Sep. 16, 2024

CURRICULUM VITAE

Name: Björn Olof Einar Lisper

Born: April 8, 1956, in Solna, Sweden.

Status: Married, two children, Swedish citizen.

Home address: Oxelvägen 20, S-175 64 Järfälla, Sweden

Professional address: School of Innovation, Design, and Engineering, University of Mälardalen, P.O. Box 883, S-721 23 Västerås, Sweden (phone +46-21-15 17 09, e-mail bjorn.lisper@mdu.se)

Education

1980: M. Sc. (Civilingenjör) in Engineering Physics, Royal Institute of Technology, Stockholm, Sweden

1984: Studies in Computer Science, Stanford University

1987: Ph. D. (TeknD) in Computer Science, Royal Institute of Technology

1991: Docent in Computer Systems, Royal Institute of Technology (roughly equivalent to "habilitation")

Employment

1979: Military service

1980: Research engineer, Sunds Defibrator AB

1981-82: Research engineer, SCA Control Systems AB

1983-87: Teaching and Research Assistant, Royal Institute of Technology, Dept. of Numerical Analysis and Computing Science (NADA)

1984: Research Assistant, Stanford University, Dept. of Computer Science

1987-88: Associate Research Scientist, Yale University, Dept. of Computer Science

1988-1992 Assistant Professor ("forskarassistent"), Royal Institute of Technology, Dept. of Telecommunications and Computer Systems

1992-1999 Associate Professor (Senior Lecturer, "universitetslektor") in Computer Systems (datorsystem), Royal Institute of Technology, Dept. of Teleinformatics (IT)

1988-1995, Researcher, Swedish Institute of Computer Science (40% part time)

Oct. 1994 - Jan. 1995, Invited Professor, Ecole Normale Supérieure de Lyon, Laboratoire de l'Informatique du Parallélisme

July 1999- Professor in Computer Engineering, Mälardalens universitet (MDU)

Teaching and Related

Teaching at Royal Institute of Technology (course leader, main lecturer, * = developed the course):
1989-97 (9 occasions): Parallel Computer Systems (undergraduate level, 4th year, *)
1991-92 (2 occasions): Program Transformations (graduate level, *)
1993: Term Rewriting Systems (graduate level, *)
1996-98 (3 occasions): Semantics of Programming Languages (undergraduate level, 4th year, and graduate level, *)
1998: Computer Systems (undergraduate level, 4th year, *)

At Royal Institute of Technology, shared responsibility (* = developed the course):
1993: Semantics of Programs and Programming Languages (graduate level)
1996,1999: Computer Systems (undergraduate level, 4th year, *)

Teaching at Mälardalen University (course leader, main lecturer, * = developed the course):
2000: Advanced Functional Languages (graduate level, *)
2001: Analysis of Algorithms (undergraduate level, 3rd year)
2001: Advanced Type Systems (graduate level, *)

2002-2007 (6 occasions): Functional Programming (undergraduate level, 3rd year, *)
2005, 2008: Program Analysis (graduate level, *)
2009-24 (15 occasions): Functional Programming with F# (undergraduate level, 2nd-3rd year, *)

At Mälardalen University, shared responsibility:

2010-23 (14 occasions): Parallel Systems (undergraduate level, 3rd year)
2015-18 (5 occasions): Software Testing (undergraduate level)

Teaching assistant in various courses in numerical analysis, programming and computer science during last year as undergraduate student (1980) and as graduate student (1982-1987). Various guest lectures, tutorials, industrial seminars, and lectures in commissioned courses for industry.

Member of DUG (the steering committee for the MSc programme in Computer Engineering at Royal Institute of Technology) 1996-1999.

