

Curriculum Vitae

Peter Csaba Ölveczky

Citizenship: Swedish
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Current Position

Professor, Department of Informatics, University of Oslo.

Research Interests

Rewriting logic. Formal specification and analysis of distributed, real-time, and hybrid systems.

Education

- 2000:** Dr. Scient., Computer Science, University of Bergen, Norway.
(The research part of the doctoral study was performed at the Computer Science Laboratory, SRI International, Menlo Park, USA.)
Thesis advisor: José Meseguer.
- 1994:** Cand. Scient., Computer Science, University of Oslo, Norway.
Cand. Scient. thesis and course grade: 1.1 (range of possible grades: 1.0–6.0).
- 1992:** “Mellomfag” (bachelor), Comparative Literature, University of Oslo.

Relevant Work Experience

- Sep. 2008–present:** Professor, Department of Informatics, University of Oslo.
- Aug. 2008–May 2018:** Visiting scholar, Department of Computer Science, University of Illinois at Urbana-Champaign.
- Aug. 2004–Sep. 2008:** Associate professor, Department of Informatics, University of Oslo.
- Feb. 2007–Mar. 2007:** Invited researcher, National Institute of Advanced Industrial Science and Technology (AIST Kansai), Ikeda, Japan.
- Aug. 2005–Nov. 2005, Sep. 2006–Dec. 2006, and Sep. 2007–Dec. 2007:** Visiting scholar, University of Illinois at Urbana-Champaign.
- Sept. 2002–Aug. 2004:** Postdoctoral fellow and visiting scholar, University of Illinois at Urbana-Champaign.
- Jan. 2001–June 2002:** Assistant professor, Department of Informatics, University of Oslo.
- 1996, Jan. 1998–Aug. 1998, 1999–2000:** International fellow, Computer Science Laboratory, SRI International, Menlo Park.
- 1996:** Visiting scholar, Computer Science Department, Stanford University.

Aug. 1995–Dec. 1995: Visiting scholar, Department of Computer Science, Ludwig-Maximilians-Universität München, Germany.

April 1995–April 1999: Research scholar/Dr. Scient. student, University of Bergen, Norway.

Jan. 1995–March 1995: Research assistant, Dept. of Computer Science, University of Bergen.

1994: Unix instructor, Skrivervik Data, Norway.

1990–1993: Teacher/seminar leader of introductory and advanced courses, University of Oslo.

Honors

Best teaching assistant, advanced courses, at the Department of Informatics, University of Oslo, spring 1993, awarded by the student council.

Nominated for the Best Lecturer Award, Dept. of Informatics, University of Oslo, 2005.

Best paper award, 8th IPM International Conference on Fundamentals of Software Engineering (FSEN 2019).

Best paper award, 15th International Symposium on Computer Science and Software Engineering (CSSE 2011).

Scientific Publications

Book (Monograph)

1. Peter C. Ölveczky. *Designing Reliable Distributed Systems: A Formal Methods Approach Based on Executable Modeling in Maude*. Published as a volume in the book series *Undergraduate Topics in Computer Science*, Springer 2018. (326 pages)

Conference and Workshop Proceedings (Volume Editor)

2. Cyrille Artho and Peter C. Ölveczky, editors. *FTSCS 2022: Proceedings of the 8th ACM SIGPLAN International Workshop on Formal Techniques for Safety-Critical Systems*. A volume in ACM Digital Library (<https://dl.acm.org/doi/proceedings/10.1145/3563822>), 2022.
3. Antonio Cerone and Peter C. Ölveczky, editors. *Theoretical Aspects of Computing – ICTAC 2021. 18th International Colloquium, Virtual Event, Nur-Sultan, Kazakhstan, September 8-10, 2021, Proceedings*. Volume 12819 of *Lecture Notes in Computer Science*, Springer, 2021.
4. Peter C. Ölveczky and Gwen Salaün, editors. *Software Engineering and Formal Methods – 17th International Conference, SEFM 2019, Oslo, Norway, September 18-20, 2019. Proceedings*. Volume 11724 of *Lecture Notes in Computer Science*, Springer, 2019.
5. Cyrille Artho and Peter C. Ölveczky, editors. *Formal Techniques for Safety-Critical Systems – 6th International Workshop, FTSCS 2018, Gold Coast, Australia, November 16, 2018. Revised Selected Papers*. Volume 1008 of *Communications in Computer and Information Science*, Springer, 2019.
6. Kyungmin Bae and Peter C. Ölveczky, editors. *Formal Aspects of Component Software – 15th International Conference, FACS 2018, Pohang, South Korea, October 10-12, 2018. Proceedings*. Volume 11222 of *Lecture Notes in Computer Science*, Springer, 2018.
7. Cyrille Artho and Peter C. Ölveczky, editors. *Formal Techniques for Safety-Critical Systems – 5th International Workshop, FTSCS 2016, Tokyo, Japan, November 14, 2016. Revised Selected Papers*. Volume 694 of *Communications in Computer and Information Science*, Springer, 2017.
8. Cyrille Artho and Peter C. Ölveczky, editors. *Formal Techniques for Safety-Critical Systems – Fourth International Workshop, FTSCS 2015, Paris, France, November 6–7, 2015. Revised Selected Papers*. Volume 596 of *Communications in Computer and Information Science*, Springer, 2016.

9. Christiano Braga and Peter C. Ölveczky, editors. *Formal Aspects of Component Software – 12th International Conference, FACS 2015, Niterói, Brazil, October 14-16, 2015, Revised Selected Papers*. Volume 9539 of *Lecture Notes in Computer Science*, Springer, 2016.
10. Narciso Martí-Oliet, Peter C. Ölveczky, and Carolyn L. Talcott, editors. *Logic, Rewriting, and Concurrency – Essays dedicated to José Meseguer on the Occasion of His 65th Birthday*. Volume 9200 of *Lecture Notes in Computer Science*, Springer, 2015.
11. Cyrille Artho and Peter C. Ölveczky, editors. *Formal Techniques for Safety-Critical Systems – Third International Workshop, FTSCS 2014, Luxembourg, November 6–7, 2014. Revised Selected Papers*. Volume 476 of *Communications in Computer and Information Science*, Springer, 2015.
12. Cyrille Artho and Peter C. Ölveczky, editors. *Formal Techniques for Safety-Critical Systems – Second International Workshop, FTSCS 2013, Queenstown, New Zealand, October 29-30, 2013. Revised Selected Papers*. Volume 419 of *Communications in Computer and Information Science*, Springer, 2014.
13. Cyrille Artho and Peter C. Ölveczky, editors. *Proceedings of the First International Workshop on Formal Techniques for Safety-Critical Systems (FTSCS 2012)*. Volume 105 of *Electronic Proceedings in Theoretical Computer Science*, 2012.
14. Farhad Arbab and Peter C. Ölveczky, editors. *Proceedings of the 8th International Symposium on Formal Aspects of Component Software (FACS 2011)*. Volume 7253 of *Lecture Notes in Computer Science*, Springer, 2012.
15. Peter C. Ölveczky, editor. *Proceedings of the Eighth International Workshop on Rewriting Logic and its Applications (WRLA 2010)*. Volume 6381 of *Lecture Notes in Computer Science*, Springer, 2010.
16. Peter C. Ölveczky, editor. *Proceedings of the First International Workshop on Rewriting Techniques for Real-Time Systems (RTRTS 2010)*. Volume 36 of *Electronic Proceedings in Theoretical Computer Science*, 2010.

Guest Editor, Scientific Journals

17. Peter C. Ölveczky and Gwen Salaün, guest editors. Volume 20(2) of *Software and Systems Modeling* (Special section: Software engineering and formal methods (SEFM 2019)), 2021.
18. Cyrille Artho and Peter C. Ölveczky, guest editors. Volume 208 of *Science of Computer Programming* (Special issue: Formal Techniques for Safety-Critical Systems (FTSCS 2018)), 2021.
19. Cyrille Artho and Peter C. Ölveczky, guest editors. Volume 175 of *Science of Computer Programming* (Special issue: Formal Techniques for Safety-Critical Systems (FTSCS 2016)), 2019.
20. Cyrille Artho and Peter C. Ölveczky, guest editors. Volume 154 of *Science of Computer Programming* (Special issue: Formal Techniques for Safety-Critical Systems (FTSCS 2015)), 2018.
21. Cyrille Artho and Peter C. Ölveczky, guest editors. Volume 133, Part 2, of *Science of Computer Programming* (Special issue: Formal Techniques for Safety-Critical Systems (FTSCS 2014)), 2017.
22. Cyrille Artho and Peter C. Ölveczky, guest editors. Volume 113, Part 2, of *Science of Computer Programming* (Special issue: Formal Techniques for Safety-Critical Systems), 2015.
23. Cyrille Artho and Peter C. Ölveczky, guest editors. Volume 103 of *Science of Computer Programming* (Selected papers from the First International Workshop on Formal Techniques for Safety-Critical Systems (FTSCS 2012)), 2015.
24. Farhad Arbab and Peter C. Ölveczky, guest editors. Volume 83 of *Science of Computer Programming* (Special issue: Formal Aspects of Component Software), 2014.
25. Peter C. Ölveczky and Narciso Martí-Oliet, guest editors. Volume 81, issues 7-8, of *The Journal of Logic and Algebraic Programming* (Special Issue on Rewriting Logic and its Applications), 2012.

