Curriculum Vitae

Frits Willem Vaandrager

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Personal Facts

FULL NAME:	Frits Willem Vaandrager
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BORN:	July 22, 1962, Voorschoten, The Netherlands
NATIONALITY:	Dutch
MARITAL STATUS:	Married, three children

Research Interests

Vaandrager's PhD thesis shaped the research field that investigates general formats for **structural operational semantics**. During his PhD studies, he obtained several other high impact results on **concurrency theory**, such as Petri net models for process algebras (with Van Glabbeek), an algorithm for branching bisimulation (with Groote), and logical characterizations of branching bisimulation equivalence (with De Nicola). As a postdoctoral fellow at MIT, his attention shifted to assertional frameworks for the description

and analysis of computing systems. At MIT he wrote three influential papers with Lynch (2nd most cited paper *Information & Computation* 1995) on the classification of **forward and backward simulation** proof techniques. The collaboration with Lynch was continued after he left MIT. Together with Lynch, Segala (Verona) and Kaynar (CMU), he further developed the highly influential **hybrid I/O automata** system modeling framework (15 papers, most cited paper *Information & Computation 2003*). In 1998, together with David Griffioen, he introduced the notion of **normed simulations**. CompCert, a high-assurance verified compiler for almost all of the C language, heavily relies on this work, and normed simulations shaped most later notions of simulation for verified compilation. At Radboud University, Vaandrager became interested in **model checking of timed automata**. Within the EU AMETIST project (which he coordinated) and other EU projects, he worked with Larsen's team (Aalborg) on various extensions that have been implemented in the Uppaal tool, such as minimal cost reachability, symmetry reduction, parametric and distributed model checking (25 papers). In part due to these efforts, Uppaal is now routinely used for industrial case studies and has thousands of users, both in academia and industry. He has been and is involved in more than 25 EU and national projects devoted to the **application of formal methods** to areas such as security and network protocols, embedded software, scheduling, performance analysis, and legacy software. Since 2010, his research has shifted to **active automata learning**. Vaandrager's team is internationally leading in this fast growing area with high impact publications (e.g. in CONCUR, FM, CAV, FMSD, CACM, TACAS) both on theoretical advances and on applications in software engineering, for instance in areas such as network protocols, banking cards and legacy software. In 2022, with Garhewal, Rot & Wißmann, he developed $\mathbf{L}^{\#}$, a new and fast algorithm for active automata learning.

Education

- Ph.D. in Computer Science, University of Amsterdam, February 1990. Thesis title: *Algebraic techniques for concurrency and their application*; supervisor: Prof. J.A. Bergstra.

- M.S. in Mathematics with specialization in Computer Science, University of Leiden, June 1985. Thesis title: *Verification of two communication protocols by means of process algebra*; supervisors: Prof. J.A.

Bergstra and Prof. A. Ollongren.

Employment

- Full professor of Informatics for Technical Applications, Institute for Computing and Information Sciences, Radboud University Nijmegen. December 1995 – present.
- Group leader of the project "Concurrency and Real-Time Systems", Department of Software Technology (Prof. J.W. de Bakker), Centrum voor Wiskunde en Informatica (CWI), Amsterdam. April 1992 – December 1995.
- Part-time "Universitair Hoofddocent" (Associate professor), Programming Research Group, University of Amsterdam. April 1992 – March 1995.
- "Maître de Recherche Associé" (Postdoctoral Associate), Project MEIJE (Dr. G. Berry), Centre de Mathématiques Appliquées (CMA), École Nationale Supérieure des Mines de Paris, Sophia-Antipolis, France. October 1991 – March 1992.
- Postdoctoral Associate, Theory of Distributed Systems research group (Prof. N.A. Lynch), Massachusetts Institute of Technology (MIT), Laboratory for Computer Science, Cambridge, MA, USA. September 1990 – August 1991.
- "Wetenschappelijk Medewerker" (Research Scientist), Department of Software Technology (Prof. J.W. de Bakker), Centrum voor Wiskunde en Informatica (CWI), Amsterdam. July 1985 – June 1990.

Teaching Experience

- Course on Testing Techniques (together with Jan Tretmans), 2011-2012 and from 2021 onwards.
- Course on Software Verification, 2015 and since 2020.
- Course on Algorithms and Data Structures, 2015-2024.
- Course on Model Checking, 2015-2017.