Director of graduate studies in Computer Science and Engineering, Mälardalen University, 1999-2004

Subject responsible Computer Science (ämnesföreträdare Datavetenskap), Mälardalen University, 2012-23

Academic Tasks

Program committees:

- Euro-Par'95 international conference on parallel processing, 1995

- Seventh Swedish Workshop on Computer Systems Architecture (DSA'98), 1998

- Second International Workshop on Engineering of Reconfigurable Hardware/Software Objects (EN-REGLE), 2000

- International Conference on Engineering of Reconfigurable Systems and Algorithms (ERSA), 2001–2007

- Real-Time in Sweden 2001, 2003, and 2007

- International Workshop on Worst-Case Execution Time Analysis, 2006, 2008–2010, 2012–2016, 2018–2024

- ISoLA Workshop on Leveraging Applications of Formal Methods, Verification and Validation, 2007

- Swedish Workshop on Multi-Core Computing, 2008–2015

- Workshop on High-Level Programming for Heterogeneous and Hierarchical Parallel Systems (HLPGPU 2014), 2014

- Static Analysis Symposium (SAS), 2015

- Fourth International workshop on Foundational and Practical Aspects of Resource Analysis (FOPARA), 2015, 2017

- Workshop on Resource-Aware Computing (RAC), 2016

- International Workshop on Testing Extra-Functional Properties and Quality Ch aracteristics of Software Systems (ITEQS), 2017–2024

Other academic tasks:

- On the local organization committee of the CONCUR'94 international conference on concurrency, Uppsala, Aug. 1994

- On the local organization committee of the Euro-Par'95 international conference on parallel processing, Stockholm, Aug. 1995

- Chairman for Erlang User Conference 2001

- Local Arrangements Co-Chair for 8th ACM SIGPLAN International Conference on Functional Programming (ICFP 2003)

- Co-organizer of the Special Track on Introduction of Multi-Core Systems in Automotive Applications, 3rd International Symposium on Leveraging Applications of Formal Methods, Verification and Validation (ISoLA 2008)

- Chair for 10'th International Workshop on Worst-Case Execution Time Analysis, 2010

- Co-organizer of the Special Track on Resource and Timing Analysis, 4th International Symposium on Leveraging Applications of Formal Methods, Verification and Validation (ISoLA 2010)

- Co-organizer of the Special Track "Timing Constraints: Theory Meets Practice", 5th International Symposium on Leveraging Applications of Formal Methods, Verification and Validation (ISoLA 2012)

- Member of the steering group for International Workshop on Worst-Case Execution Time Analysis, 2014-2024

- Co-organizer of the Special Track "Formal Methods in Industrial Practice - bridging the gap", 8th International Symposium on Leveraging Applications of Formal Methods, Verification and Validation (ISoLA 2018)

- Member of IFIP WG 10.2 on Embedded Systems

- Member of HiPEAC Network of Excellence

- Core partner of the Networks of Excellence ARTIST2 (2004-2008), and ArtistDesign (2008-2011)

Field editor (data parallelism) for *Discrete Mathematics and Computer Science* (electronically published by Int. Thomson Publ.)

Reviewing for scientific journals: ACM Transactions on Embedded Computing Systems, BIT, IEEE Transactions on Computers, IEEE Transactions on Industrial Informatics, IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Very Large Scale Integration Systems, Information Processing Letters, Informs Journal on Computing, International Journal of Parallel Programming, Formal Aspects of Computing, Parallel Processing Letters, Distributed Computing, Computational Intelligence, IEEE Computer, Journal of VLSI Signal Processing, Journal of Functional Programming, Journal of Supercomputing, Journal of Systems Architecture, Journal of Systems and Software, Parallel Algorithms and Applications, Real-Time Systems, Science of Computer Programming, Software: Practice and Experience, Theoretical Computer Science, Leibniz Transactions on Embedded Systems, International Journal on Software Tools for Technology Transfer, Journal of Software Testing, Verification and Reliability, Addison-Wesley (textbook manuscript),
Reviewing of research project applications: Research Council of Norway, Science Foundation Ireland, National University of Singapore, Austrian Science Fund , Agence Nationale de la Recherche (France).

Opponent at Ph. D. defenses:

- Jonas Vasell, Dept. of Computer Engineering, Chalmers University of Technology, Sept. 1992.

