 2007, 2008.
- ACM Conference on Embedded Systems Software (Emsoft) 2006, 2007
- Formal Methods 2005, 2006, 2008.
- International Andrei Ershov Memorial Conference Perspectives of System Informatics (PSI) 2006.
- Hybrid Systems Computation & Control 2005, 2009.
- International Symposium on Leveraging Applications of Formal Methods (ISOLA) 2004.
- International Workshop on Formal Approaches to Testing of Software (FATES), 2001–2002.
- Workshop on Discrete Event Systems (WODES), 2000, 2002.
- International Symposium on Protocol Specification, Verification, and Testing/ Formal Description Techniques (FORTE/PSTV), 1996–2002.
- Africom 2001.
- International Symposium on Protocol Specification, Verification, and Testing (PSTV), 1987–1995
- Formal Description Techniques (FORTE), 1988–1995
- Computer Aided Verification (CAV), 1991–1994, 2000, 2002 (programme co-chair)
- International Workshop on Protocol Testing (IWPTS), 1991–1995
- International Workshop on Testing of Communicating Systems (IWTCS), 1996–1999
- IFIP World Computer Conference ICS 2000, Beijing, PRC, 2000
- Modelling and Verifying parallel Processes (MOVEP) 2000, 2002, 2004, 2006
- International SPIN Workshop, 1999, 2001–2002
- Colloque francophone sur l'ingenierie des protocoles (CFIP), 1997–1998
- Tools and Algorithms for the Construction and Analysis of Systems (TACAS), 1995–2001, 2003–present
- Workshop on Formal Methods for Open Object-Based Distributed Systems (FMOODS), 1996–1999
- World Congress on Formal Methods, 1999, 2005
- Formal Aspects of Software Engineering, 1997
- PA/BRICS/TUCS International School on Embedded Systems, 1996

### **Supervised Doctoral Dissertations**

1. Rom Langerak, Transformations and Semantics for LOTOS, November 1992.
2. Jan Tretmans, A formal Approach to Conformance Testing, December 1992.
3. Arend Rensink, Models and Methods for Action re.nement, August 1993.
4. Henk Eertink, Simulation Techniques for the Validation of LOTOS Specifications, March 1994.
5. Joost-Pieter Katoen, Quantitative and Qualitative Extensions of Event Structures, April 1996 (together with Prof. C.A. Vissers).
6. Pim Kars, Process-algebraic Transformations in Context, June 1997.
7. Lex Heerink, Ins and Outs in Refusal Testing, May 1998.

8. Judi Romijn, Analysing Industrial Protocols with Formal Methods, October 1999 (together with Prof. F.W. Vaandrager).
9. Pedro D'Argenio, Algebras and Automata for Timed and Stochastic Systems, November 1999.
10. Theo Ruys, Towards Effective Model Checking, March 2001.
11. Eric Sluiman, Linear Data Structures for Storage Allocation in Attribute Evaluators, March 2002 (together with Prof A. Nijholt).
12. Dino Distefano, On Model Checking the Dynamics of Object-Base Software, November 2003.
13. Nicolae Goga, Control and Selection Techniques for the Automated Testing of Reactive Systems, October 2004 (together with Prof. L.M.G. Feijs).
14. Gabriele Lenzini, Integration of Analysis Techniques in Security and Fault-Tolerance, June 2005 (together with Prof. P. Hartel).
15. Tomas Krilavicius, Hybrid Techniques for Hybrid Systems, September 2006.
16. Laura Brandán Briones, Theories for Model-Based Testing: Real-Time and Coverage, March 2007.
17. Ivan Zapreev, Model Checking Markov Chains: Techniques and Tools, March 2008 (together with Prof. J. P. Katoen).
18. Machiel van der Bijl, On Changing Models in Model-Based Testing, May 2011.

### **Supervision Honorary Doctorate**

Gerard Holzmann, Honorary Doctorate University of Twente in recognition of his pioneering work in software verification, December 2006.