- Course on Introduction to Robotics (together with Louis Vuurpijl and Pim Haselager), 2009-2017.
- Research Seminar Software Science, 2015.
- Course on Operating Systems, 2005-2007 and 2012-2015.
- Course on Distributed Systems and Networks, 2013.
- Course on Analysis of Embedded Systems, from 2006-2014.
- Masterclass on Model Checking for high school students, taught at various schools in (for instance) Nijmegen, Arnhem, Heereveen, and Gouda, 2007-2015. Based on these masterclasses, I have developed, with Paul Bergervoet, a module of 7 units on model checking with Uppaal for the the on-line teaching method *INFORMATICA-Actief*, which is widely used at Dutch high schools (VWO).
- Course of 8 days for PhD students on Theory and Application of Timed Automata Model Checking at the University of Pisa, May 2011.
- Course on Systems Architecture, 2008-2011.
- Course on Protocol Validation, 1997-2005.
- Course on Operating Systems in 1996, 1997, 1998 and 2000.
- Course on System Modelling for Philips Research, 1999.
- Courses on Process Algebra and Protocol Verification at the University of Amsterdam in 1987, 1989, 1992, 1993 and 1994 (2×).
- BSc and MSc supervisor of dozens students at the Radboud University Nijmegen.
- M.S. supervisor of several students at the University of Amsterdam.

PhD students

1. Pien Rooijendijk (co-promotor Mairieli Wessel), since September 1, 2025.
2. Calvin Terpstra (co-promotor Dennis Hendriks), since April 15, 2025.
3. Bram Pellen (co-promotores Petra van den Bos and Sebastian Junges), since February 1, 2025.
4. Luko van der Maas (co-promotor Sebastian Junges), since September 1, 2024.
5. Jonan Richards (co-promotor Mairieli Wessel), since July 15, 2024.
6. Linus Heck (co-promotor Sebastian Junges), since February 1, 2024.
7. Jiangnan Huang (co-promotor Bin Lin), since October 15, 2022.
8. Marck van der Vegt (co-promotor Sebastian Junges), since January 2022.
9. Patrick Lodeweegs (first promotor Erik Poll), since October 2024.
10. Seyed Behnam Andarzian (first promotor Erik Poll), since December 1, 2021.
11. Christian Daniele (first promotor Erik Poll), since November 1, 2021.
12. Lars van Arragon (co-promotor Jan Tretmans), since October 1, 2021.
13. Gijs van Cuyck (co-promotor Jan Tretmans), since September 1, 2021.
14. Christoph Schmidl (first promotor Nils Jansen), since October 1, 2020.
15. Bharat Garhewal. *Towards Integration of Active Learning and Conformance Testing with $L^{\#}$*, Radboud University, January 26, 2026.
16. Marnix Suilen (first promotor Nils Jansen). *Robust and Reliable Decision-Making Under Uncertainty*, Radboud University, September 29, 2025.
17. Dennis Hendriks (co-promotor Jan Tretmans). *Model Inference and Comparison for Software Evolution in Large Component-Based Systems*, Radboud University, Nijmegen, August 28, 2024.

18. Dennis Gross (second promotor prof.dr. N.H. Jansen, co-promotor dr. G.A. Perez). *Towards trustworthy AI: Formal Verification in Machine Learning*, Radboud University, Nijmegen, April 4, 2024.

19. Ramon Janssen (co-promotor: dr.ir. G.J. Tretmans). *Refinement and Partiality for Model Based Testing*, Radboud University, Nijmegen, December 12, 2022.

20. Petra van den Bos (co-promotor: dr.ir. G.J. Tretmans). *Coverage and Games in Model-Based Testing*, Radboud University, Nijmegen, October 8, 2020.

21. Alexis Linard. *Learning Models for Cyber-Physical Systems*, Radboud University, Nijmegen, December 18, 2019.

22. Joshua Moerman (second promotor: prof.dr. A. Silva, co-promotor: dr. S.A. Terwijn). *Nominal Techniques and Black Box Testing for Automata Learning*, Radboud University, Nijmegen, July 1, 2019.

23. Paul Fiterău-Broştean. *Active Model Learning for the Analysis of Network Protocols*. Radboud University, Nijmegen, April 13, 2018. For his thesis, Paul received the first VERSEN PhD award from the Dutch National Association for Software Engineering on March 19, 2019.

24. Rick Smetsers (co-promotor: dr.ir. S.E. Verwer). *Advances in Model Learning*. Radboud University, Nijmegen, March 28, 2018.

