# Publications

**Books:**


[B1] The RAISE Language Group. *The RAISE Specification Language*. Prentice Hall, 1992.

[B2] The RAISE Method Group. *The RAISE Development Method*. Prentice Hall, 1995.

[B3] Hubert Baumeister, Maura Cerioli, Anne Haxthausen, Till Mossakowski, Peter D. Mosses, Donald Sannella, and Andrzej Tarlecki. *CASL Reference Manual*, Part III Semantics. Number 2960 in IFIP LNCS series. Springer, 2004.

[B4] Chris George and Anne E. Haxthausen. The Logic of the RAISE Specification Language. In *Logics of Specification Languages*, EATCS. Springer, 2008.

[B5] Till Mossakowski, Anne Haxthausen, Donald Sannella, and Andrzej Tarlecki. Casl, the Common Algebraic Specification Language. In *Logics of Specification Languages*, EATCS. Springer, 2008.

[B6] John S. Fitzgerald, Anne E. Haxthausen, and Husnu Yenigun, editors. *Theoretical Aspects of Computing – ICTAC 2008*. Number 5160 in Lecture Notes in Computer Science. Springer, 2008.


**Papers in journals and proceedings of conferences:**


[A1] Anne E. Haxthausen. Mutually Recursive Algebraic Domain Equation. In *Proceedings of VDM'88*, volume 328 of *Lecture Notes in Computer Science*. Springer-Verlag, 1988.

[A2] Anne E. Haxthausen. Recursive Algebraic Specifications and their Semantics. In *Proceedings of the IFIP'89*. North-Holland, 1989.

[A3] Anne E. Haxthausen. Parameterized Algebraic Domain Equation. In *Proceedings of Categorical Methods in Computer Science*, volume 393 of *Lecture Notes in Computer Science*. Springer-Verlag, 1989.

[A4] Dines Bjørner, Anne E. Haxthausen, and Klaus Havelund. Formal, Model-oriented Software Development Methods - From VDM to ProCoS & from RAISE to LaCoS. *Future Generation Computer Systems*, (7), 1991/92. Also in Proceedings from InfoJapan'90, 1990.

[A5] Anne E. Haxthausen, Jan Storbank Pedersen, and Søren Prehn. RAISE: a Product Supporting Industrial Use of Formal Methods. *Technique et Science Informatiques*, 12(3):319–346, 1993.

[A6] Anne E. Haxthausen and Chris W. George. A Concurrency Case Study Using RAISE. In *Proceedings of FME'93: Industrial Strength Formal Methods*, volume 670 of *Lecture Notes in Computer Science*. Springer-Verlag, 1993.

[A7] Anne E. Haxthausen. Order-sorted Algebraic Specifications with Higher-order Functions. In *Proceedings of AMAST'95*, number 936 in Lecture Notes in Computer Science, pages 133–151. Springer-Verlag, 1995.

[A8] Anne E. Haxthausen. Developing a Translator from C Programs to Data Flow Graphs Using RAISE. In *Proceedings of COMPASS'96*. IEEE Computer Society, 1996.

[A9] Anne E. Haxthausen and Friederike Nickl. Pushouts of Order-sorted Algebraic Specifications. In *Proceedings of AMAST'96*, number 1101 in Lecture Notes in Computer Science. Springer-Verlag, 1996.

[A10] Anne E. Haxthausen. Order-sorted Algebraic Specifications with Higher-order Functions. *Theoretical Computer Science*, 183:157–185, 1997.

[A11] Jan Madsen, Jesper Grode, Peter V. Knudsen, Morten E. Petersen, and Anne Haxthausen. LYCOS: the Lyngby Co-Synthesis System. *Design Automation for Embedded Systems*, 2(2):195 – 236, March 1997.

[A12] Maura Cerioli, Anne Haxthausen, Bernd Krieg-Brückner, and Till Mossakowski. Permissive Subsorted Partial Logic in CASL. In *Proceedings of AMAST'97*, number 1349 in Lecture Notes in Computer Science. Springer-Verlag, 1997.

[A13] Anne Haxthausen and Jan Peleska. Formal Development and Verification of a Distributed Railway Control System. In *Proceedings of First FMERail Workshop*, 1998.