- Tobias Ritzau, IDA, Linköping University, June 2003.

"Sakkunnig" (external expert evaluator) for:

- Two senior lecturerships in Computer Science at Mid Sweden University, Sundsvall, 1995

- Senior lecturership in Computer Systems at Uppsala University, 1996

- Senior lecturership in Computer Science at Chalmers Institute of Technology, 1996

- Senior lecturership in Computer Systems at Uppsala University, 1997

- Three senior lecturerships in Computer Systems at Mid Sweden University, Sundsvall, 1998

- Senior lecturership in Computer Communication Networks at Mid Sweden University, Sundsvall, 1998

- Habilitation a Diriger des Recherches (roughly docentur) of Jean-Louis Giavitto, Université Paris-Sud, 1999

- Senior lecturership (Førsteamanuensis) in Informatics (programming theory) at University of Bergen, 1999

- Professorship (befordringsprofessur) in Computer Systems for Lars Asplund, Uppsala University, 1999

- Two senior lecturerships in Computer Science at Uppsala University, 2000

- Senior lecturerships in Computer Science and Computer Engineering at Halmstad University, 2000

- Senior lecturership in Computer Engineering at Mid Sweden University, Sundsvall, 2000

- Research Assistant (forskarassistent) in Computer Systems at Uppsala University, 2001

- Senior lecturership in Computer Communication at Mid Sweden University, Sundsvall, 2002

- Research Assistant (forskarassistent) in Computer Science at Linköping University, 2002

- Senior lecturership in Computer Science at Lund University, 2003

- Senior lecturership in Computer Engineering at Chalmers Institute of Technology, 2008

- Senior lecturership in Computer Engineering at University West, 2009

- Senior lecturership (befordran) for Johan Montelius in Communication Systems, Royal Institute of Technology, 2010

- Habilitation (docentur) of Raimund Kirner, Vienna University of Technology, 2010

- Senior lecturership in Computer Science at Linköping University, 2010

- Professor chair in Computer Systems Engineering at Halmstad University, 2012

- Research Fellow in Science and Engineering at Linköping University, 2013

- Asisstant senior lecturership in Computer Systems Engineering at Halmstad University, 2014

- Docentur of Jonas Lundberg, Linnéaus University, 2015

- Senior lecturership (befordran) for Ahmed Rezine in Computer Science, Linköping Universié, 2015

- Senior lecturership in Software Construction, Royal Institute of Technology, 2015

- Senior lecturership in Dependable System Engineering, Halmstad University, 2019

Member of Ph. D. evaluation committees (betygskommitteer):

- Jean-François Collard, Computer Science, Ecole Normale Supérieure de Lyon, Jan. 1995

- Håkan Grahn, Dept. of Computer Engineering, Lund University, Dec. 1995

- Mikael Pettersson, Dept. of Computer and Information Science, Linköping University, Dec. 1995

- Toomas Plaks, Dept. of Computer Engineering, Chalmers Institute of Technology, Feb. 1997

- Johan Ringström, Dept. of Computer and Information Science, Linköping University, Dec. 1997

- Christer Berg, Dept. of Numerical Analysis and Computer Science, Royal Institute of Technology, Dec. 1997

- Magnus Carlsson, Dept. of Computing Science, Chalmers Institute of Technology, March 1998

- Henrik Nilsson, Dept. of Computer and Information Science, Linköping University, May 1998

- Pierangelo Dell'Acqua, Dept. of Computer Science, Uppsala University, Sep. 1998

- Mats Näslund, Dept. of Numerical Analysis and Computer Science, Royal Institute of Technology, Oct. 1998

- Mattias O'Nils, Dept. of Electronics, Royal Institute of Technology, June 1999

- Ashley Saulsbury, Dept. of Teleinformatics, Royal Institute of Technology, Dec. 1999

- Peeter Ellervee, Dept. of Electronics, Royal Institute of Technology, March 2000

- Lars Engebrektsen, Dept. of Numerical Analysis and Computer Science, Royal Institute of Technology, April 2000