25. Fides Aarts, *Tomte: Bridging the Gap between Active Learning and Real-World Systems*. Radboud University, Nijmegen, October 27, 2014.

26. Freek Verbeek (second promotor: prof.dr. M.C.J.D. van Eekelen; co-promotor: dr J. Schmaltz). *Formal Verification of On-Chip Communication Fabrics*. Radboud University, Nijmegen, March 26, 2013.

27. Georgeta Igna. *Performance Analysis of Real-Time Printing Systems using Timed Automata*, Radboud University, Nijmegen, January 22, 2013.

28. Faranek Heidarian Dehkordi. *Studies on Verification of Wireless Sensor Networks & Abstraction Learning for System Inference*, Radboud University, Nijmegen, July 2012.

29. Jasper Berendsen. *Abstraction, Prices and Probability in Model Checking Timed Automata*, Radboud University, Nijmegen, November 2010.

30. Marcel Verhoef (co-promotor: dr J.J.M. Hooman). *Modeling and Validating Distributed Embedded Real-Time Control Systems*, Radboud University, Nijmegen, January 2009.

31. A.L. de Groot (co-promotor: dr J.J.M. Hooman). *Practical Automaton Proofs in PVS*, Radboud University, Nijmegen, March 2008.

32. Biniam Gebremichael. *Expressiveness of Timed Automata Models*, Radboud University, Nijmegen, December 2006.

33. Ling Cheung. *Reconciling Nondeterministic and Probabilistic Choices*, Radboud University, Nijmegen, September 2006. (Cum Laude)

34. Martijn Hendriks. *Model Checking Timed Automata: Techniques and Applications*, Radboud University, Nijmegen, April 2006.

35. Goran Frehse. *Compositional Verification of Hybrid Systems Using Simulation Relations*, Radboud University, Nijmegen, October 2005. Second promotor: Prof.Dr.-Ing. S. Engell, University of Dortmund.

36. M.I.A. Stoelinga. *Alea Jacta Est: Verification of Probabilistic, Real-Time and Parametric Systems*, University of Nijmegen, April 2002.

37. A. Fehnker. *Citius, Vilius, Melius: Guiding and Cost-Optimality in Model Checking of Timed and Hybrid Systems*, University of Nijmegen, April 2002. (Cum Laude)

38. W.O.D. Griffioen. *Studies in Computer Aided Verification*, University of Nijmegen, May 2000.

39. J.M.T. Romijn. *Analysing Industrial Protocols with Formal Methods*, University of Twente, October 1999. First promotor Prof. H. Brinksma, University of Twente.

40. M.S. klein Gebbinck.
Decomposition of mixed pixels in remote sensing images to improve the area estimation of agricultural fields, University of Nijmegen, November 1998. Co-promotor dr. Th. Schouten, University of Nijmegen.

41. F.J.M. Panken.
Design and performance evaluation of multiple-access protocols for ATM-based passive optical networks, University of Nijmegen, November 1997. Co-promotor dr. C. Blondia, University of Antwerp, Belgium.

Quality Indicators

1. Google Scholar lists more than 12.5K citations to my publications and my h-index is 58 (April 2026).

2. Knight in the Order of the Dutch Lion (April 2024).

3. Best paper award at FORMATS'23.

4. Best paper award at FACS'19.

5. In March 2016, an international committee assessed the research in Computer Science in the Netherlands. Vaandrager's institute (iCIS) received the maximal score for research quality and viability, and received the highest scores of all research institutes in the Netherlands (together with Twente University).

6. Extended University Teaching Qualification (UKO), 2013.

7. Mariëlle Stoelinga received the 2008 Professor De Winter prize for the article L. Cheung, M.I.A. Stoelinga and F.W. Vaandrager. A Testing Scenario for Probabilistic Processes. *Journal of the ACM* 54(6), December 2007. The Professor De Winter prize (2500 euro) is awarded for the best journal paper co-authored by a female researcher at the University of Twente.

8. Best paper award ICALP'03 (Track B).

9. Best paper award FTRTFT'94.

European Projects

1. DFG/NWO bilateral cooperation project RigorOus dependability analysis using model ChecKing techniques for Stochastic systems (ROCKS). July 2009 - November 2013.

2. EU FP7 project Quantitative System Properties in Model-Driven-Design of Embedded Systems (QUASIMODO), January 2008 - December 2010.