Theses

26. Peter C. Ölveczky. *Specification and Analysis of Real-Time and Hybrid Systems in Rewriting Logic*. Dr. Scient. thesis, Department of Informatics, University of Bergen, 2000. Thesis advisor: José Meseguer.
27. Peter C. Ölveczky. *Terminering av typeordnet omskrivning*. Cand. Scient. thesis, Department of Informatics, University of Oslo, 1994. Thesis advisor: Olav Lysne.

Refereed Journal Papers

28. Jaehun Lee, Kyungmin Bae, Peter C. Ölveczky, Sharon Kim and Minseok Kang. *Modeling and Formal Analysis of Virtually Synchronous Cyber-Physical Systems in AADL*. In volume 24(6) of *International Journal on Software Tools for Technology Transfer*, Springer, 2022. (38 pages)
29. Antonio González-Burgueño and Peter Peter C. Ölveczky: *Formalizing and analyzing security ceremonies with heterogeneous devices in ANP and PDL*. In volume 122 of *Journal of Logical and Algebraic Methods in Programming*, Elsevier, 2021. (27 pages)
30. Giovanna Broccia, Paolo Milazzo, and Peter C. Ölveczky. *Formal modeling and analysis of safety-critical human multitasking*. In volume 15 of *Innovations in Systems and Software Engineering*, Springer, 2019. (22 pages)
31. Si Liu, Peter C. Ölveczky, Qi Wang, Indranil Gupta, and José Meseguer. *Read atomic transactions with prevention of lost updates: ROLA and its formal analysis*. In volume 31 of *Formal Aspects of Computing*, Springer, 2019. (38 pages)
32. Si Liu, Peter C. Ölveczky, and José Meseguer. *Modeling and analyzing mobile ad hoc networks in Real-Time Maude*. In volume 85, Issue 1, Part 1, of *Journal of Logical and Algebraic Methods in Programming*, Elsevier, 2016. (33 pages)
33. Zeynab Sabahi-Kaviani, Ramtin Khosravi, Peter C. Ölveczky, Ehsan Khamespanah, and Marjan Sirjani. *Formal semantics and efficient analysis of Timed Rebeca in Real-Time Maude*. In volume 113, Part 2, of *Science of Computer Programming*, Elsevier, 2015. (34 pages)
34. Kyungmin Bae, Joshua Krisiloff, José Meseguer, and Peter C. Ölveczky. *Designing and verifying distributed cyber-physical systems using Multirate PALS: An airplane turning control system case study*. In volume 103 of *Science of Computer Programming*, Elsevier, 2015. (38 pages)
35. Muhammad Fadlisyah, Peter C. Ölveczky, and Erika Ábrahám. *Formal modeling and analysis of interacting hybrid systems in HI-Maude: What happened at the 2010 Sauna World Championships?* In volume 99 of *Science of Computer Programming*, Elsevier, 2015. (33 pages)
36. Daniela Lepri, Erika Ábrahám, and Peter C. Ölveczky. *Sound and complete timed CTL model checking of timed Kripke structures and real-time rewrite theories*. In volume 99 of *Science of Computer Programming*, Elsevier, 2015. (65 pages)
37. Kyungmin Bae, José Meseguer, and Peter C. Ölveczky. *Formal Patterns for Multirate Distributed Real-Time Systems*. In volume 91, Part A, of *Science of Computer Programming*, Elsevier, 2014. (42 pages)
38. José Meseguer and Peter C. Ölveczky. *Formalization and correctness of the PALS architectural pattern for distributed real-time systems*. In volume 451 of *Theoretical Computer Science*, Elsevier, 2012. (37 pages)
39. Kyungmin Bae, Peter C. Ölveczky, Thomas Huining Feng, Edward A. Lee, and Stavros Tripakis. *Verifying Hierarchical Ptolemy II Discrete-Event Models using Real-Time Maude*. In volume 77(12) of *Science of Computer Programming*, Elsevier, 2012. (37 pages)

40. Peter C. Ölveczky and Stian Thorvaldsen. *Formal Modeling, Performance Estimation, and Model Checking of Wireless Sensor Network Algorithms in Real-Time Maude*. In volume 410(2-3) of *Theoretical Computer Science*, Elsevier, 2009. (27 pages)
41. Peter C. Ölveczky and José Meseguer. *Semantics and Pragmatics of Real-Time Maude*. In volume 20(1/2) of *Higher-Order and Symbolic Computation*, Springer 2007. (36 pages)
42. P. C. Ölveczky, J. Meseguer, and C. L. Talcott. *Specification and Analysis of the AER/NCA Active Network Protocol Suite in Real-Time Maude*. In volume 29 of *Formal Methods in System Design*, Springer, 2006. (41 pages)
43. Peter C. Ölveczky and José Meseguer. *Specification of real-time and hybrid systems in rewriting logic*. In volume 285 of *Theoretical Computer Science*, Elsevier, 2002. (47 pages)

Unrefereed Invited Papers

44. Peter C. Ölveczky. *Teaching Formal Methods to Undergraduate Students Using Maude*. In Proc. 14th International Workshop on Rewriting Logic and Its Applications (WRLA 2022), volume 13252 of *Lecture Notes in Computer Science*, Springer, 2022. (26 pages)
45. Antonio Cerone, Markus Roggenbach, James Davenport, Casey Denner, Marie Farrell, Magne Haveraaen, Faron Moller, Philipp Körner, Sebastian Krings, Peter C. Ölveczky, Bernd-Holger Schlingloff, Nikolay Shilov, and Rustam Zhumagambetov. *Rooting Formal Methods Within Higher Education Curricula for Computer Science and Software Engineering: A White Paper*. In Proc. 1st International Workshop on Formal Methods – Fun for Everybody (FMfun 2019), volume 1301 of *Communications in Computer and Information Science*, Springer, 2021. (26 pages)
46. Peter C. Ölveczky. *Teaching Formal Methods for Fun Using Maude*. In Proc. 1st International Workshop on Formal Methods – Fun for Everybody (FMfun 2019), volume 1301 of *Communications in Computer and Information Science*, Springer, 2021. (34 pages)
47. Peter C. Ölveczky. *Design and Validation of Cloud Storage Systems Using Rewriting Logic*. In Proc. 21st International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC 2019), IEEE, 2019. (5 pages)
48. Peter C. Ölveczky. *Design and Validation of Cloud Storage Systems Using Formal Methods*. In Proc. Second IFIP WG 1.8 International Conference on Topics in Theoretical Computer Science (TTCS 2017), volume 10608 of *Lecture Notes in Computer Science*, Springer, 2017. (6 pages)
49. Peter C. Ölveczky. *Design and Validation of Cloud Computing Data Stores using Formal Methods*. In Proc. International Symposium on Intelligent Systems and Applications (ISA 2016), Ho Chi Minh City, Vietnam, August 22-23, 2016. (17 pages)
50. Narciso Martí-Oliet, Peter C. Ölveczky, and Carolyn L. Talcott. *José Meseguer: Scientist and Friend Extraordinaire*. In *Logic, Rewriting, and Concurrency: Essays dedicated to José Meseguer on the Occasion of His 65th Birthday*, volume 9200 of *Lecture Notes in Computer Science*, Springer, 2015. (47 pages)
51. Peter C. Ölveczky. *Real-Time Maude and its Applications*. In Proc. 10th International Workshop on Rewriting and its Applications (WRLA 2014), volume 8663 of *Lecture Notes in Computer Science*, Springer, 2014. (38 pages)
52. Peter C. Ölveczky. *Formal Model-Engineering for Embedded Systems Using Real-Time Maude*. In Proc. 2nd Workshop on Algebraic Methods in Model-based Software Engineering (AMMSE 2011), volume 56 of *Electronic Proceedings in Theoretical Computer Science*, 2011. (11 pages)
53. Peter C. Ölveczky and Stian Thorvaldsen. *Formal Modeling and Analysis of Wireless Sensor Network Algorithms in Real-Time Maude*. In Proc. 20th International Parallel and Distributed Processing Symposium (IPDPS 2006), IEEE Computer Society Press, 2006. (8 pages)

