Anne Elisabeth Haxthausen - DTU Orbit (13/01/2018)

Haxthausen, Anne Elisabeth

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Department of Applied Mathematics and Computer Science - Associate Professor

Software Engineering

Publications:

A Domain-Specific Language for Generic Interlocking Models and Their Properties
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Compositional Model Checking of Interlocking Systems for Lines with Multiple Stations
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Compositional Verification of Interlocking Systems for Large Stations
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Formal Development and Verification of Safe Railway Control Systems
Haxthausen, A. E. 2017
Publication: Research › Poster – Annual report year: 2017

Formal modelling and verification of interlocking systems featuring sequential release
Publication: Research - peer-review › Journal article – Annual report year: 2016

Model Checking Geographically Distributed Interlocking Systems Using UMC
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Comparing formal verification approaches of interlocking systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Compositional Verification of Multi-Station Interlocking Systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Formal Development and Verification of Safe Railway Control Systems
Haxthausen, A. E. 2016
Publication: Research - peer-review › Poster – Annual report year: 2016

On the Feasibility of a Unified Modelling and Programming Paradigm
A Domain-specific Framework for Automated Construction and Verification of Railway Control Systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Developing a Domain Model for Relay Circuits
Publication: Research - peer-review › Journal article – Annual report year: 2009

CASL, the Common Algebraic Specification Language
Publication: Research - peer-review › Book chapter – Annual report year: 2008

Specification, proof, and model checking of the Mondex electronic purse using RAISE
Publication: Research - peer-review › Journal article – Annual report year: 2008

The Logic of the RAISE Specification Language
Publication: Research - peer-review › Book chapter – Annual report year: 2008

A Domain-oriented, Model-based Approach for Construction and Verification of Railway Control Systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Object Code Verification for Safety-Critical Railway Control Systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Specification, Proof, and Model-checking of the Mondex Electronic Purse using RAISE
George, C. & Haxthausen, A. E. 2007 UNU-IIST.
Publication: Research - peer-review › Report – Annual report year: 2007

Specification and Proof of the Mondex Electronic Purse
Publication: Research - peer-review › Article in proceedings – Annual report year: 2006

Specification and Proof of the Mondex Electronic Purse
Publication: Research - peer-review › Article in proceedings – Annual report year: 2006

Designing a Flexible Kernel Providing VDM++ Support for Eclipse
Publication: Research › Article in proceedings – Annual report year: 2005

Test of Object-oriented Software
Haxthausen, A. E. 2005
Publication: Education › Compendium/lecture notes – Annual report year: 2005
Proof support for RAISE - by a Reuse Approach Based on Institutions
Publication: Research › Ph.D. thesis – Annual report year: 2004

Automated Verification for Train Control Systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

CASL Semantics
Publication: Research - peer-review › Book chapter – Annual report year: 2004

From Domain Model to Domain-specific Language for Railway Control Systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Modelling and Verification of Interlocking Systems for Railway Lines
Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

Proof Support for RAISE - by a Reuse Approach based on Institutions
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Test of Object-oriented Software
Haxthausen, A. E. 2004
Publication: Education › Compendium/lecture notes – Annual report year: 2004

UML-ising formal techniques
Publication: Research - peer-review › Book chapter – Annual report year: 2004

"UML-ising" Formal Techniques
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Automatic Verification, Validation and Test for Railway Control Systems based on Domain-Specific Descriptions
Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

CASL, the Common Algebraic Specification Language: Semantics and Proof Theory
Publication: Research - peer-review › Journal article – Annual report year: 2003
Generation of Executable Railway Control Components from Domain-Specific Descriptions
Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

The Logic of the RAISE Specification Language
Publication: Research - peer-review › Journal article – Annual report year: 2003

A Domain Specific Language for Railway Control Systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2002

Formal development and verification of a distributed railway control system
Publication: Research - peer-review › Journal article – Annual report year: 2000

Formal Methods for the Specification and Verification of Distributed Railway Control Systems: From Algebraic Specifications to Distributed Hybrid Real-Time Systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2000

Linking DC together with TRSL
Publication: Research - peer-review › Article in proceedings – Annual report year: 2000

Modelling Railway Interlocking Systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2000

Some Approaches for Integration of Specification Techniques
Haxthausen, A. E. 2000 *INT'00 - Integration of Specification Techniques with Applications in Engineering*. Technical University of Berlin, p. 33-40
Publication: Research - peer-review › Article in proceedings – Annual report year: 2000