3. Overseas collaborator in the project Formal Methods for the Specification and Verification of Ad Hoc Networks (PROODOS). Department of Computer Science, University of Cyprus (Anna Philippou, Chryssis Georgiou), January 2006 - December 2007.

4. DFG/NWO bilateral cooperation project Validation of Stochastic Systems (VOSS2). January 2005 - December 2007.

5. EU IST project IST-2001-35304, Advanced Methods for Timed Systems (AMETIST). April 2002 - March 2005. Coordinator. This project has a budget that exceeds 2 M Euro and involves 4 industrial and 7 academic partners.

6. DFG/NWO bilateral cooperation project Validation of Stochastic Systems (VOSS). March 2001 - February 2004.

7. Esprit project 26270, Verification of Hybrid Systems (VHS). May 1998 - October 2001.

8. HCM Cooperation Network CT930406, Expressiveness of Languages for Concurrency (EXPRESS). January 1994 – December 1997. (Coordinator of this project from January 1994 – January 1996)

9. European Research Action on Verification and Validation Methods for Formal Descriptions (COST project 247). January 94 – December 1995.

10. ESPRIT Basic Research Action no. 7166, Calculi and Algebras of Concurrency: Extensions, Tools and Applications (CONCUR2). September 1992 – August 1995. (Scientific manager)

11. RACE project no. 2076, Broadband Object-Oriented Service Technology (BOOST). April 1992 – December 1994.

12. RACE project no. 1046, Specification and Programming Enviroment for Communications Software (SPECS). March 1988 – June 1990, April 1992 – December 1992.

13. ESPRIT Basic Research Action no. 3006, Theories of Concurrency: Unification and Extension (CONCUR). March 1990 – June 1990.

14. ESPRIT project no. 1283, VDM Specification for the Interface of the Portable Common Tool Environment (VIP). November 1986 – December 1988.

15. ESPRIT project no. 432, An Integrated Formal Approach to Industrial Software Development (METEOR). July 1985 – October 1989.

National Grants (since 2008)

1. TKI HTSM project "Explainable synthesis of supervisory controllers (ExSyn)" with ASML (together with D. Hendriks). One PhD student, from March 2025 to March 2029.

2. NWO/ENW Open Competition M2 project "Evidence-Driven Black-Box Checking (EVI)" (together with Petra van de Bos (UT)). One PhD student at Radboud University and one PhD student in Twente, from 2024/25 onwards.

3. NWO TOP project 612.001.852 "Grey-box learning of Interfaces for Refactoring Legacy Software (GIRLS)". One PhD student and one postdoc, from July 2019 to January 2024.

4. STW project "Supersizing Model-Based testing (SUMBAT)" (together with J. Tretmans, J. vd Pol and M. Stoelinga). Two PhD students, from August 2015 to August 2020.

5. RU Faculty of Science project "On the quality of hypotheses in active automata learning" (together with Bas Terwijn and Alexandra Silva). One PhD student, from February 2015 to January 2019.

6. STW Perspectief project "Robust Design of Cyber Physical Systems (CPS)". One PhD student, from September 2015 to August 2019.

7. NWO/EW project 628.001.009 "Learning Extended State Machines for Malware Analysis (LEMMA)" (together with S. Verwer). Two PhD students, from October 2013 to March 2018.

8. NWO/EW project 612.001.216 "Active Learning of Security Protocols (ALSeP)". One PhD student, from November 2013 to October 2017.

9. STW project “Integrating Testing And Learning of Interface Automata (ITALIA)” (together with J. Tretmans). Two PhD students, from January 2012 to March 2016.

10. NWO Visitor Travel Grants for prof.dr. C. Morgan (040.11.303) and dr. A. McIver (040.11.302), 2012. (15KEuro).

11. KWR project FATs Domino “Automatic test case generation and test execution for software and System-on-Chip platform development in printers and copiers using model based testing (FATs Domino)” (together with J. Tretmans, P. Koopman and Océ). 1 junior researcher for 9 months. From January 2010 - December 2010.

12. NWO/EW project 612.064.811 “Formal Verification of Deadlock Avoidance Mechanisms (FVDAM)” (together with Julien Schmaltz). One PhD student, from end 2008 to March 2013.

13. NWO/EW project 612.064.610 “Abstraction Refinement for Timed Systems (ARTS)”. 1 PhD student. From January 2008 - December 2011.