Refereed Conference and Workshop Papers

54. Jaime Arias, Kyungmin Bae, Carlos Olarte, Peter C. Ölveczky, Laure Petrucci, and Fredrik Rømming: *Symbolic Analysis and Parameter Synthesis for Time Petri Nets Using Maude and SMT Solving*. To appear in Proc. 44th International Conference on Application and Theory of Petri Nets and Concurrency (Petri Nets 2023). To appear in a volume of Springer’s LNCS series, Springer, 2023. (Acceptance rate 21/47)
55. Si Liu, José Meseguer, Peter C. Ölveczky, Min Zhang, and David A. Basin: *Bridging the semantic gap between qualitative and quantitative models of distributed systems*. In Proc. OOPSLA 2022, volume 6(OOPSLA2) of Proceedings of the ACM on Programming Languages, ACM, 2022. (30 pages)
56. Jaime Arias, Kyungmin Bae, Carlos Olarte, Peter C. Ölveczky, Laure Petrucci, and Fredrik Rømming: *Rewriting Logic Semantics and Symbolic Analysis for Parametric Timed Automata*. In Proc. 8th ACM SIGPLAN International Workshop on Formal Techniques for Safety-Critical Systems (FTSCS 2022), ACM, 2022. (13 pages; acceptance rate 9(10)/15)
57. Simon Thrane Hansen and Peter C. Ölveczky. *Modeling, Algorithm Synthesis, and Instrumentation for Co-simulation in Maude*. In Proc. 14th International Workshop on Rewriting Logic and Its Applications (WRLA 2022), volume 13252 of Lecture Notes in Computer Science, Springer, 2022. (21 pages; acceptance rate 9/13)
58. Kyungmin Bae and Peter C. Ölveczky. *MSYNC: A Generalized Formal Design Pattern for Virtually Synchronous Multirate Cyber-physical Systems*. In Proc. 2021 International Conference on Embedded Software (EMSOFT 2021), volume 20 of ACM Transactions on Embedded Computing Systems, ACM, 2021. (26 pages)
59. Jaehun Lee, Sharon Kim, Kyungmin Bae, and Peter C. Ölveczky: *HybridSynchAADL: Modeling and Formal Analysis of Virtually Synchronous CPSs in AADL*. In Proc. 33rd International Conference on Computer Aided Verification (CAV 2021), volume 12759 of Lecture Notes in Computer Science, Springer, 2021. (14 pages; acceptance rate 79/290)
60. Si Liu, Atul Sandur, José Meseguer, Peter C. Ölveczky, and Qi Wang. *Generating Correct-by-Construction Distributed Implementations from Formal Maude Designs*. In Proc. 12th NASA Formal Methods Symposium (NFM 2020), volume 12229 of Lecture Notes in Computer Science, Springer, 2020. (19 pages; acceptance rate 25/62)
61. Antonio Cerone and Peter C. Ölveczky. *Modelling Human Reasoning in Practical Behavioural Contexts Using Real-Time Maude*. In Proc. Formal Methods (FM 2019) International Workshops, volume 12232 of Lecture Notes in Computer Science, Springer, 2019. (19 pages)
62. Antonio González-Burgueño and Peter C. Ölveczky. *Formalizing and Analyzing Security Ceremonies with Heterogeneous Devices in ANP and PDL*. In Proc. 8th International Conference on Fundamentals of Software Engineering (FSEN 2019), volume 11761 of Lecture Notes in Computer Science, Springer, 2019. (16 pages; acceptance rate 17/47) (**Best Paper Award**)
63. Si Liu, Peter C. Ölveczky, Min Zhang, Qi Wang, and José Meseguer. *Automatic Analysis of Consistency Properties of Distributed Transaction Systems in Maude*. In Proc. 25th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2019), volume 11428 of Lecture Notes in Computer Science, Springer, 2019. (18 pages; acceptance rate 50/164 (29/119 for “research papers”))
64. Giovanna Broccia, Paolo Milazzo, Peter C. Ölveczky. *An Executable Formal Framework for Safety-Critical Human Multitasking*. In Proc. 10th NASA Formal Methods Symposium (NFM 2018), volume 10811 of Lecture Notes in Computer Science, Springer, 2018. (16 pages; acceptance rate 31/92)

65. Si Liu, Peter C. Ölveczky, Keshav Santhanam, Qi Wang, Indranil Gupta, and José Meseguer. *ROLA: A New Distributed Transaction Protocol and Its Formal Analysis*. In Proc. 21st International Conference on Fundamental Approaches to Software Engineering (FASE 2018), volume 10802 of Lecture Notes in Computer Science, Springer, 2018. (17 pages; acceptance rate 19/63)
66. Si Liu, Peter C. Ölveczky, Qi Wang, and José Meseguer. *Formal Modeling and Analysis of the Walter Transactional Data Store*. In Proc. 12th International Workshop on Rewriting Logic and its Applications (WRLA 2018), volume 11152 of Lecture Notes in Computer Science, Springer, 2018. (17 pages; acceptance rate 13/21)
67. Giovanna Broccia, Paolo Milazzo, and Peter C. Ölveczky. *An Algorithm for Simulating Human Selective Attention*. In Proc. SEFM 2017 Collocated Workshops, volume 10729 of Lecture Notes in Computer Science, Springer, 2018. (8 pages)
68. Si Liu, Peter C. Ölveczky, Jatin Ganhotra, Indranil Gupta, and José Meseguer. *Exploring Design Alternatives for RAMP Transactions Through Statistical Model Checking*. In Proc. 19th International Conference on Formal Engineering Methods (ICFEM 2017), volume 10610 of Lecture Notes in Computer Science, Springer, 2017. (17 pages; acceptance rate 28/80)
69. Peter C. Ölveczky. *Formalizing and Validating the P-Store Replicated Data Store in Maude*. In Proc. 23rd International Workshop on Recent Trends in Algebraic Development Techniques (WADT 2016), volume 10644 of Lecture Notes in Computer Science, Springer, 2017. (19 pages)
70. Kyungmin Bae, Peter C. Ölveczky, Soonho Kong, Sicun Gao, and Edmund M. Clarke. *SMT-Based Analysis of Virtually Synchronous Distributed Hybrid Systems*. In Proc. 19th International Conference on Hybrid Systems: Computation and Control (HSCC 2016), ACM, 2016. (10 pages; acceptance rate 28/65?, 47%?)
71. Si Liu, Peter C. Ölveczky, Muntasir Raihan Rahman, Jatin Ganhotra, Indranil Gupta, and José Meseguer. *Formal Modeling and Analysis of RAMP Transaction Systems*. In Proc. 31st ACM Symposium On Applied Computing (SAC 2016), Software Verification and Testing (SVT) track, ACM, 2016. (10 pages; acceptance rate (SVT track) 13/56)
72. Jon Grov and Peter C. Ölveczky. *Increasing Consistency in Multi-Site Data Stores: Megastore-CGC and its Formal Analysis*. In Proc. 12th International Conference on Software Engineering and Formal Methods (SEFM 2014), volume 8702 of Lecture Notes in Computer Science, Springer, 2014. (16 pages; acceptance rate 29/106)
73. Si Liu, Peter C. Ölveczky, and José Meseguer. *A Framework for Mobile Ad hoc Networks in Real-Time Maude*. In Proc. 10th International Workshop on Rewriting Logic and its Applications (WRLA 2014), volume 8663 of Lecture Notes in Computer Science, Springer, 2014. (16 pages; acceptance rate 12/21)
74. Kyungmin Bae, Peter C. Ölveczky, and José Meseguer. *Definition, Semantics, and Analysis of Multirate Synchronous AADL*. In Proc. 19th International Symposium on Formal Methods (FM 2014), volume 8442 of Lecture Notes in Computer Science, Springer, 2014. (16 pages; acceptance rate 38/135)
75. Zeynab Sabahi-Kaviani, Ramtin Khosravi, Marjan Sirjani, Peter C. Ölveczky, and Ehsan Khamespanah. *Formal Semantics and Analysis of Timed Rebeca in Real-Time Maude*. In Proc. Second International Workshop on Formal Techniques for Safety-Critical Systems (FTSCS 2013), volume 419 of Communications in Computer and Information Science, Springer, 2014. (16 pages; acceptance rate 17/32)
76. Lucian Bentea, Peter C. Ölveczky, and Eduard Bentea. *Using Probabilistic Strategies to Formalize and Compare α -Synuclein Aggregation and Propagation under Different Scenarios*. In Proc. 11th International Conference on Computational Methods in Systems Biology (CMSB 2013), volume 8130 of Lecture Notes in Computer Science, Springer, 2013. (14 pages; acceptance rate 15/27)