- Mikael Sjödin, Dept. of Information Technology, Uppsala University, May 2000

- Jörgen Gustafsson, Dept. of Computing Science, Chalmers Institute of Technology, June 2001

- Lars-Åke Fredlund, Dept. of Teleinformatics, Royal Institute of Technology, Sep. 2001

- Tim Heyer, Dept. of Computer and Information Science, Linköping University, Dec. 2001

- Eriks Sneiders, DSV, Royal Institute of Technology/SU, Feb. 2002

- Magnus Broberg, Department of Software Engineering and Computer Science, Blekinge Institute of Technology, May 2002

- Thomas Lundquist, Dept. of Computer Engineering, Chalmers Institute of Technology, June 2002

- Håkan Forsberg, Dept. of Computer Engineering, Chalmers Institute of Technology, Sep. 2003

- Julien d'Orso, Dept. of Information Technology, Uppsala University, Nov. 2003

- Sven Eklund, Dept. of Computer Engineering, Chalmers Institute of Technology, June 2004

- Erik Lindskog, IMIT, Royal Institute of Technology, June 2005

- Vilhelm Dahllöf, Dept. of Computer and Information Science, Linköping University, June 2006

- Phuong Hoai Ha, Dept. of Computer Engineering, Chalmers Institute of Technology, June 2006

- Peter Aronsson, Dept. of Computer and Information Science, Linköping University, June 2006

- Daniel Karlsson, Dept. of Computer and Information Science, Linköping University, June 2006

- Minh Do, Dept. of Computer Engineering, Chalmers Institute of Technology, Chalmers, June 2007

- Thomas Gustafsson, Dept. of Computer and Information Science, Linköping University, Sept. 2007

- Johan Glimming, Dept. of Numerical Analysis and Computer Science, Royal Institute of Technology, Jan. 2008

- Rene Krenz-Bååth, IMIT, Royal Institute of Technology, Jan. 2008

Sep. 16, 2024

- Hans Svensson, Dept. of Computer Engineering, Chalmers Institute of Technology, April 2008

- Jakob Nordström, Dept. of Numerical Analysis and Computer Science, Royal Institute of Technology, May 2008

- Farshad Moradi, IMIT, Royal Institute of Technology, May 2008

- Lisa Kaati, Dept. of Information Technology, Uppsala University, Nov. 2008

- Jan Nyström, Dept. of Information Technology, Uppsala University, June 2009

- Mats Petter Wallander, Dept. of Computer Science, Lund University, June 2009

- Dennis Strein, Dept. of Mathematics and System Engineering, Växjö University, Dec. 2009

- Fredrik Kuivinen, Dept. of Computer and Information Science, Linköping University, Dec. 2009

- Adrian Prantl, Vienna University of Technology, June 2010 (external examiner)

- Lei Ju. National University of Singapore, Sept. 2010 (external examiner)

- Marcus Edvinsson, Dept. of Mathematics and System Engineering, Växjö University, Oct. 2010

- Martin Kero, Department of Computer Science and Electrical Engineering, Luleå University of Technology, Oct. 2010

- Daniel Cederman, Dept. of Computer Engineering, Chalmers Institute of Technology, March 2011

- Yan Wang, Örebro University, June 2011

- Farzad Kamrani, IMIT, Royal Institute of Technology, Dec. 2011

- Enrico Mezzetti, Univ. Bologna, Jan. 2012 (external reviewer)

- Feng Zhang, IMIT, Royal Institute of Technology, June 2012

- Muddassar Singhu, CSC, Royal Institute of Technology, April 2013

- Tobias Gutzmann, Linnéaus University, May 2013

- Nan Guan, Dept. of Information Technology, Uppsala University, Dec. 2013

- Jonas Lundberg, Linnéaus University, June 2014

- Andre Maroneze, Université de Rennes 1, June 2014

- Kasper Soe Luckow, Univ. Aalborg, Nov. 2014

- Hosein Attarzadeh, ICT, Royal Institute of Technology, Dec. 2014

- Jan Kleinsorge, Dortmund University of Technology, Oct. 2015 (external reviewer)