Subsorted Partial Higher-order Logic as an extension of CASL
Publication: Research - peer-review › Article in proceedings – Annual report year: 2000

Towards Domain-Specific Formal Specification Languages for Railway Control Systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2000

CASL - The CoFI Algebraic Specification Language - Semantics.
Haxthausen, A. 1999
Publication: Research - peer-review › Report – Annual report year: 1999

Formal Development and Verification of a Distributed Railway Control System
Linking DC together with TRSL
Haxthausen, A. E. & Yong, X. 1999
Publication: Research › Poster – Annual report year: 1999

Subsorted Partial Higher-order Logic as an Extension of CASL
Publication: Research › Article in proceedings – Annual report year: 1999

A RAISE Specification Framework and Justification assistant for the Duration Calculus
Haxthausen, A. E. & Xia, Y. 1998 Proceedings of 10th ESSLLI. Sarbrücken
Publication: Research › Article in proceedings – Annual report year: 1998

CASL: The Common Algebraic Specification Language Semantics
Haxthausen, A. 1998
Publication: Research › Article in proceedings – Annual report year: 1998

Extending CASL with Higher-order Functions: Design Proposal
Publication: Research › Article in proceedings – Annual report year: 1998

Subsorted Partial Higher-order Logic as an Extension of CASL
Mossakowski, T., Haxthausen, A. & Krieg-Bruckner, B. 1998
Publication: Research › Article in proceedings – Annual report year: 1998

CASL - The CoFI Algebraic Specification Language (Tentative Design, version 0.95) – Language Summary with annotations concerning questions and doubts
Haxthausen, A. 1997
Publication: Research › Article in proceedings – Annual report year: 1997

CASL - The CoFI Algebraic Specification Language (Tentative Design, version 0.95) - Language Summary, with annotations concerning the semantics of constructs.
Haxthausen, A. 1997
Publication: Research › Article in proceedings – Annual report year: 1997

CASL - The CoFI Algebraic Specification Language (version 0.97) - Semantics
Haxthausen, A. 1997
Publication: Research › Article in proceedings – Annual report year: 1997

CASL- The Common Algebraic Specification Language- Summary
Haxthausen, A. 1997
Publication: Research › Article in proceedings – Annual report year: 1997

LYCOS: The Lyngby Co-Synthesis System
Publication: Research › Article in proceedings – Annual report year: 1997
Order-sorted Algebraic Specifications with Higher-order
Publication: Research - peer-review › Journal article – Annual report year: 1997

Permissive Subsorted Partial Logic in CASL.
Publication: Research - peer-review › Article in proceedings – Annual report year: 1997

CASL - The COFI Algebraic Specification Language Tentative Design: Language Summary
Haxthausen, A. 1996
Publication: Research - peer-review › Report – Annual report year: 1996

Constraints
Publication: Research - peer-review › Report – Annual report year: 1996

DC + RSL
Haxthausen, A. 1996
Publication: Research - peer-review › Report – Annual report year: 1996

Developing a Translator from C Programs to Data Flow Graphs Using RAISE
Publication: Research - peer-review › Article in proceedings – Annual report year: 1996

Overloading, Subtypes and Higher Order Functions
Haxthausen, A. 1996
Publication: Research - peer-review › Report – Annual report year: 1996

Pushouts of Order-sorted Algebraic Specifications
Publication: Research - peer-review › Article in proceedings – Annual report year: 1996

Pushouts of Order-sorted Algebraic Specifications (report)
Haxthausen, A. & Nickl, F. 1996
Publication: Research - peer-review › Report – Annual report year: 1996

Subsorting and Higher-order Functions
Haxthausen, A. & Dahl, O-J. 1996
Publication: Research - peer-review › Report – Annual report year: 1996

Subsorting in CASL: CoFI Language Design Study Note
Cerioli, M., Mossakowski, T., Krieg-Brückner, B., Haxthausen, A., Mosses, P. D. & Owe, O. 1996
Publication: Research - peer-review › Report – Annual report year: 1996

Order-sorted Algebraic Specifications with Higher-order Functions
Publication: Research - peer-review › Article in proceedings – Annual report year: 1995