14. ESI project Octopus. 1 PhD student from December 2007 until November 2011, plus 1 postdoc for 2 years from the end of 2009 onwards.

15. NWO Focus project Advancing the Real use of Proof Assistants (ARPA). 1 postdoc (together with prof. H. Geuvers). From 1/9/2005 to 1/9/2009.

Programme Committees (since 2012)

1. 53rd EATCS International Colloquium on Automata, Languages, and Programming (ICALP), London, UK, 7-10 July, 2026.

2. 27th International Symposium on Formal Methods (FM 2026), Tokyo, May 18-22, 2026.

3. 18th NASA Formal Methods Symposium (NFM 2026), Los Angeles, USA, May 5-7, 2026.

4. 29th International Conference on Foundations of Software Science and Computation Structures (FoSSaCS 2026), Turin, Italy, April 11–16, 2026.

5. International Conference on Concurrency Theory (CONCUR'24), Calgary, Canada, September 9-13, 2024.

6. Chair Jury Test-of-Time Award International Conference on Concurrency Theory (CONCUR'24).

7. 38th Annual ACM/IEEE Symposium on Logic in Computer Science (LICS), Boston, US, 26-29 June 2023.

8. 29th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS'23), April 2023, Paris, France.

9. 17th International Conference on integrated Formal Methods (iFM'22), June 7-10, 2022, Lugano, Switzerland.

10. 33rd International Conference on Concurrency Theory (CONCUR'22), September 13-16, 2022, Warsaw, Poland.

11. 28th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS'22), April 2-7, 2022, Munich, Germany.

12. 15th International Conference on Grammatical Inference (ICGI'21), June-July 2021 - Park Avenue, New York City, USA.

13. 8th International Conference on Formal Modeling and Analysis of Timed Systems (FORMATS 2020), September 1-3, 2020, Vienna, Austria.

14. Learning and Automata (LearnAut) – LICS 2019 workshop, June 23rd, Vancouver, Canada.

15. RERS challenge at the TOOLympics 2019, Prague, Czech Republic, April 7, 2019.

16. 16th International Conference on Formal Modelling and Analysis of Timed Systems (FORMATS'18), Beijing, 4-6 September 2018.

17. 14th International Conference on Grammatical Inference (ICGI'18), Wroclaw, Poland, September 5-7, 2018.

18. Organizer (together with Juray Somorovsky and Joeri de Ruiter) of Lorentz Center workshop on Systematic Analysis of Security Protocol Implementations, Leiden, June 11-15, 2018.

19. 24th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS'18), 14-21 April 2018, Thessaloniki, Greece.

20. 17th International Conference on Runtime Verification (RV 2017), September 13-16, 2017, Seattle, USA.

21. SYNT 2017 (affiliated workshop CAV'17), Heidelberg, Germany, 2017.

22. 13th International Conference on Integrated Formal Methods, September 20-22, 2017, Turin, Italy.

23. Second International Workshop on Models for Formal Analysis of Real Systems (MARS), April 2017, Uppsala, Sweden.

24. 11th International Conference on Language and Automata Theory and Applications (LATA 2017), Umea, Sweden, March 6-10, 2017.

25. Jury ING Testing Thesis Award, November 18, 2016, Amsterdam.

26. 13th International Conference on Formal Aspects of Component Software (FACS'16), October 19-21, 2016 at Besancon, France.

27. 6th International Workshop on Design, Modeling and Evaluation of Cyber Physical Systems (CyPhy'16), Pittsburgh, USA, October 6, 2016.

28. 13th International Conference on Grammatical Inference (ICGI'16), Delft, October 5-7, 2016.

29. 10th International Conference on Language and Automata Theory and Applications (LATA'16), Prague, March 14-18, 2016.

30. 13th International Conference on Formal Modeling and Analysis of Timed Systems (FORMATS'15), Madrid, Spain, 2-4 September, 2015.

31. 9th International Conference on Language and Automata Theory and Applications (LATA 2015), Nice, France, March 2-6, 2015.

32. 12th International Conference on Formal Modeling and Analysis of Timed Systems (FORMATS 2014), 8-10 September 2014, Florence, Italy.

33. 20th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2014), 5-13 April 2014, Grenoble, France.

34. 17th International Conference On Principles Of DIstributed Systems (OPODIS 2013), December 16-18, 2013, Nice, France.

35. 24th International Conference on Concurrency Theory (CONCUR 2013), Buenos Aires, Argentina, 26-31 August 2013.