[A14] Anne Haxthausen and Xia Yong. A RAISE Specification Framework and Justification Assistant for the Duration Calculus. In *Proceedings of ESSLLI-98 Workshop on Duration Calculus*, pages 51–58, 1998.

[A15] Anne E. Haxthausen and Jan Peleska. Formal Development and Verification of a Distributed Railway Control System. In *Proceedings of Formal Methods World Congress FM'99*, number 1709 in Lecture Notes in Computer Science, pages 1546 – 1563. Springer-Verlag, 1999.

[A16] Anne E. Haxthausen and Jan Peleska. Formal Development and Verification of a Distributed Railway Control System. *IEEE Transaction on Software Engineering*, 26(8):687–701, 2000.

[A17] Till Mossakowski, Anne Haxthausen, and Bernd Krieg-Brückner. Subsorted Partial Higher-order Logic as an extension of CASL. In *Proceedings of WADT'99*, number 1827 in Lecture Notes in Computer Science, pages 126 – 145. Springer-Verlag, 2000.

[A18] Anne Haxthausen and Xia Yong. Linking DC together with TRSL. In *Proceedings of 2nd International Conference on Integrated Formal Methods (IFM'2000), Schloss Dagstuhl, Germany, November 2000*, number 1945 in Lecture Notes in Computer Science, pages 25–44. Springer-Verlag, 2000.

[A19] Anne Haxthausen. Some Approaches for Integration of Specification Techniques. In *Proceedings of INT'00 – Integration of Specification Techniques with Applications in Engineering*, pages 33 – 40. Technical Report 2000/04, Technical University of Berlin, 2000. (Invited extended abstract).

[A20] Jan Peleska, Alexander Baer, and Anne E. Haxthausen. Towards Domain-Specific Formal Specification Languages for Railway Control Systems. In *Proceedings of the 9th IFAC Symposium on Control in Transportation Systems 2000, June 13-15, 2000, Braunschweig, Germany*, pages 147–152, 2000.

[A21] Morten P. Lindegaard, Peter Viuf, and Anne E. Haxthausen. Modelling Railway Interlocking Systems. In *Proceedings of the 9th IFAC Symposium on Control in Transportation Systems 2000, June 13-15, 2000, Braunschweig, Germany*, pages 211–217, 2000.

[A22] Anne E. Haxthausen and Jan Peleska. Formal Methods for the Specification and Verification of Distributed Railway Control Systems: From Algebraic Specifications to Distributed Hybrid Real-Time Systems. In *Forms '99 - Formale Techniken für die Eisenbahnsicherung Fortschritt-Berichte VDI, Reihe 12, Nr. 436*, pages 263–271. VDI-Verlag, Düsseldorf, 2000.

[A23] Anne E. Haxthausen and Jan Peleska. A Domain Specific Language for Railway Control Systems. In *Proceedings of the Sixth Biennial World Conference on Integrated Design and Process Technology, (IDPT2002), Pasadena, California*, June 23-28 2002.

[A24] Anne E. Haxthausen and Jan Peleska. Generation of Executable Railway Control Components from Domain-Specific Descriptions. In *Proceedings of the Symposium on Formal Methods for Railway Operation and Control Systems (FORMS'2003)*, pages 83–90. L'Harmattan Hongrie, 2003.

[A25] Anne E. Haxthausen and Jan Peleska. Automatic Verification, Validation and Test for Railway Control Systems based on Domain-Specific Descriptions. In *Proceedings of the 10th IFAC Symposium on Control in Transportation Systems*. Elsevier Science Ltd, Oxford, 2003. ISBN 0-08-044059-2.

[A26] Torben Gjaldbæk and Anne E. Haxthausen. Modelling and Verification of Interlocking Systems for Railway Lines. In *Proceedings of the 10th IFAC Symposium on Control in Transportation Systems*. Elsevier Science Ltd, Oxford, 2003. ISBN 0-08-044059-2.

[A27] Chris George and Anne E. Haxthausen. The Logic of the RAISE Specification Language. *Computing and Informatics*, 22(3–4):323 – 350, 2003.

[A28] Till Mossakowski, Anne Haxthausen, Donald Sannella, and Andrzej Tarlecki. CASL, the Common Algebraic Specification Language: Semantics and proof theory. *Computing and Informatics*, 22(3–4):285–322, 2003.