77. Muhammad Fadlisyah and Peter C. Ölveczky. *The HI-Maude Tool*. In Proc. 5th International Conference on Algebra and Coalgebra in Computer Science (CALCO 2013), volume 8089 of Lecture Notes in Computer Science, Springer, 2013. (6 pages; acceptance rate 25/40; 7/7 for tool papers)
78. Daniela Lepri, Erika Ábrahám, and Peter C. Ölveczky. *A Timed CTL Model Checker for Real-Time Maude*. In Proc. 5th International Conference on Algebra and Coalgebra in Computer Science (CALCO 2013), volume 8089 of Lecture Notes in Computer Science, Springer, 2013. (6 pages; acceptance rate 25/40; 7/7 for tool papers)
79. Jon Grov and Peter C. Ölveczky. *Scalable and Fully Consistent Transactions in the Cloud through Hierarchical Validation*. In Proc. 6th International Conference on Data Management in Cloud, Grid and P2P Systems (GLOBE 2013), volume 8059 of Lecture Notes in Computer Science, Springer, 2013. (13 pages; acceptance rate 10/19)
80. Lucian Bentea and Peter C. Ölveczky. *A Probabilistic Strategy Language for Probabilistic Rewrite Theories and Its Application to Cloud Computing*. In Proc. 21st International Workshop on Recent Trends in Algebraic Development Techniques (WADT 2012), volume 7841 of Lecture Notes in Computer Science, Springer, 2013. (18 pages; acceptance rate 16/25)
81. Kyungmin Bae, Joshua Krisiloff, José Meseguer, and Peter C. Ölveczky. *PALS-Based Analysis of an Airplane Multirate Control System in Real-Time Maude*. In Proc. First International Workshop on Formal Techniques for Safety-Critical Systems (FTSCS 2012), volume 105 of Electronic Proceedings in Theoretical Computer Science, 2012. (17 pages; acceptance rate 12/25 (9/21 excluding position papers))
82. Kyungmin Bae, José Meseguer, and Peter C. Ölveczky. *Formal Patterns for Multirate Distributed Real-Time Systems*. In Proc. 9th International Symposium on Formal Aspects of Component Software (FACS 2012), volume 7684 of Lecture Notes in Computer Science, Springer, 2012. (18 pages; acceptance rate 16/40)
83. Muhammad Fadlisyah, Peter C. Ölveczky, and Erika Ábrahám. *Formal Modeling and Analysis of Human Body Exposure to Extreme Heat in HI-Maude*. In Proc. 9th International Workshop on Rewriting Logic and its Applications (WRLA 2012), volume 7571 of Lecture Notes in Computer Science, Springer, 2012. (23 pages; acceptance rate 8/15)
84. Daniela Lepri, Erika Ábrahám, and Peter C. Ölveczky. *Timed CTL Model Checking in Real-Time Maude*. In Proc. 9th International Workshop on Rewriting Logic and its Applications (WRLA 2012), volume 7571 of Lecture Notes in Computer Science, Springer, 2012. (19 pages; acceptance rate 8/15)
85. Kyungmin Bae, Peter C. Ölveczky, José Meseguer, and Abdullah Al-Nayeem. *The SynchronAADL2-Maude Tool*. In Proc. 15th International Conference on Fundamental Approaches to Software Engineering (FASE 2012), volume 7212 of Lecture Notes in Computer Science, Springer, 2012. (4 pages; acceptance rate 33/134)
86. Muhammad Fadlisyah, Peter C. Ölveczky, and Erika Ábrahám. *Object-Oriented Formal Modeling and Analysis of Interacting Hybrid Systems in HI-Maude*. In Proc. 9th International Conference on Software Engineering and Formal Methods (SEFM 2011), volume 7041 of Lecture Notes in Computer Science, Springer, 2011. (16 pages; acceptance rate: 25/85)
87. Kyungmin Bae, Peter C. Ölveczky, Abdullah Al-Nayeem, and José Meseguer. *Synchronous AADL and Its Formal Analysis in Real-Time Maude*. In Proc. 13th International Conference on Formal Engineering Methods (ICFEM 2011), volume 6991 of Lecture Notes in Computer Science, Springer, 2011. (17 pages; acceptance rate: 40/103)
88. Lucian Bentea and Peter C. Ölveczky. *Probabilistic Real-Time Rewrite Theories and Their Expressive Power*. In Proc. 9th International Conference on Formal Modeling and Analysis of Timed Systems (FORMATS 2011), volume 6919 of Lecture Notes in Computer Science, Springer, 2011. (20 pages; acceptance rate: 20/43)

89. Georgios Fourtounis, Peter C. Ölveczky, and Nikolaos Papaspyrou. *Formally Specifying and Analyzing a Parallel Virtual Machine for Lazy Functional Languages Using Maude*. In Proc. Fifth International Workshop on High-level Parallel Programming and Applications (HLPP'11), ACM, 2011. (8 pages; acceptance rate: 4/7)
90. Francisco Durán, Peter C. Ölveczky, and José Eduardo Rivera. *Formal Visual Modeling of Real-Time Systems in e-Motions: Two Case Studies*. In Proc. 2nd Workshop on Algebraic Methods in Model-based Software Engineering (AMMSE 2011), volume 56 of Electronic Proceedings in Theoretical Computer Science, 2011. (17 pages; acceptance rate: 4/5)
91. Muhammad Fadlisyah, Peter C. Ölveczky, and Erika Ábrahám. *Formal Modeling and Analysis of Hybrid Systems in Rewriting Logic using Higher-Order Numerical Methods and Discrete-Event Detection*. In Proc. 15th International Symposium on Computer Science and Software Engineering (CSSE 2011), IEEE, 2011. (8 pages; acceptance rate: 17/91) (**Best Paper Award**)
92. Muhammad Fadlisyah, Erika Ábrahám, and Peter C. Ölveczky. *Adaptive-Step-Size Numerical Methods in Rewriting-Logic-Based Formal Analysis of Interacting Hybrid Systems*. In Proc. 4th International Workshop on Harnessing Theories for Tool Support in Software (TTSS'10), volume 274 of Electronic Notes in Theoretical Computer Science, 2011. (16 pages; acceptance rate: 4/11)
93. José Meseguer and Peter C. Ölveczky. *Formalization and Correctness of the PALS Architectural Pattern for Distributed Real-Time Systems*. In Proc. International Conference on Formal Engineering Methods (ICFEM 10). In volume 6447 of Lecture Notes in Computer Science, Springer, 2010. (18 pages; acceptance rate: 42/114)
94. Peter C. Ölveczky, Artur Boronat, and José Meseguer. *Formal Semantics and Analysis of Behavioral AADL Models in Real-Time Maude*. In Proc. IFIP International Conference on Formal Techniques for Distributed Systems (FMOODS/FORTE 2010), volume 6117 of Lecture Notes in Computer Science, Springer, 2010. (16 pages; acceptance rate: 13/38)
95. Kyungmin Bae and Peter C. Ölveczky. *Extending the Real-Time Maude Semantics of Ptolemy to Hierarchical DE Models*. In Proc. First International Workshop on Rewriting Techniques for Real-Time Systems (RTRTS 2010), volume 36 of Electronic Proceedings in Theoretical Science, 2010. (21 pages; acceptance rate: 8/9)
96. Peter C. Ölveczky and José Meseguer. *Specification and Verification of Distributed Embedded Systems: A Traffic Intersection Product Family*. In Proc. First International Workshop on Rewriting Techniques for Real-Time Systems (RTRTS 2010), volume 36 of Electronic Proceedings in Theoretical Science, 2010. (20 pages; acceptance rate: 8/9)
97. Daniela Lepri, Peter C. Ölveczky, and Erika Ábrahám. *Model Checking Classes of Metric LTL Properties of Object-Oriented Real-Time Maude Specifications*. In Proc. First International Workshop on Rewriting Techniques for Real-Time Systems (RTRTS 2010), volume 36 of Electronic Proceedings in Theoretical Science, 2010. (20 pages; acceptance rate: 8/9)
98. Muhammad Fadlisyah, Erika Ábrahám, and Peter C. Ölveczky. *A Rewriting-Logic-Based Technique for Modeling Thermal Systems*. In Proc. First International Workshop on Rewriting Techniques for Real-Time Systems (RTRTS 2010), volume 36 of Electronic Proceedings in Theoretical Science, 2010. (20 pages; acceptance rate: 8/9)
99. Artur Boronat and Peter C. Ölveczky. *Formal Real-Time Model Transformations in MOMENT2*. In Proc. Fundamental Approaches to Software Engineering (FASE'10), volume 6013 of Lecture Notes in Computer Science, Springer, 2010. (15 pages; acceptance rate: 25/103)
100. Kyungmin Bae, Peter C. Ölveczky, Thomas Huining Feng, and Stavros Tripakis. *Verifying Ptolemy II Discrete-Event Models using Real-Time Maude*. In Proc. International Conference on Formal Engineering Methods (ICFEM 09), volume 5885 of Lecture Notes in Computer Science, Springer, 2009. (20 pages; acceptance rate: 36/121)