- Frederic Haziza, Dept. of Information Technology, Uppsala University, Nov. 2015

- Pan Xiaoyue, Dept. of Information Technology, Uppsala University, March 2016

- Valentin Touzeau, Univ. Grenoble Alpes, May 2016

- Kyriakos Georgiou, Univ. Bristol, April 2017 (external examiner)

- Jacob Lidman, Department of Computer Science and Engineering, Chalmers Institute of Technology, Dec. 2017

- Othmane Rezine, Dept. of Information Technology, Uppsala University, Jan. 2018

- Bekim Cilku, Vienna University of Technology, Oct. 2018 (external reviewer)

- Shady Issa, IST Lisbon/Royal Institute of Technology (double degree), Nov. 2018

- Jingna Zeng, IST Lisbon/Royal Institute of Technology (double degree), 2020

- Gautham Nayak Seetanadi, Lund University, Feb. 2021

- August Ernstsson, Linköping University, 2022

- Yuanbin Zhou, Linköping University, April 2022

- Emad Maroun, Vienna University of Technology, Sep. 2024 (external reviewer)

Leadership, boards, etc.

Head of PARADISlab, Dept. of Teleinformatics, Royal Institute of Technology, 1995–99

Deputy Head of Department (proprefekt), Dept. of Teleinformatics, Royal Institute of Technology, 1997–99

Member of the EIT Assessment Committee (Tjänsteförslagsnämnden EIT), Royal Institute of Technology, 1996–1999.

Head of Computer Science Lab, IDT, Mälardalen University, 1999, and 2003–2009.

Member of the steering group of Mälardalen Real-Time Research Centre, from 1999.

Member of the board of the VINNOVA Competence Center ASTEC (Advanced Software Technology) in Uppsala, 1999-2005.

Member of the board of the KK-foundation, 2000–2003.

Member of the steering board of the National Graduate School in Computer Science (CUGS), 2001–2008.

Member of the board of the VINNOVA Excellence Center CNS (Centre for Networked Systems) at SICS, 2006–2012.

Member of the advisory board of the ERASMUS project SUSTrainable, 2020–2023

Responsible for the Timing Analysis activity within the ARTIST2 and ArtistDesign EU Networks of Excellence, 2007–2011

Coordinator of the FP7 STREP ALL-TIMES (Integrating European Timing Analysis Technology), 2007–2010

Coordinator of the FP7 IAPP project APARTS (Advanced Program Analysis for Real-Time Systems), 2010–2014

Chair for the COST Action IC1202 TACLe (Timing Analysis on Code Level), 2012–2016

Leader of the national KKS SIDUS project TOCSYC (Testing of Critical System Characteristics), 2016–2018

Member of the Management Comittee for the COST Action CA9135 CERCIRAS (Connecting Education and Research Communities for an Innovative Resource Aware Society), 2020–2024

External Research Grants

1991-93: TFR 91-333 *High Level Synthesis and Programming of Parallel Systems*, 1608 kkr.

1994-97: TFR 94-109 *Theory for Data Parallelism and Functional Languages*, 1444 kkr.

1996-97 EC TMR (Training and Mobility) programme, contract no. ERBFMBICT950113 *Design and Implementation of Data-parallel Functional Languages* (grant to host Dr. Jean-François Collard for one year), 23.360 ECU.

1997-99 *Parallelization of Data Fields*, travel grant from Svenska institutet to cooperate with Prof. Christian Lengauer at Universität Passau, 57 kkr.

1998-00: TFR 97-722 *Advanced Code Generation for Parallel Computers*, 930 kkr.

1999-01: TFR 98-653 *Semantics and Proofs for Programming Languages*, "ramanslag" with J. Parrow (main applicant) and M. Dam, 3660 kkr.

2000-02: TFR 221-99-353 *High-Level Languages for Hard Real-Time Systems*, 1110 kkr.