36. Formal Modeling and Analysis of Timed Systems (FORMATS 2012), London, UK, at Imperial College London, 18-20 September 2012.

37. 10th School on MOdelling and VErifying parallel Processes (MOVEP'12), Marseilles, France, December 3-7, 2012.

38. 15th ACM Conference on Languages, Compilers, Tools & Theory for Embedded Systems (LCTES 2012), June 12-13, Beijing, China.

39. 6th International Conference on Language and Automata Theory and Applications (LATA 2012), March 5-9, 2012, A Coruña, Spain.

Membership of Professional Organizations

- Dutch National Association for Software Engineering (VERSEN).
- Association for Computing Machinery (ACM).
- Institute of Electrical and Electronics Engineers (IEEE).
- Dutch Graduate School Institute for Programming research and Algorithmics (IPA).
- European Association for Theoretical Computer Science (EATCS).

Other Professional Activities (since 2012)

- Member Fachmentoraat Habilitationsverfahren Dr. Thorsten Wißmann, Friedrich-Alexander-Universität Erlangen, Germany. November 2025 -
- Member NWO assessment committee Vici Domain Science 2025 and 2026.
- Member VERSEN CARES, `https://www.versen.nl/contents/works/cares`, since December 2021.
- Head of Department of Software Science, Radboud University, since November 2018.
- Editor *Software Tools for Technology Transfer (STTT)*, since 2017.
- Editor *Logical Methods in Computer Science (LMCS)*, since 2004.
- Member partner board TNO ESI, since January 2016.
- Board member Dutch National Association for Software Engineering (VERSEN), since October 2015.
- Member Advisory Panel, Faculty of Mathematics and Computer Science, Technical University of Eindhoven, from 2014-2023.
- Exploration, on behalf of the Executive Board of the Dutch Research Council (NWO), of the views amongst Dutch mathematicians and computer scientists, about the desired future role of CWI, the national research institute for mathematics and computer science in the Netherlands. October 2019 - January 2020.
- Member appointment committee Hypathia chair, Faculty of Electrical Engineering, Mathematics and Computer Science, University of Twente, 2018.
- Coordinator Software Science master specialisation, Radboud University. September 2013 - September 2016 and August 2018 - January 2020.
- Chair steering group Research Data Management, Radboud University, August 2016 - November 2018.

- Vice Dean of Research, Faculty of Science, Radboud University, October 2014 - October 2018.
- Member Gender & Diversity Committee, Faculy of Science, Radboud University, November 2015 - October 2018.
- Editor *Information and Computation*, 2003–2018.
- Member International Advisory Panel of the Johann Bernouilli Institute, University of Groningen, January 2013 - June 2017.
- Columnist for Voxweb, independent magazine of the Radboud University, `http://www.voxweb.nl/author/frits`, September 2012 - March 2017.
- Member Steering Group Research Data Management, Radboud University Nijmegen, September 2013 - January 2016.
- Member "College van Beroep voor de Examens van de Radboud Universiteit Nijmegen", 2000 - 2015.
- Reviewer FP7-ICT ADVANCE (287563) Advanced Design and Verification Environment for Cyber-physical System Engineering, 2012-2015.
- Director of Studies Computing and Information Sciences, Radboud University Nijmegen, March 2013 - December 2014.
- Member Search Committee for Chair in Software Technology at the University of Utrecht, 2013/2014.
- Member evaluation committee NWO EW TOP grants, 2013.
- Member evaluation committee STW Perspectief, 2011 and 2013.
- Member program board Honours Programme Faculty of Science Radboud University, August 2008 - August 2013.
- Member midterm research evaluation committee Computer Science departments 3TU, period 2009-2012.
- Member Gebiedsbestuur Exacte Wetenschappen NWO, (committee within the Netherlands Organisation for Scientific Research responsible for mathematics, computing science and astronomy), September 2006 - December 2012.

Dissertations (since 2012)

1. Promotion committee Bram Kohlen. *Verified & Fast Probabilistic Verification*, Universiteit Twente, February 2026.

2. Chair manuscript committee Renske Weeda. *Learning from Mistakes: Analyzing Students' Development in Program Comprehension and Program Composition*, Radboud University, September 2025.

3. Chair manuscript committee Thom Badings, *Robust Verification of Stochastic Systems: Guarantees in the Presence of Uncertainty*, Radboud University, 2024

4. Member doctorate committee Jasper Denkers, *Domain-Specific Languages for Digital Printing Systems*, TU Delft, October 2024.