101. Elisabeth Lien and Peter C. Ölveczky. *Formal Modeling and Analysis of an IETF Multicast Protocol*. In Proc. 7th IEEE International Conference on Software Engineering and Formal Methods (SEFM 2009), IEEE CS Press (10 pages; acceptance rate: 30/84)
102. Peter C. Ölveczky. *Teaching Formal Methods based on Rewriting Logic and Maude*. In Proc. 2nd International FME Conference on Teaching Formal Methods (TFM 2009), volume 5846 of Lecture Notes in Computer Science, Springer, 2009. (18 pages; acceptance rate: 10/19)
103. Leon Bendiksen and Peter C. Ölveczky. *The Priced-Timed Maude Tool*. In Proc. 3rd Conference on Algebra and Coalgebra in Computer Science (CALCO'09), volume 5728 of Lecture Notes in Computer Science, Springer, 2009. (5 pages)
104. Francisco Durán and Peter C. Ölveczky. *A Guide to Extending Full Maude Illustrated with the Implementation of Real-Time Maude*. In Proc. 7th International Workshop on Rewriting Logic and its Applications, 2008. In volume 238(3) of Electronic Notes in Theoretical Computer Science, Elsevier, 2009. (20 pages; acceptance rate: 15/20)
105. Peter C. Ölveczky and Daniela Lepri. *Towards Model Checking Bounded Response in Real-Time Maude (Extended Abstract)*. In Proc. 20th Nordic Workshop on Programming Theory (NWPT'08), 2008. (3 pages; acceptance rate not given)
106. Peter C. Ölveczky. *Formal Modeling and Analysis of a Distributed Database Protocol in Maude*. In Proc. The 2008 International Symposium on Scientific and Engineering Computing (SEC-08), IEEE Computer Society Press, 2008. (8 pages; invited papers only)
107. Peter C. Ölveczky. *Towards Formal Modeling and Analysis of Networks of Embedded Medical Devices in Real-Time Maude*. In Proc. The Ninth ACIS International Conference on Software Engineering, Artificial Intelligence, Networking, and Parallel/Distributed Computing (SNPD'08), IEEE Computer Society Press, 2008. (8 pages; acceptance rate: 176/471)
108. Peter C. Ölveczky and José Meseguer. *The Real-Time Maude Tool*. In Proc. Fourteenth International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2008), volume 4963 of Lecture Notes in Computer Science, Springer, 2008. (5 pages; acceptance rate: 31/140)
109. Peter C. Ölveczky, Pavithra Prabhakar, and Xue Liu. *Formal Modeling and Analysis of Real-Time Resource-Sharing Protocols in Real-Time Maude*. In Proc. 22nd International Parallel and Distributed Processing Symposium (IPDPS 2008), IEEE Computer Society Press, 2008. (8 pages; acceptance rate: 10/16)
110. Peter C. Ölveczky and Martin Grimeland. *Formal Analysis of Time-Dependent Cryptographic Protocols in Real-Time Maude*. In Proc. 21st International Parallel and Distributed Processing Symposium (IPDPS 2007). IEEE Computer Society Press, 2007. (8 pages; acceptance rate not given)
111. Peter C. Ölveczky and Stian Thorvaldsen. *Formal Modeling and Analysis of the OGDC Wireless Sensor Network Algorithm in Real-Time Maude*. In Proc. 9th IFIP International Conference on Formal Methods for Open Object-Based Distributed Systems (FMOODS 07), volume 4468 of Lecture Notes in Computer Science, Springer, 2007. (19 pages; acceptance rate: 17/45)
112. Manuel Clavel, Francisco Durán, Joe Hendrix, Salvador Lucas, José Meseguer, and Peter C. Ölveczky. *The Maude Formal Tool Environment*. In Proc. Algebra and Coalgebra in Computer Science (CALCO'07), volume 4624 of Lecture Notes in Computer Science, Springer, 2007. (6 pages; acceptance rate: 26/57)
113. Peter C. Ölveczky and José Meseguer. *Recent Advances in Real-Time Maude*. In Proc. 7th International Workshop on Rule-Based Programming, 2006, (RULE'06), volume 174 of Electronic Notes in Theoretical Computer Science, Elsevier, 2007. (17 pages; acceptance rate not given)

114. Peter C. Ölveczky and José Meseguer. *Abstraction and Completeness for Real-Time Maude*. In Proc. 6th International Workshop on Rewriting Logic and its Applications, 2006, volume 176 of Electronic Notes in Theoretical Computer Science, Elsevier, 2007. (26 pages; acceptance rate: 13/20)
115. Peter C. Ölveczky and Marco Caccamo. *Formal Simulation and Analysis of the CASH Scheduling Algorithm in Real-Time Maude*. In Proc. Fundamental Approaches to Software Engineering (FASE'06), volume 3922 of Lecture Notes in Computer Science, Springer, 2006. (16 pages; acceptance rate: 29/173)
116. Peter C. Ölveczky and José Meseguer. *Real-Time Maude 2.1*. In Proc. 5th International Workshop on Rewriting Logic and its Applications (WRLA'04), volume 117 of Electronic Notes in Theoretical Computer Science, Elsevier, 2005. (30 pages; acceptance rate: 17/26)
117. Peter C. Ölveczky and José Meseguer. *Specification and Analysis of Real-Time Systems Using Real-Time Maude*. In Proc. Fundamental Approaches to Software Engineering (FASE 2004), volume 2984 of Lecture Notes in Computer Science, Springer 2004. (5 pages; acceptance rate: 26/98)
118. J. Meseguer, P. C. Ölveczky, M.-O. Stehr, and C. L. Talcott. *Maude as a Wide-Spectrum Framework for Formal Modeling and Analysis of Active Networks*. In Proc. DARPA Active Networks Conference and Exposition (DANCE), San Francisco, IEEE 2002. (17 pages)
119. Peter C. Ölveczky. *Specifying and Analyzing Real-Time Object Systems in Real-Time Maude*. In Proc. Norwegian Informatics Conference (NIK'01), Tapir Forlag, 2001. (14 pages; acceptance rate not given)
120. P. C. Ölveczky, M. Keaton, J. Meseguer, C. Talcott, and S. Zabele. *Specification and analysis of the AER/NCA active network protocol suite in Real-Time Maude*. In Proc. FASE 2001, volume 2029 of Lecture Notes in Computer Science, Springer 2001. (16 pages; acceptance rate: 22/74)
121. M.-O. Stehr, J. Meseguer, and P. C. Ölveczky. *Representation and execution of Petri nets using rewriting logic as a unifying framework*. In Proc. UniGra 2001, volume 44 of Electronic Notes in Theoretical Computer Science, Elsevier, 2001. (23 pages; acceptance rate not given)
122. Peter C. Ölveczky and José Meseguer. *Specifying and Analyzing Real-Time Object Systems in Real-Time Maude*. In Proc. Workshop on Real-Time Tools, Aalborg University, Denmark, 2001. In tech. rep. 2001-014, Dept. of Information Technology, Uppsala University. (15 pages; acceptance rate not given)
123. Peter C. Ölveczky and José Meseguer. *Real-Time Maude: A tool for simulating and analyzing real-time and hybrid systems*. In Proc. Third International Workshop on Rewriting Logic and its Applications (WRLA'00), volume 36 of Electronic Notes in Theoretical Computer Science, Elsevier 2001. (22 pages; acceptance rate not given)
124. G. Denker, J. J. Garcia-Luna-Aceves, J. Meseguer, P. C. Ölveczky, Y. Raju, B. Smith, and C. Talcott. *Specification and Analysis of a Reliable Broadcasting Protocol in Maude*. In Proc. 37th Annual Allerton Conference on Communication, Control, and Computation, University of Illinois, USA, September 22-24, 1999. (10 pages)
125. Peter C. Ölveczky and Sigurd Meldal. *Specification and Prototyping of Network Protocols in Rewriting Logic*. In Proc. Norwegian Informatics Conference (NIK'98), Tapir Forlag, 1998. (15 pages; acceptance rate: around 50%)
126. Peter C. Ölveczky and José Meseguer. *Specifying Real-Time Systems in Rewriting Logic*. In Proc. First International Workshop on Rewriting Logic and its Applications (WRLA'96), volume 4 of Electronic Notes in Theoretical Computer Science, Elsevier, 1996. (26 pages; acceptance rate not given)