The RAISE Development Method
Publication: Research - peer-review › Book – Annual report year: 1995
A Concurrency Case Study Using RAISE
Publication: Research - peer-review › Article in proceedings – Annual report year: 1993

RAISE: a Product Supporting Industrial Use of Formal Methods
Publication: Research - peer-review › Journal article – Annual report year: 1993

The RAISE Specification Language
Publication: Research - peer-review › Book – Annual report year: 1992

Formal, Model-oriented Software Development Methods - From VDM to ProCoS & from RAISE to LaCoS
Publication: Research - peer-review › Journal article – Annual report year: 1991

Parameterized Algebraic Domain Equation
Publication: Research - peer-review › Article in proceedings – Annual report year: 1989

Recursive Algebraic Specifications and their Semantics
Publication: Research - peer-review › Article in proceedings – Annual report year: 1989

Mutually Recursive Algebraic Domain Equation
Haxthausen, A. E. 1988 Proceedings of VDM’88. Springer Verlag
Publication: Research - peer-review › Article in proceedings – Annual report year: 1988

Structuring Mechanisms in Formal Specification Languages
Haxthausen, A. E. 1988
Publication: Research › Ph.D. thesis – Annual report year: 1988

Projects:

Formal development and verification of railway control systems
01/11/2012 → 21/01/2016
Project: PhD

Modelling and analysis for Cyber-Physical Systems
01/11/2011 → 30/09/2015
Project: PhD

Pattern-oriented Formal Software Development
Haxthausen, A. E.
01/04/2005 → 01/04/2010
Project

Modellering og analyse af globale applikationer
Buchholtz, M., Nielsen, H. R., Nielsen, F., Haxthausen, A. E., Focardi, R. & Guttman, J. D.
01/01/2002 → 12/07/2005
Project: PhD
Proof support for raise
01/04/2000 → 25/05/2004
Project: PhD

Domain-specific Languages for Railway Control Systems
Haxthausen, A. E. & Peleska, J.
01/01/2000 → 31/12/2010
Project

Modelling Railway Interlocking Systems II
Haxthausen, A. E., Lindegaard, M. P., Hansen, K. M. & Viuf, P.
01/09/1999 → 31/03/2000
Project

CoFI WG (ESPRIT Working Group no. 29432)
Haxthausen, A. E., Mosses, P., Sannella, D., Tarlecki, A., Krieg-Brückner, B., Bidoit, M., Astesiano, E. & Kirchner, H.
01/10/1998 → 30/04/2001
Project

FMERail (ESPRIT Project EP26538)
Hansen, B. S., Bjørner, D. & Haxthausen, A. E.
01/01/1998 → 30/09/1999
Project

Information project for highschool pupils
Haxthausen, A. E., Hansen, B. S. & Bing, E.
01/11/1997 → …
Project

Co-synthesis of RSL Specifications
Haxthausen, A. E.
01/09/1997 → 31/01/1998
Project

Dracos
Haxthausen, A. E.
01/12/1996 → 01/12/1999
Project

Timed RAISE
Haxthausen, A. E. & Peleska, J.
01/08/1996 → 31/12/2000
Project

CoFI
Haxthausen, A. E., Mosses, P., Lescanne, P., Astesiano, E., Bergstra, J., Bert, D., Bidoit, M., Bettaz, M., Broy, M.,
Choppy, C., Dahl, O., Ehrich, H., Ehrig, H., Fiadeiro, J., Gaudel, M., Goguen, J. A., Grosu, R., Heering, J., Kirchner, H.,
Kreowski, H., Krieg-Brückner, B., Maibaum, T., Malcolm, G., Meinke, K., Orejas, F., Owe, O., Padawitz, P., Reggio, G.,
Mossakowski, T.
01/11/1995 → 31/12/2003
Project
Module Composition Mechanisms
Haxthausen, A. E. & Nickl, F.
01/07/1995 → 01/07/1996
Project

Subtyping and Higher-order Functions
Haxthausen, A. E.
01/01/1995 → 31/12/1999
Project

Activities:

Formal Methods for Software Development
Haxthausen, A. E. (Guest lecturer)
11 Sep 2017 → 14 Sep 2017
Activity: Talks and presentations › Guest lectures, external teaching and course activities at other universities

University of Florence
Haxthausen, A. E. (Visiting researcher)
15 Aug 2017 → 14 Sep 2017
Activity: Visiting an external institution › Visiting another research institution