5. Member doctorate committee Jan Martens, *The Complexity of Determining Bisimilarity*, TU/e, Eindhoven, September 2024.

6. Member jury Ph.D. thesis Gaëtan Staquet, *Active Learning of Automata with Resources*, University of Antwerp, June 2024 (private defense), and University of Mons, September 2024 (public defense).

7. Chair Manuscript and Cum Laude Committee Jules Jacobs, *Guarantees by Construction*, Radboud University, June 2024.

8. Member Doctoral Committee Gaetano Pellegrino, *Learning Automata for Network Behaviour Analysis*, TU Delft, December 2023.

9. "Rapporteur" and member jury Ph.D. thesis Léo Henry, *There and Back Again: Formal Methods and Model Learning for Real-time Systems*. University of Rennes, France, December 3, 2021.

10. Member Doctorate Committee Kousar Aslam, *Deriving behavioral specifications of industrial software components with active learning*, Technical University Eindhoven, 2021.

11. Member promotion committee Ph.D. thesis Thomas Nägele, *CoHLA: Rapid Co-simulation Construction*, Radboud University , January 2020.

12. Member manuscript committee Ph.D. thesis Qin Lin, *Intelligent Control Systems: Learning, Interpreting, Verification*, TU Delft, September 5, 2019

13. Member manuscript committee Ph.D. thesis Joost van Pinxten, *Optimization of Product Flows in Flexible Manufacturing Systems*, Technical University Eindhoven, December 2018.

14. Chair manuscript committee Ph.D. thesis Yuri Bobbert, *Improving the Maturity of Business Information Security*, Radboud University Nijmegen, July 2018.

15. Member promotion committee Ph.D. thesis Jurriën Stutterheim, *A Cocktail of Tools – Domain-Specific Languages for Task-Oriented Software Development*, Radboud University Nijmegen, November 2017.

16. Member jury at Ph.D. defense Irini-Eleftheria Mens, *Learning Regular Languages over Large Alphabets*, Université Grenoble Alpes, Grenoble, France, October 2017.

17. External examiner at Ph.D. defense of Sofia Cassel, *Learning Component Behavior from Tests: Theory and Algorithms for Automata with Data*, University of Uppsala, Sweden, December 2015

18. Chair manuscript committee Ph.D. thesis Robbert Krebbers, *The C standard formalized in Coq*, Radboud University Nijmegen, December 2015.

19. "Zweiter Gutachter" Ph.D. thesis Malte Isberner, *Foundations of Active Automata Learning: An Algorithmic Perspective*, Technische Universität Dortmund, Germany, September 2015.

20. Chair manuscript committee Ph.D. thesis Rody Kersten, *Software Analysis Methods for Resource-Sensitive Systems*, Radboud University Nijmegen, September 2015.

21. Chair manuscript committee Ph.D. thesis Joeri de Ruiter, *Lessons learned in the analysis of the EMV and TLS security protocols*, Radboud University Nijmegen, 2015.

22. "Zweiter Gutachter" Ph.D. thesis Christian Schoppmeyer, *Reactive Scheduling Using Timed Automata Models and Integration with Sequential Control Logic*, Technische Universität Dortmund, Germany, June 2015.

23. Member promotion committee Ph.D. thesis Ken Madlener, *Formally Verified Modular Semantics*, Radboud University Nijmegen, October 9, 2014.

24. Member promotion committee Ph.D. thesis Georgiana Caltais, *Coalgebraic Tools for Bisimilarity and Decorated Trace Semantics*, Radboud University Nijmegen, December 16, 2013.

25. Member promotion committee Ph.D. thesis Jeroen Keiren, *Advanced Reduction Techniques for Model Checking*, Eindhoven University of Technology, September 17, 2013.

26. Member jury Ph.D. thesis Abdeldjalil Boudjadar, *Compositional Semantics and Refinement of Timed Systems – Application to Uppaal Timed Automata and to the Fiacre Language*, Université de Toulouse, France, December 4, 2012.

27. Member promotion committee Ph.D. thesis Thomas van Noort, *Dynamic Typing in Type-Driven Programming*, Radboud University Nijmegen, May 8, 2012.

Invited Lectures (since 2012)

1. *An Introduction to Active Automata Learning and $L^{\#}$*, Invited lecture at the National Institute of Informatics, Tokyo, Japan, July 11, 2023.