127. Peter C. Ölveczky and Olav Lysne. *Order-Sorted Termination: The Unsorted Way*. In Proc. Fifth International Conference on Algebraic and Logic Programming (ALP'96), volume 1139 of Lecture Notes in Computer Science, Springer 1996. (15 pages; acceptance rate: 21/54)
128. Peter C. Ölveczky and Olav Lysne. *Order-Sorted Termination: The Unsorted Way*. In Proc. Norwegian Informatics Conference (NIK'95), Tapir Forlag, 1995. (12 pages; acceptance rate: around 50%)
129. Peter C. Ölveczky. *Termination of Order-Sorted Rewriting*. In Proc. 6th Nordic Workshop on Programming Theory (NWPT'94), BRICS Notes Series NS-94-6, 1994. ISSN 0909-3206. (14 pages; acceptance rate not given)

Refereed Invited Book Chapters

130. Jaehun Lee, Kyungmin Bae, and Peter C. Ölveczky. *An Extension of HybridSynchAADL and Its Application to Collaborating Autonomous UAVs*. In Proc. 11th International Symposium On Leveraging Applications of Formal Methods, Verification and Validation (ISoLA'22), volume 13703 of Lecture Notes in Computer Science, Springer, 2022. (18 pages)
131. Kyungmin Bae and Peter C. Ölveczky. *Hybrid Multirate PALS*. In Logic, Rewriting, and Concurrency: Essays dedicated to José Meseguer on the Occasion of His 65th Birthday, volume 9200 of Lecture Notes in Computer Science, Springer, 2015. (21 pages)
132. Si Liu, Peter C. Ölveczky, and José Meseguer. *Formal Analysis of Leader Election in MANETs Using Real-Time Maude*. In Software, Services and Systems: Essays Dedicated to Martin Wirsing on the Occasion of His Emeritament, volume 8950 of Lecture Notes in Computer Science, Springer, 2015. (22 pages)
133. Jon Grov and Peter C. Ölveczky. *Formal Modeling and Analysis of Google's Megastore in Real-Time Maude*. In Specification, Algebra, and Software: Essays Dedicated to Kokichi Futatsugi, volume 8373 of Lecture Notes in Computer Science, Springer, 2014. (27 pages)
134. Peter C. Ölveczky. *Semantics, Simulation, and Formal Analysis of Modeling Languages for Embedded Systems in Real-Time Maude*. In Formal Modeling: Actors, Open Systems, Biological Systems: Essays Dedicated to Carolyn Talcott on the Occasion of Her 70th Birthday, volume 7000 of Lecture Notes in Computer Science, Springer 2011. (35 pages)
135. Mark-Oliver Stehr, José Meseguer, and Peter C. Ölveczky. *Rewriting logic as a unifying framework for Petri nets*. In Unifying Petri Nets, volume 2128 of Lecture Notes in Computer Science (Advances in Petri Nets), Springer 2001. (54 pages)
136. Peter C. Ölveczky, Piotr Kosiuczenko, and Martin Wirsing. *An object-oriented algebraic steam-boiler control specification*. In Formal Methods for Industrial Applications. Specifying and Programming the Steam Boiler Control. LNCS State-of-the-Art Survey, volume 1165 of Lecture Notes in Computer Science, Springer 1996. (24 pages)

Invited Book Chapters

137. Rakesh Bobba, Jon Grov, Indranil Gupta, Si Liu, José Meseguer, Peter C. Ölveczky, and Stephen Skeirik. *Survivability: Design, Formal Modeling, and Validation of Cloud Storage Systems Using Maude*. In Roy H. Campbell, Charles A. Kamhoua, Kevin A. Kwiat, editors, *Assured Cloud Computing*. Wiley–IEEE Computer Society Press, 2018 (ISBN: 978-1-119-42863-3). (40 pages)
138. M. Clavel, F. Durán, S. Eker, P. Lincoln, N. Martí-Oliet, J. Meseguer, C. L. Talcott, C. Braga, A. Farzan, J. Hendrix, P. C. Ölveczky, M. Palomino, R. Sasse, M.-O. Stehr, and A. Verdejo. *Some Tools*. In *All About Maude*, volume 4350 of Lecture Notes in Computer Science, Springer, 2007. (30 pages)
139. S. Meldal, D. J. Stearns, G. L. Fisher, and P. C. Ölveczky. *Software prototyping*. In *Encyclopedia of Electrical and Electronics Engineering*. Wiley & sons 1999. (10 pages)

Miscellaneous Scientific Publications

The list does not include different kinds of technical reports.

140. Peter C. Ölveczky. *Real-Time Maude 2.3 Manual*. User's manual for Real-Time Maude. <http://olveczky.se/RealTimeMaude>.

Scientific Presentations

The list does not include talks at the conferences at which I had a published paper, except for invited talks.

Invited Talks at Conferences/Worskhops/Meetings

1. Invited keynote speaker at IEEE 17th International Scientific Conference on Informatics, Poprad, Slovakia, 2024.
2. *Rewriting Logic and Some of Its Applications to Distributed and Real-Time Systems*. To be given at the XIII International Conference of the Georgian Mathematical Union, Batumi, Georgia, September 4–9, 2023.
3. *Teaching Formal Methods to Undergraduates Using Maude: Why?, How?, and Experiences*. Invited “experience report” at the 14th International Workshop on Rewriting Logic and its Applications (WRLA 2022), München, April 2–3, 2022.
4. *“They didn’t Know They were doing Mathematics”*: *Introducing Formal Methods using Rewriting Logic*. Invited talk at the 1st International Workshop “Formal Methods – Fun for Everybody,” Bergen, Norway, December 2–3, 2019.
5. *Formal Modeling and Analysis of Real-Time Systems using Real-Time Maude*. “Invited” presentation at Dagstuhl Seminar 19432 “Analysis of Autonomous Mobile Collectives in Complex Physical Environments,” October 20–23, 2019.
6. *Design and Validation of Cloud Storage Systems using Rewriting Logic*. Invited talk at the 21st International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC 2019) and the 3rd Working Formal Methods Symposium 2019 (FROM 2019), Timisoara, September 4–7, 2019.
7. *Design and Validation of Cloud Storage Systems using Rewriting Logic*. Invited talk at the 30th Nordic Workshop on Programming Theory (NWPT 2018), Oslo, October 2018.
8. *Design and Validation of Cloud Storage Systems using Formal Methods*. Invited talk at HONET–ICT: 15th International Conference on Smart Cities Enabled by ICT, IoT and AI, Islamabad, October 8–10, 2018.
9. *Design and Validation of Cloud Storage Systems using Formal Methods*. Invited talk at the Second IFIP WG 1.8 International Conference on Topics in Theoretical Computer Science (TTCS 2017), Tehran, Iran, September 12–14, 2017.
10. *PALS: Virtual Synchrony for Cyber-Physical Systems*. Invited/guest talk at the IFIP WG 1.3 meeting in Berlin, Germany, September 4–5, 2017.
11. *Specification and Analysis in Real-Time Maude*. Invited/guest talk at the IFIP WG 1.3 meeting in Binz, Germany, January 9–12, 2017.
12. *Design and Validation of Cloud Computing Data Stores using Formal Methods*. Invited talk at the International Symposium on Intelligent Systems and Applications (ISA 2016), Ho Chi Minh City, Vietnam, August 22–23, 2016.

13. *Real-Time Maude and its Applications*. Invited talk at the 10th International Workshop on Rewriting Logic and Its Applications (WRLA 2014), Grenoble, April 5–6, 2014.
14. *Synchronous AADL: From Single-Rate to Multirate*. Dagstuhl seminar (12272) on “Architecture-Driven Semantic Analysis of Embedded Systems,” Dagstuhl, Germany, July 1–6, 2012.
15. *Formal Model-Engineering for Embedded Systems using Real-Time Maude*. Invited talk at the 2nd Workshop on Algebraic Methods in Model-based Software Engineering (AMMSE 2011), held in conjunction with the TOOLS 2011 Federated Conferences, June 30, 2011, Zürich, Switzerland.
16. *Formal Modeling and Analysis of Wireless Sensor Network Algorithms in Real-Time Maude*. Invited talk at the 14th International Workshop on Parallel and Distributed Real-Time Systems (WPDRTS 2006), held in conjunction with IEEE IPDPS 2006, April 25-26, 2006 Rhodos, Greece.
17. *Specifying the Steam-Boiler in Timed Rewriting Logic*. Dagstuhl seminar on “Logic for System Engineering,” Dagstuhl, Germany, March 3-7, 1997.