Green Light for Smarter Methods in Railway Safety Verification
Haxthausen, A. E. (Guest lecturer)
31 May 2017
Activity: Talks and presentations › Conference presentations

Formel Modellering og Verifikation af Jernbanekontrolsystemer: Et eksempel fra RobustRailS WP 4.1
Haxthausen, A. E. (Invited speaker)
3 Feb 2016
Activity: Talks and presentations › Conference presentations

Assessment Committee for a post.doc. position (External organisation)
Haxthausen, A. E. (Participant)
21 Nov 2012 → 21 Dec 2012
Activity: Membership › Membership of committees, commissions, boards, councils, associations, organisations, or similar

Danish Railway Conference 2012
Haxthausen, A. E. (Participant)
9 May 2012
Activity: Attending an event › Participating in or organising a conference

Conference on European Rail Traffic Management System
Haxthausen, A. E. (Participant)
17 Apr 2012
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

An Introduction to Formal Methods for Software Development
Haxthausen, A. E. (Consultant)
7 Oct 2011
Activity: Public and private sector consultancy › Public sector consultancy

A Model-based Tool Set for Simulation and Verification of Relay Interlocking Systems
Haxthausen, A. E. (Speaker)
27 Sep 2011
Activity: Talks and presentations › Talks and presentations in private or public companies and organisations
Towards a Semantics for VDM Core
Haxthausen, A. E. (Speaker)
20 Jun 2011
Activity: Talks and presentations › Guest lectures, external teaching and course activities at other universities

MicroSoft Research Software Summit
Haxthausen, A. E. (Participant)
13 Apr 2011 → 15 Apr 2011
Activity: Attending an event › Participating in or organising a conference

Effective Development and Verification of Railway Control Software
Haxthausen, A. E. (Speaker)
21 Jan 2011
Activity: Talks and presentations › Conference presentations

Member of the review board for a VIP position at Engineering College of Århus (External organisation)
Haxthausen, A. E. (Member)
22 Nov 2010 → 1 Dec 2010
Activity: Membership › Membership of committees, commissions, boards, councils, associations, organisations, or similar

Formal Methods: A Tutorial on Model-oriented Specification
Haxthausen, A. E. (Consultant)
14 Oct 2010
Activity: Public and private sector consultancy › Public sector consultancy

An Introduction to Formal Methods for the Development of Safety-critical Applications
Haxthausen, A. E. (Consultant)
1 Sep 2010
Activity: Public and private sector consultancy › Public sector consultancy

An Introduction to Formal Methods for Software Development
Haxthausen, A. E. (Consultant)
25 Jun 2010
Activity: Public and private sector consultancy › Public sector consultancy

Talentudvikling og karriererådgivning
Haxthausen, A. E. (Participant)
17 May 2010 → 7 Dec 2010
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

JAIST Advanced School on Formal Specification and Systems Verification 2010 (JAIST-FSSV2010)
Haxthausen, A. E. (Participant)
1 Mar 2010 → 5 Mar 2010
Activity: Attending an event › Participating in or organising a conference

Member of the review board of a Ph.D. thesis entitled "Domain-specific Modelling of Railway Control Systems with Integrated Verification and Validation", by Kirsten Mewes, Bremen University (External organisation)
Haxthausen, A. E. (External examiner)
12 Nov 2009
Activity: Examinations and supervision › External examination

Towards a Framework for Modelling and Verification of Relay Interlocking Systems
Haxthausen, A. E. (Speaker)
11 Nov 2009
Activity: Talks and presentations › Conference presentations
A Domain-specific, Model-based Approach for Construction and Verification of Railway Control Systems
Haxthausen, A. E. (Speaker)
23 Jan 2009
Activity: Talks and presentations › Conference presentations

Press clippings:

Returning to the Rails.: Rail Safety: Back in the Spotlight.
Anne Elisabeth Haxthausen
18/03/2016
1 media contribution
Press / Media

Ekspert om tysk togkollision: "Besynderlig ulykke"
Anne Elisabeth Haxthausen
09/02/2016
1 media contribution
Press / Media

Matematik mindsker risiko for togkollision
Anne Elisabeth Haxthausen
01/12/2015
1 media contribution
Press / Media

Matematisk gennembrud øger tog sikkerheden
Anne Elisabeth Haxthausen
01/09/2015
1 media contribution
Press / Media