2. *An Introduction to Active Automata Learning and $L^{\#}$*, Invited lecture at the Software Engineering Institute, East China Normal University, Shanghai, China, June 26, 2023.

3. *An Introduction to Active Automata Learning and $L^{\#}$*, Invited lecture at the School of Software Engineering, Tongji University, Shanghai, China, June 21st, 2023.

4. *Action Codes*, Invited lecture at the Theoretical Computer Science Seminar of the University of Mons (UMONS), Belgium, December 6, 2022.

5. *A New Approach for Active Automata Learning Based on Apartness*, Invited lecture at the Testing Group Seminar, University of Sheffield, Sheffield, November 21, 2022.

6. *An Introduction to Active Automata Learning*, Invited lecture at the SysMA Research Seminar, IMT School for Advanced Studies, Lucca, November 7, 2022.

7. *A New Approach for Active Automata Learning Based on Apartness*, Keynote lecture at the 24th Brazilian Symposium on Formal Methods (SBMF 2021), December 9, 2021.

8. *A New Approach for Active Automata Learning Based on Apartness*, Keynote lecture at the Symposium on Dependable Software Engineering: Theories, Tools and Applications (SETTA 2021), Beijing, 25-27 November 2021.

9. *Active Automata Learning: from L^* to $L^\#$*, Invited lecture at the 13th Working Conference on Verified Software: Theories, Tools and Experiments (VSTTE 2021), October 18-19, 2021.

10. Invited lecture (online) at the Tehran Institute for Advanced Studies in Tehran, Iran, October 14, 2020.

11. *Extracting Interfaces from Software Components via Model Learning*, Invited lecture at the 8th oCPS Fall School on Multidisciplinary CPS Design, `http://ocps-itn.eu/`, Leende, the Netherlands, 28-31 October 2019.

12. Invited lectures at the Summer School on Data Science and Machine Learning at the Tehran Institute for Advanced Studies in Tehran, Iran from 24-27 August 2019.

13. Invited lecture at the 46th International Colloquium on Automata, Languages and Programming (ICALP), July 8-12, 2019, Patras, Greece.

14. Keynote lecture at the 18th International Conference on Runtime Verification (RV), November 10-13, 2018, Limassol, Cyprus.

15. Keynote lecture at the 14th International Conference on Grammatical Inference (ICGI), September 5-7, 2018, Wroclaw, Poland.

16. *Learning Mealy Machines with Timers*, IPA Fall Days, November 7, 2017, Nunspeet.

17. *Learning Mealy Machines with Timers*, Laboratoire VERIMAG, October 10, 2017, Grenoble.

18. *Model Learning*, Fifth Conference on Highlights of Logic, Games and Automata. Queen Mary University of London, September 12-15, 2017, London.

19. *Active Learning of Automata*, 3TU.BSR winter school on Big Software on the Run: Where Software meets Data, October 23-28, 2016, Ede.

20. *Refactoring of Legacy Software Using Model Learning and Equivalence Checking*, TNO-ESI Symposium, 19 April, 2016, Eindhoven.

21. *Inference of State Machines*, Keynote lecture at 2nd Software Engineering in The Netherlands" (SEN) symposium, January 21, 2016, CWI, Amsterdam.

22. *Recreational formal methods: Designing vacuum cleaning trajectories using model checkers, constraint solvers and proof assistants*, Dutch Model Checking Day, May 9, 2014, University of Twente.

23. *Inference of State Machines*, Johann Bernoulli Colloquium, March 25, 2014, University of Groningen.

24. *Inference of State Machines*, December 19, 2013, ETH Zurich, Switzerland.

25. *Inference of State Machines*, Series of lectures at the 12th Estonian Summer School on Computer and Systems Science (ESSCaSS 2013), August 18-22, 2013, Voore Guesthouse, Estonia.

26. *Modeling Task Systems Using Parameterized Partial Orders*, Workshop 25 Years of Combining Compositionality and Concurrency (WS25CCC), August 6-9, 2013, Königswinter, Germany.

27. *Active Learning of Extended Finite State Machines*, Keynote lecture at the 23rd IFIP Int. Conference on Testing Software and Systems (ICTSS'12), November 19-21, 2012, Aalborg, Denmark.

28. *From Model Checking to Model Learning: Two Basic Techniques in Model-Based Development of Embedded Systems*, Keynote lecture at the ESI Symposium 2012, Eindhoven, March 22, 2012.