2000: ASTEC (VINNOVA-supported competence center) *Worst-Case Execution Time Analysis* (with Hans Hansson), 200 kkr

2001: Volvo Research Foundation *Domain-dependent Aspects of Learning Quality in Evolutionary Algorithms* (with Jacek Malec), 350 kkr

2001-03: ASTEC *Worst-Case Execution Time Analysis* (with Jan Gustafsson), 3618 kkr.

2002-04: VR *Worst-Case Execution Time Analysis* (with Jan Gustafsson), 1755 kkr.

2002: KK-foundation *Dimensional Analysis for Modeling Languages*, 473 kkr.

2003: Enea Embedded Systems AB, software donation (source code for OSE real-time operating system), estimated value 550 kkr.

2004: Software donations from AbsInt Angewandte Informatik GmbH (estimated value 1310 kkr), Tidorum Oy (estimated value 90 kkr), and IAR Systems AB (estimated value 316 kkr).

2004-08: Ericsson AB, and ASTEC *Parallel Execution of PLEX Programs*, Ericsson 3540 kkr, ASTEC 499 kkr.

2004-07: EU FP6 Network of Excellence *ARTIST2*, Core Partner in the Compilers and Timing Analysis cluster, 480 kkr.

2006-10 SSF PROGRESS Centre for Predictable Embedded Software Systems (co-applicant, main applicant H. Hansson), total of 49 Mkr.

2006-08: KK-foundation *Execution Time Analysis of Time-Critical Embedded Software*, 1936 kkr.

2008-09: EU FP7 STREP 215068 *Integrating European Timing Analysis Technology* (ALL-TIMES), coordinator, 1.6 MEuro total, 414 kEuro to own group

2008-2011: EU FP7 Network of Excellence *ArtistDesign*, Core Partner in the SW Synthesis, Code Generation and Timing Analysis cluster, 89 kEuro.

2009-2011: VR *Worst-Case Execution Time Analysis of Parallel Systems* (with Andreas Ermedahl, Jan Gustafsson), 2040 kkr.

2010-12: ITEA2 (Swedish funder: VINNOVA) *TIMMO-2-USE*, 1144 kkr.

2011-2014: VR "ramanslag" *Contesse* (co-applicant, main applicant I. Crnkovic), total of 8.4 Mkr.

2011-14: EU FP7 IAPP *Advanced Program Analysis for Real-Time Systems* (APARTS), coordinator, 193 kEuro total, 132 kEuro to own group.

2011-16: SSF project Synopsis (co-applicant, main applicant H. Hansson), total of 19 Mkr.

2012-17: SSF project RALF3 (co-applicant, main applicant I. Crnkovic), total of 29 Mkr.

2012-14: VINNOVA FFI project *AUTOSAR for Multiple Kernels in Vehicle and Automation Industry* (co-applicant, with T. Nolte), total of 1.6 Mkr.

2013-2018: KKS SIDUS project TOCSYC (co-applicant, main applicant P. Pettersson), total of 27 Mkr

2015-2018: KK-foundation *Static Program Analysis for Complex Embedded Systems*, 4.3 Mkr.

2015-2018: ITEA3 (Swedish funder: VINNOVA) *ASSUME*, 1299 kkr.

2017-2020: ITEA3 (Swedish funder: VINNOVA) *Testomat*, 3941 kkr.

2018-2022: KKS Synergy project HERO (co-applicant and responsible for one out of three subprojects, main applicant M. Sjödin), total of 14.4 Mkr

Sep. 16, 2024

External Educational Grants

2000: *Authorized Academic Java Campus*, collaboration with Sun Microsystems regarding Java education. The contract included a donation with a four-processor E450 Sun Enterprise Server, four SunRay 1 thin clients, two Ultra-10 Workstations, and heavily discounted software and teaching material. Estimated value in range 400-500 kkr.