[A29] Dines Bjørner, Chris W. George, Anne E. Haxthausen, Christian Krogh Madsen, Steffen Holmslykke, and Martin Penicka. "UML-ising" Formal Techniques. In *Proceedings of INT'2004 – Integration of Software Specification Techniques for Applications in Engineering*, number 3147 in Lecture Notes in Computer Science, pages 423 – 450. Springer, 2004. Invited paper.

[A30] Morten P. Lindegaard and Anne E. Haxthausen. Proof Support for RAISE – by a Reuse Approach based on Institutions. In *Proceedings of AMAST'04*, number 3116 in Lecture Notes in Computer Science, pages 319–333. Springer-Verlag, 2004.

[A31] Jan Peleska, Daniel Große, Anne E. Haxthausen, and Rolf Drechsler. Automated Verification for Train Control Systems. In *Proceedings of Formal Methods for Automation and Safety in Railway and Automotive Systems (FORMS/FORMAT 2004)), Braunschweig, Germany*, 2004.

[A32] Anne E. Haxthausen, Nikolaj Christensen, and Rasmus Dyhrberg. From Domain Model to Domain-specific Language for Railway Control Systems. In *Proceedings of Formal Methods for Automation and Safety in Railway and Automotive Systems (FORMS/FORMAT 2004)), Braunschweig, Germany*, 2004.

[A33] Chris W. George and Anne E. Haxthausen. Specification and Proof of the Mondex Electronic Purse. In *Proceedings of Automated Formal Methods 2006 (AFM 2006), Seattle*, 2006.

[A34] Anne E. Haxthausen, Chris W. George, and Marko Schütz. Specification and Proof of the Mondex Electronic Purse. In *Proceedings of 1st Asian Working Conference on Verified Software (AWCVS 2006), Macao*. UNU-IIST, Report No. 347, 2006.

[A35] Jan Peleska and Anne E. Haxthausen. Object Code Verification for Safety-Critical Railway Control Systems. In *Proceedings of Formal Methods for Automation and Safety in Railway and Automotive Systems (FORMS/FORMAT 2007), Braunschweig, Germany*. GZVB e.V., 2007. ISBN 13:978-3-937655-09-3.

[A36] Anne E. Haxthausen and Jan Peleska. A Domain-oriented, Model-based Approach for Construction and Verification of Railway Control Systems. In Cliff B. Jones, Zhiming Liu, and Jim Woodcock, editors, *Formal Methods and Hybrid Real-Time Systems : Essays in Honour of Dines Bjrner and Zhou Chaochen on Occasion of their 70th Birthdays*, number 4700 in Lecture Notes in Computer Science, pages 320–348. Springer, 2007. Invited paper.

[A37] Chris George and Anne E. Haxthausen. Specification, proof, and model checking of the Mondex electronic purse using RAISE. *Formal Aspects of Computing*, 20(1):101–116, 2008. Special issue on the Mondex challenge.

[A38] Anne E. Haxthausen, Marie Le Bliguet, and Andreas A. Kjær. Modelling and Verification of Relay Interlocking Systems. In *15th Monterey Workshop: Foundations of Computer Software, Future Trends and Techniques for Development*, pages 47–55, 2008. Invited paper.

[A39] Anne E. Haxthausen. Developing a Domain Model for Relay Circuits. *International Journal of Software and Informatics*, 3(2–3):241–272, 2009.

[A40] Anne E. Haxthausen. A Domain-specific Framework for Automated Construction and Verification of Railway Control Systems. In B. Buth, G. Rabe, and T. Seyfarth, editors, *Proceedings of 28th International Conference on Computer Safety, Reliability, and Security, SAFECOMP 2009*, number 5775 in Lecture Notes in Computer Science, pages 1–3. Springer, 2009. Invited paper.

[A41] Anne E. Haxthausen, Marie Le Bliguet, and Andreas A. Kjær. Modelling and Verification of Relay Interlocking Systems. In Christine Choppy and Oleg Sokolsky, editors, *15th Monterey Workshop: Foundations of Computer Software, Future Trends and Techniques for Development*, number 6028 in Lecture Notes in Computer Science. Springer, 2010. Invited paper.

[A42] Anne E. Haxthausen. Towards a Framework for Modelling and Verification of Relay Interlocking Systems. In *16th Monterey Workshop: Modelling, Development and Verification of Adaptive Systems: the Grand Challenge for Robust Software*, 2010. Invited paper.