Invited Courses at Research Schools

1. *Modeling and Analysis of Real-Time Systems in Rewriting Logic*. Advanced course at the 13th IFIP WG 1.6 International School on Rewriting (ISR 2022), Tbilisi, September 19–24, 2022.
2. *Formal Specification and Analysis of Distributed Systems using Maude and Design and Validation of Cloud Storage Systems using Maude*. Summer School on Engineering Trustworthy Data-Intensive Systems, Tehran Institute for Advanced Studies (TeIAS), Tehran, August 15–17, 2022.
3. *A Tutorial to Maude*. 5 hours course at the ICTAC School 2021: Formal Methods for an Informal World (Summer School of the 18th International Colloquium on Theoretical Aspects of Computing), virtual event organised by Nazarbayev University, Astana, Kazakhstan, September 1–7, 2021.
4. *Formal specification and analysis of real-time systems in Real-Time Maude*. Advanced course at the 11th IFIP WG 1.6 International School on Rewriting (ISR 2019), Paris, July 1–6, 2019.
5. *Introduction to Rewriting Logic and Maude and Specification and Analysis of Real-Time Systems in Real-Time Maude*. Advanced course at the IFIP WG 1.6 International School on Rewriting (ISR 2018), Cali, Colombia, July 30–August 3, 2018.
6. *Modeling and Analyzing Protocols in Maude*. “Short course” at the 8th Brazilian Symposium on Programming Languages (SBLP 2004), Niteroi, Brazil, May 27, 2004.

Invited/Guest Lectures/Tutorials

I have given invited/guest lectures or tutorials at the following places:

- Universidad Complutense de Madrid (2004, 2008, 2017)
- University of Illinois at Urbana-Champaign (more than 16 talks, 2002–2016)
- Budapest University of Technology and Economics (2015)
- National Institute of Advanced Industrial Science and Technology (AIST), Amagasaki, Japan (2012)
- Technical University of Denmark (2 talks, 2012)
- Technische Universität Darmstadt (2011)
- Ludwig-Maximilians-Universität München (1995, 2010)
- Universidad de Málaga, Spain (2007, 2010)
- Universidade Federal Fluminense, Niteroi, Brazil (2 full-day tutorials 2004, 2009)
- At the 1st International Workshop on Algebraic Methods in Model-Based Software Engineering (AMMSE 2008), Madrid (2008)

- Oxford University (2008)
- University of Leicester (2008)
- University of California at Berkeley (2008)
- SRI International, Menlo Park (1996, 2001, 2007)
- Japan Advanced Institute of Science and Technology (JAIST), Kanazawa (2007)
- National Institute of Advanced Industrial Science and Technology (AIST), Ikeda and Osaka, Kansai, Japan (3 talks, 2007)
- At the 28th [Japanese] Term Rewriting Meeting, Ikeda, Japan (2007)
- Royal Institute of Technology (KTH) / Swedish Institute of Computer Science (SICS), Stockholm/Kista (2002)
- University of Bremen (2001)
- Norwegian Computing Center (NR), Oslo (multiple talks, 2001–2002)
- Stanford University (2 talks, 1996)
- University of Oslo (multiple talks, 1994–present)

Tool Development

Real-Time Maude, <http://olveczky.se/RealTimeMaude>, developed in joint work with José Meseguer, is a rewriting logic-based formalism and analysis tool supporting the formal specification and analysis of real-time systems.

Teaching

Development of New Courses

- Development of new course *INF 220* (later *INF 3230/4230*, *INF3232/4232*, and *IN2100: Logic for System Analysis*) – *Formal Modeling and Analysis of Communicating Systems*, University of Oslo, 2002–present
- Development of new course *INF 5130 – Selected Topics in Rewriting Logic*, University of Oslo, 2004. Developed again as *IN 5100* in 2021.
- Major revision of *I 120 – Algorithms, Data Structures, and Programming* in 1997 when the course was taught for the first time using Java, University of Bergen, 1997 (with Bengt Aspvall)

Course Lecturer at the University of Oslo

- *INF 3232/4232* and *IN 2100: Logic for System Analysis*, 2017–2023
- *IN 5100: Selected Topics in Rewriting Logic*, 2021 and 2023
- *INF 220/3230/4230: Formal Modeling and Analysis of Communicating Systems*, 2002–2003 (with Olaf Owe), 2005–2010, 2012–2016
- *INF 5130: Selected Topics in Rewriting Logic*, 2004, 2005 (with Einar B. Johnsen)
- *IN 217: Program Specification and Verification*, 2001 (with Olaf Owe)

Teaching Assistant/Seminar Leader

- *I 120: Algorithms, Data Structures, and Programming*, Univ. Bergen, 1997–1998
- *I 127: Introduction to Logic*, Univ. Bergen, 1997
- *IN 210: Algorithms and Efficiency*, Univ. Oslo, 1991–1993
- *IN 140: Machine Language*, Univ. Oslo, 1990–1992
- *IN 142: Operating Systems*, Univ. Oslo, 1991
- *IN 105: Programming*, Univ. Oslo, 1990

Master's Thesis Supervision

- Samuel Joon Hove Brenna (started Feb. 2023)
- Vemund Justnes (completed June 2021)
- Tore Norderud (completed May 2019)
- Vadim Koshkarev (short thesis, completed June 2017)
- Leon Bendiksen (completed Feb. 2008)
- Martin Grimeland (completed June 2006)
- Stian Thorvaldsen (short thesis, completed June 2005)

PhD Supervision

1. Anders Moen Hagalisletto: “Automated support for the design and analysis of security protocols” (defended Dec. 2007, secondary advisor)
2. Jon Grov: “Transactional Data Management for Multi-Site Systems: New Approaches and Formal Analysis” (defended June 2014, main advisor from 2008)
3. Muhammad Fadlisyah: “A Rewriting-Logic-Based Approach for the Formal Modeling and Analysis of Interacting Hybrid Systems” (defended September 2014, main advisor)
4. Daniela Lepri: “Timed Temporal Logic Model Checking of Real-Time Systems: A Rewriting-Logic-Based Approach” (defended April 2015, main advisor)
5. Lucian Bentea: “Formal Modeling and Analysis of Probabilistic Real-Time Systems in Rewriting Logic: A Probabilistic Strategy Language Approach” (defended June 2015, main advisor)
6. Antonio Gonzalez Burgueño: “Formal Analysis for Security Ceremonies” (defended June 2020, main advisor)

Project Leadership

1. 2 year post. doc. fellowship, 2002–2004. funded by the Research Council of Norway.
2. *Rhythm*: High-Level Formal Modeling and Analysis of Real-Time and Hybrid Systems. 2007–2011. 2 PhD students + travel, etc.. Funded by the Research Council of Norway through the FRINAT programme.
3. Bilateral cooperation in formal definition and monitoring of electronic contracts. 2007. Funded by the Research Council of Norway through the BILAT programme.
4. Hybrid Systems Modeling and Analysis with Rewriting Techniques. 2010–2011. German-Norwegian research collaboration (for collaboration with RWTH Aachen) funded by the Research Council of Norway through the DAADppp programme.