2003: KK-foundation *Nätverk för kunskapsutveckling inom Informatikens vetenskapsteori* (with Gordana Dodig-Crnkovic), 50 kkr

2004: KK-foundation *Nationell kurs i informationsvetenskapernas filosofi* (with Gordana Dodig-Crnkovic), 182 kkr

Supervision

I have supervised the following graduate students to Ph. D. exam, as main supervisor:

- Karl-Filip Faxén, Royal Institute of Technology (Ph. D. June 1997, thesis title *Analysing, Transforming and Compiling Lazy Functional Programs*, Licentiate Jan. 1996, thesis title *Flow Inference, Code Generation, and Garbage Collection for Lazy Functional Languages*).

- Xavier Vera, Mälardalen University (Ph. D. Jan. 2004, thesis title *Cache and Compiler Interaction*, Licentiate March 2002, thesis title *Towards a Static Cache Analysis for Whole Program Analysis*).

- Peter Drakenberg, Royal Institute of Technology (Ph. D. Sep. 2004, thesis title *Computational Structures and Language Design*, Licentiate Feb. 2001, thesis title *Hierarchical Array Tiling*).

- Baran Cürüklü, Mälardalen University (Ph. D. Apr. 2005, thesis title *A Canonical Model of the Primary Visual Cortex*, Licentiate Dec. 2003, thesis title *Layout and Function of the Intracortical Connections within the Primary Visual Cortex*).

- Gordana Dodig-Črnkovic, Mälardalen University (Ph. D. Sep. 2006, thesis title *Investigations into Information Semantics and Ethics of Computing*).

- Jan Carlson, Mälardalen University (Ph. D. June 2007, thesis title *An Intuitive and Resource-Efficient Event Detection Algebra*, Licentiate June 2004, thesis title *An Intuitive and Resource-Efficient Event Detection Algebra*).

- Thomas Larsson, Mälardalen University (Ph. D. Jan. 2009, thesis title *Adaptive Bounding Volume Hierarchies for Efficient Collision Queries*, Licentiate Sep. 2003, thesis title *Adaptive Algorithms for Collision Detection and Ray Tracing of Deformable Meshes*).

- Markus Bohlin, Mälardalen University (Ph. D. Dec. 2009, thesis title *A Study of Combinatorial Optimization Problems in Industrial Computer Systems*, Licentiate April 2004, thesis title *Design and Implementation of a Graph-Based Constraint Model for Local Search*).

- Stefan Bygde, Mälardalen University (Ph. D. June 2013, thesis title *Parametric WCET Anakysis*, Licentiate Mar. 2010, thesis title *Static WCET Analysis Based on Abstract Interpretation and Counting of Elements*).

- Andreas Gustavsson, Mälardalen University (Ph. D. May 2016, thesis title *Static Execution Time Analysis of Parallel Systems*, Licentiate Dec. 2014, thesis title *Static Timing Analysis of Parallel Systems Using Abstract Execution*).

- Marcus Jägemar, Mälardalen University (Ph. D. Oct. 2018, thesis title *Utilizing Hardware Monitoring to Improve the Quality of Service and Performance of Industrial Systems*, Licentiate June 2016, thesis title *Utilizing Hardware Monitoring to Improve the Performance of Industrial Systems*).

- Linus Källberg, Mälardalen University (Ph. D. Jan. 2020, thesis title *Minimum Enclosing Balls and Ellipsoids in General Dimensions*),

Sep. 16, 2024

I have supervised the following graduate students to Licentiate exam (not counting students with later Ph. D. exams), as main supervisor:

- Claes Thornberg, Royal Institute of Technology (Licentiate April 2000, thesis title *Towards Polymorphic Type Inference with Elemental Function Overloading*).

- Waldemar Kocjan, Mälardalen University (Licentiate Dec. 2005, thesis title *Symmetric Cardinality Constraints*).

- Johan Lindhult, Mälardalen University (Licentiate May 2008, thesis title *Operational Semantics for PLEX: A Basis for Safe Parallelization*).

- Husni Khanfar,, Mälardalen University (Licentiate Nov. 2019, thesis title *Demand-Driven Static Backward Program Slicing Based on Predicated Code Block Graphs*).