[A43] Anne E. Haxthausen, Jan Peleska, and Sebastian Kinder. A Formal Approach for the Construction and Verification of Railway Control Systems. *Formal Aspects of Computing*, 23(2):191–219, 2011. Special issue in Honour of Dines Bjørner and Zhou Chaochen on Occasion of their 70th Birthdays. The article is also available electronically on SpringerLink: http://www.springerlink.com/openurl.asp?genre=articleid=doi:10.1007/s00165-009-0143-6.

[A44] Anne E. Haxthausen. Towards a Framework for Modelling and Verification of Relay Interlocking Systems. In *16th Monterey Workshop: Modelling, Development and Verification of Adaptive Systems: the Grand Challenge for Robust Software*, number 6662 in Lecture Notes in Computer Science, pages 176–192. Springer, 2011. Invited paper. Extended version of [A42].

[A45] Anne E. Haxthausen, Andreas A. Kjær, and Marie Le Bliguet. Formal Development of a Tool for Automated Modelling and Verification of Relay Interlocking Systems. In *17th International Symposium on Formal Methods (FM 2011)*, number 6664 in Lecture Notes in Computer Science, pages 118–132. Springer, 2011.

[A46] Jan Peleska, Johannes Feuser, and Anne E. Haxthausen. The Model-Driven openETCS Paradigm for Secure, Safe and Certifiable Train Control Systems. In *Railway Safety, Reliability and Security: Technologies and System Engineering*, pages 22–52. IGI Global, 2012.

[A47] Anne E. Haxthausen. Automated Generation of Safety Requirements from Railway Interlocking Tables. In *5th International Symposium On Leveraging Applications of Formal Methods, Verification and Validation (ISOLA'2012), Part II*, number 7610 in Lecture Notes in Computer Science, pages 261–275. Springer, 2012.

[A48] Ekkart Kindler, Hubert Baumeister, Anne Elisabeth Haxthausen, and Joseph Kiniry. On the dimensions of software documents an idea for framing the software engineering process. In I. Jacobsen, M. Goedicke, and P. Johnson, editors, *The Semat Workshop on a General Theory of Software Engineering 2012*, pages 21–22. Springer, 2012.

[A49] Anne E. Haxthausen and Jan Peleska. Efficient Development and Verification of Safe Railway Control Software. In *Railways: Types, Design and Safety Issues*, pages 127–148. Nova Science Publishers, Inc., 2013.

[A50] Marieta V. Fasie, Anne E. Haxthausen, and Joseph R. Kiniry. A Rigorous Methodology for Analyzing and Designing Plug-Ins. In *Proceedings of the 3rd International Workshop on Developing Tools as Plug-ins (TOPI 2013)*, pages 49–50. IEEE, 2013.

[A51] Linh Vu Hong, Anne Elisabeth Haxthausen, and Jan Peleska. Formal Development and Verification of Railway Control Systems, 2013. Presented at Conference of Strategic Research in Transportation and Infrastructure, Technical University of Denmark.

[A52] Nick Battle, Anne Haxthausen, Sako Hiroshi, Peter Jørgensen, Nico Plat, Shin Sahara, and Marcel Verhoef. The Overture Approach to VDM Language Evolution. In *Proceedings of 11th Overture Workshop on VDM*. To appear 2013.

[A53] Anne E. Haxthausen, Jan Peleska, and Ralf Pinger. Applied Bounded Model Checking for Interlocking System Designs. In *Towards a Formal Methods Body of Knowledge for Railway Control and Safety Systems*. To appear November 2013.

[A54] Anne E. Haxthausen. Automated Generation of Formal Safety Conditions from Railway Interlocking Tables. *International Journal on Software Tools for Technology Transfer (STTT), Special Issue on Formal Methods for Railway Control Systems*, to appear (accepted for publication).

[A55] Anne E. Haxthausen. An Institution for Imperative RSL Specifications. In *Specification, Algebra, and Software, A Festschrift Symposium in Honor of Kokichi Futatsugi (SAS 2014)*, Lecture Notes in Computer Science. Springer, to appear 2014 (accepted for publication).

**Tutorial papers:**

[T1] Chris George and Anne Haxthausen. *The RAISE Development Method – A Tutorial*. In Tutorial Programme of FME'94, 1994.