Refereeing

Conferences/Workshops (External Reviewer)

NWPT'96; ALP/HOA'97; CONCUR'98; MPC'98; MFCS'98; CSL'00; MPC'00; RTA'01; ICATPN'01; FOSSACS'02; WADT'02; RTA'03; RTA'04; RTA'05; TACAS'06; ATVA'06; FMOODS'06; ESOP'07; ATVA'07; RTSS'07; FASE'08; FMOODS'08; LICS'09; RTA'09; ICTAC'10; WADT'10; Festschrift in honor of Carolyn Talcott (2011); ICALP'13; Festschrift in honor of Kokichi Futatsugi (2013); LICS'14; Festschrift in honor of Martin Wirsing (2015); FASE'15; CONCUR'15; IFM'20; FASE'20; FSCD'21; CONCUR'22; Informatics'22

Journals

ACM Transactions on Sensor Networks
Computer Networks
Computers
Formal Aspects of Computing
Formal Methods in System Design
Fundamenta Informaticae
IEEE Access
IEEE Transactions on Software Engineering
IEICE Transactions
Information & Software Technology
Innovations in Systems and Software Engineering
International Journal of Foundations of Computer Science
Journal of Computer Science and Technology
Journal of Logical and Algebraic Methods in Programming
Journal of Logic and Algebraic Programming
Journal of Systems and Software
Nordic Journal of Computing
PLOS ONE
Science of Computer Programming
Software and Systems Modeling
Software Tools for Technology Transfer
Wireless Communication and Mobile Computing

Other Professional Duties

Editorial Board Member

International Journal of Distributed Sensor Networks, 2010–2013

Programme Committee Chair and Conference Organizer

8th International Workshop on Rewriting Logic and its Applications, Paphos, Cyprus, 2010
1st International Workshop on Rewriting Techniques for Real-Time Systems, Longyearbyen, Norway, 2010
8th International Symposium on Formal Aspects of Component Software, Oslo, Norway, 2011 (organizer; PC co-chair with Farhad Arbab)
1st International Workshop on Formal Techniques for Safety-Critical Systems, Kyoto, 2012 (with Cyrille Artho)
2nd International Workshop on Formal Techniques for Safety-Critical Systems, Queenstown, New Zealand, 2013 (with Cyrille Artho)
3rd International Workshop on Formal Techniques for Safety-Critical Systems, Luxembourg, 2014 (with Cyrille Artho)
Logic, Rewriting, and Concurrency: Festschrift Symposium in Honor of José Meseguer, Urbana, USA, September 2015 (with Narciso Martí-Oliet and Carolyn L. Talcott)
12th International Conference on Formal Aspects of Component Software, Niterói, Brazil, October 2015 (with Christiano Braga)
4th International Workshop on Formal Techniques for Safety-Critical Systems, Paris, France, November 2015 (with Cyrille Artho)
5th International Workshop on Formal Techniques for Safety-Critical Systems, Tokyo, Japan, November 2016 (with Cyrille Artho)

15th International Conference on Formal Aspects of Component Software, Korea, 2018 (with Kyungmin Bae)

6th International Workshop on Formal Techniques for Safety-Critical Systems, Gold Coast, Australia, November 2018 (with Cyrille Artho)

17th International Conference on Software Engineering and Formal Methods (SEFM 2019), Oslo, Norway, September 2019 (with Gwen Salaun)

18th International Colloquium on Theoretical Aspects of Computing (ICTAC 2021), Nur-Sultan, Kazakhstan, September 2021 (with Antonio Cerone) (online event)

8th International Workshop on Formal Techniques for Safety-Critical Systems, Auckland, New Zealand, December 2022 (with Cyrille Artho)

9th International Workshop on Formal Techniques for Safety-Critical Systems, Lisbon, Portugal, October 2023 (with Cyrille Artho)

Programme Committee Memberships

- AMMSE: Workshop on Algebraic Methods in Model-Based Software Engineering (2011)
- AVoCS: International Workshop on Automated Verification of Critical Systems (2015)
- CALCO: Conference on Algebra and Coalgebra in Computer Science (2019, 2023)
- CALCO-Tools Workshop (2011, 2017)
- CIFMA: International Workshop on Cognition: Interdisciplinary Foundations, Models and Applications (2019)
- FACS: International Conference on Formal Aspects of Component Software (2012, 2013, 2014, 2016, 2017, 2019, 2021, 2022, 2023)
- FASE: International Conference on Fundamental Approaches to Software Engineering (2009)
- FCT: International Symposium on Fundamentals of Computation Theory (2011)
- FDL: Forum on specification and Design Languages (2023)
- FMBC: Workshop on Formal Methods for Blockchains (2019)
- FMFun: International Workshop “Formal Methods: Fun for Everybody” (2019)
- FMICS: International Conference on Formal Methods for Industrial Critical Systems (2018, 2019)
- FMICS-AVoCS: International Workshop on Formal Methods for Industrial Critical Systems and Automated Verification of Critical Systems (2016, 2017)
- FMOODS & FORTE: IFIP International Conference on Formal Techniques for Distributed Systems (2011, 2012, 2014)
- FormaliSE: International Conference on Formal Methods in Software Engineering (2020, 2021)
- FORMATS: International Conference on Formal Modeling and Analysis of Timed Systems (2019)
- FORTE: IFIP International Conference on Formal Techniques for Distributed Objects, Components and Systems (2016)
- FROM: Working Formal Methods Symposium (2020, 2022, 2023)
- FSCD: International Conference on Formal Structures for Computation and Deduction (2018)
- FSEN: IPM International Conference on Fundamentals of Software Engineering (2013, 2015, 2017, 2019, 2021, 2023)
- FTSCS: International Workshop on Formal Techniques for Safety-Critical Systems (2019)
- FT4DAS: International Workshop on Formal Techniques for Dependable Autonomous Systems (2019)
- FVPS: Formal Verification of Physical Systems (2018, 2019, 2021)
- HCCV: Workshop on High-Consequence Control Verification (2016)

- ICE: Interaction and Concurrency Experience (2014)
- ICFEM: International Conference on Formal Engineering Methods (2018, 2019, 2020, 2022, 2023)
- K: International K Workshop (2011)
- SAC-SVT: ACM SIGAPP Symposium on Applied Computing, Software Verification and Testing track (2016, 2017, 2018, 2019, 2020, 2021)
- SACLA: Annual Conference of the Southern African Computing Lecturers Association (2016, 2017, 2019, 2022)
- SaFoMe: International Workshop on Safety and Formal Methods (2015)
- SBMF: Brazilian Symposium on Formal Methods (2014, 2022)
- SEFM: International Conference on Software Engineering and Formal Methods (2020, 2021, 2022, 2023)
- SIMULTECH: International Conference on Simulation and Modeling Methodologies, Technologies and Applications (2011, 2012, 2013, 2014)
- TASE: International Symposium on Theoretical Aspects of Software Engineering (2023)
- TTCS: International Conference on Topics in Theoretical Computer Science (2020)
- VERDI@DSN: Workshop on the Verification & Validation of Dependable Cyber-Physical Systems (2023)
- WADT: International Workshop on Algebraic Development Techniques (2016, 2020, 2022)
- WCPS: International Workshop on Cyber-Physical Systems (2009)
- WRLA: International Workshop on Rewriting Logic and its Applications (2006, 2008, 2012, 2014, 2016, 2018, 2022)
- WWV: International Workshop on Automated Specification and Verification of Web Systems (2015, 2016)

Steering Committee Memberships

International Conference on Formal Aspects of Component Software, 2010–2012 and 2014–present
 International Conference on Software Engineering and Formal Methods (SEFM), 2018–2020

PhD Thesis Evaluator/Opponent/Adjudication Committee Member

- Yuri Dantas, Ludwig-Maximilians-Universität München, 2023.
- Shiji Bijo, University of Oslo, 2021.
- Mojgan Kamali, Åbo Akademi University, 2019.
- Nesredin Mahmud, Mälardalen University, 2019.
- Imran Hafeez Abbassi, National University of Sciences and Technology (NUST), Pakistan, 2019.
- Si Liu, University of Illinois at Urbana-Champaign, 2019. (Member of “Thesis committee”)
- Stephen Skeirik, University of Illinois at Urbana-Champaign, 2019. (Member of “Thesis committee”)
- Jagadish Suryadevara, Mälardalen University, 2013.
- Péter Bokor, Technische Universität Darmstadt, 2011.
- Eduardo Rivera, Universidad de Málaga, 2010.
- Johan Dovland, University of Oslo, 2009.

Miscellaneous

Project proposal reviewer:

- King Fahd University of Petroleum & Minerals, Saudi Arabia, 2017
- Icelandic Research Fund, 2015 and 2016
- French National Research Agency ANR, 2015
- Austrian Science Fund, 2014 and 2016
- University of Namur, 2014
- Netherlands Organisation for Scientific Research (NWO), 2009
- Croatian Ministry of Science, Education, and Sports, 2007

Reviewer of tenure/associate professor position, National University of Sciences and Technology, Pakistan, 2016

Member, departmental Ph.D. education committee (2007-2011), Dept. of Informatics, Univ. Oslo

Member, departmental committee for the master's program in informatics, Dept. of Informatics, Univ. Oslo

Member and leader of various evaluation committees for post.doc. and Ph.D. studentship positions, Dept. of Informatics, Univ. Oslo

Member, departmental study group for developing research strategy on the *wireless future* (“everyware”), Dept. of Informatics, Univ. Oslo