### **External examiner:**

(this excludes all memberships of PhD committees at the University of Twente, and those at Eindhoven University of Technology from July 2005 onwards)

1. Hubert Garavel, Compilation et verification de programmes LOTOS, University of Grenoble, November 1989.
2. Guy Leduc, On the role of implementation relations in the design of distributed systems using LOTOS, University of Liege, March 1990.
3. Peter Sjödin, From LOTOS Specifications to Distributed Implementations, University of Uppsala, December 1991.
4. Jørgen F. Sjøgaard-Andersen, Correctness of Protocols in Distributed Systems, Technical University of Denmark, April 1994.
5. Marc Phallipou, Relations d'implantation et hypothèses de test sur des automates à entrées et sorties, Université de Bordeaux I, Bordeaux, July 1994.
6. Petra van Haaften, Distributed Optimisation Algorithms for Network Problems, University of Utrecht, October 1994.
7. Jacob Brunekreef, Modular Algebraic Protocol Specification, University of Amsterdam, February 1995
8. Wishnu Prasetya, Mechanically Supported Design of Self-stabilizing Algorithms, University of Utrecht, October 1995.
9. Mieke Massink, Functional Techniques in Concurrency, University of Nijmegen, February 1996.
10. Qiangming Tan, On Conformance Testing of Systems Communicating by Rendezvous, University of Montreal, February 1998.
11. Holger Hermanns, Interactive Markov Chains, Universität Erlangen-Nürnberg, July 1998.

12. Andreas Ulrich, Testfallableitung und Testrealisierung in verteilten Systemen, Universität Magdeburg, September 1998.
13. Kaare Kristoffersen, Compositional Verification of Concurrent Systems - A Possible Cure for the State/Explosion Problem, University of Aalborg, January 1999.
14. Mihaela Sighireanu, Contribution to the definition and implementation of E-LOTOS, University of Grenoble, January 1999.
15. Christel Baier, On Algorithmic Verification Methods for Probabilistic Systems, Habilitation Thesis, University of Mannheim, April 1999.
16. Michel Reniers, Message Sequence Chart, Syntax and Semantics, Eindhoven University of Technology, June 1999.
17. David Griffioen, Studies in Computer Aided Verification of Protocols, University of Nijmegen, May 2000.
18. Brian Nielsen, Specification and Test of Real-Time Systems, University of Aalborg, November 2000.
19. Albert Hofkamp, Reactive Machine Control, Technical University of Eindhoven, November 2001.
20. Ansgar Fehnker, Citius, Vilius, Melius: Guiding and Cost-Optimality in Model Checking of Timed and Hybrid Systems, University of Nijmegen, April 2002.
21. Yasmina Abdeddaïm, Modélisation et résolution de problèmes d'ordonnancement à l'aide d'automates temporisés, Université de Grenoble, November 2002.
22. Elena Fersman, A Generic Approach to Schedulability Analysis of Real-Time Systems, Uppsala Universitet, November 2003.
23. Thierry Jéron, Contribution à la génération automatique de tests pour les systèmes réactifs, Habilitation à diriger des recherches, Université de Rennes, March 2004.
24. Ronald Lutje Spelberg, Model checking real-time systems based on partition refinement, Delft University of Technology, May 2004.
25. Pieter Cuijpers, Hybrid Process Algebra, Technical University of Eindhoven, December 2004.
26. Goran Frehse, Compositional Verification of Hybrid Systems using Simulation Relations, Radboud University Nijmegen, October 2005.
27. Martijn Hendriks, Model Checking Timed Automata - Techniques and Applications, Radboud University Nijmegen, April 2006.
28. Biniam Gebremichael, Expressiveness of Timed Automata Models, Radboud University Nijmegen, December 2006.
29. Moez Krichen, Model-Based Testing for Real-Time Systems, Université de Grenoble, December 2007.
30. Magiel Bruntink, Renovation of Idiomatic Crosscutting Concerns in Embedded Systems, Delft University of Technology, March 2008.
31. Bas Ploeger, Improved Verification Methods for Concurrent Systems, Eindhoven University of Technology, August 2009.
32. Isaac Corro Ramos, Statistical Procedures for Certification of Software Systems, Eindhoven University of Technology, December 2009.
33. Tom Wood, The lightweight flow engine: a model for rapid development and emulation of telecommunication services, University of Twente, September 2013.
34. Neda Noroozi, Improving Input-Output Conformance Testing Theories. Eindhoven University of Technology, October 27, 2014.