I have supervised the following graduate students to Licentiate or Ph. D. exam, as assistant supervisor:

Csaba Andras Moritz (Computer Systems, Royal Institute of Technology, main advisor Prof. Lars-Erik Thorelli, Ph. D. Sep. 1998, thesis title *Cost Modeling and Analysis: Towards Optimal Resource Utilization in Parallel Computer Systems*), Per Hammarlund (Computer Science, Royal Institute of Technology, main advisor Prof. J.-O. Eklundh), Ph. D. June 1996, thesis title *Techniques for Efficient Parallel Scientific Computing*, Olof Johansson (Computer Science Umeå University, main advisor Prof. P. Eklund, Lic. April 1995, thesis title *A Functional Language for Microcomputers*), Christina Björkman (Computer Science Education, University College Karlskrona-Ronneby, main advisor Prof. Lena Trojer, Ph. D. May 2005, thesis title *Crossing Boundaries, Focusing Foundations, Trying Translations: Feminist Technoscience Strategies in Computer Science*), Filip Sebek (Computer Science, Mälardalen University, main advisor Prof. Lennart Lindh, Lic. Oct. 2002, thesis title *Instruction Cache Memory Issues in Real-Time Systems*), Frank Lüders (Computer Science, Mälardalen University, main advisor Prof. Ivica Crnkovic, Ph. D. Dec. 2006, thesis title *An Evolutionary Approach to Software Components Embedded Real-Time Systems*), Mikael Sollenborn (Computer Science, Mälardalen University, main advisor Assoc. Prof. Peter Funk, Lic. Oct. 2004, thesis title *A Clustering and Case-Based Reasoning for User Stereotypes*), Markus Nilsson (Computer Science, Mälardalen University, main advisor Assoc. Prof. Peter Funk, Ph. D. Aug. 2005, thesis title *Retrieve and Classify*), Johan Kraft (Computer Science, Mälardalen University, main advisor Prof. Christer Norström, Lic. June 2005, thesis title *Modeling the Temporal Behavior of Complex Embedded Systems – A Reverse Engineering Approach*, Ph. D. Aug. 2010, thesis title *Enabling Timing Analysis of Complex Embedded Software Systems*), Rikard Lindell, (Computer Science, Mälardalen University, main advisor Assoc. Prof. Jan Gustafsson, Ph. D. June 2009, thesis title *"Jag älskar att allt ligger överst": en designstudie av ytinteraktion för kollaborativa multimedia-framträdanden*), Hamid Faragardi (Computer Science, Mälardalen University, main advisor Prof. Thomas Nolte, Ph. D. March 2018, thesis title *Optimizing Timing-Critical Cloud Resources in a Smart Factory*), Filip Markovic (Computer Science, Mälardalen University, main advisor Prof. Jan Carlson, Ph. D. June. 2020, thesis title *Preemption-Delay Aware Schedulability Analysis of Real-Time Systems*), Taufik Sitompul (Computer Science, Mälardalen University, main advisor Docent Rikard Lindell, Ph. D. Jan. 2022, thesis title *Information Visualization Using Transparent Displays in Mobile Cranes and Excavators*) Mahshid Helali Moghadam (Computer Science, Mälardalen University, main advisor Prof. Markus Bohlin, Ph. D. May 2022, thesis title *Intelligence-Driven Software Performance Assurance*) Mohammad Riazati (Computer Science, Mälardalen University, main advisor Prof. Masoud Daneshtalab, Ph. D. Dec. 2023, thesis title *DeepKit: a Multistage Exploration Framework for Hardware Implementation of Deep Learning*).

I have supervised, or examined, a large number of M. Sc. and B. Sc. theses on various topics in Computer Engineering and Computer Science.

Awards

Best paper award at WCET'07 (7th International Workshop on Worst-Case Execution Time Analysis)

Best paper award at RTCSA'09 (16th International Conference on Real-Time Computing Systems and Applications)

Sep. 16, 2024

Best paper award at CRTS'11 (4th Workshop on Compositional Theory and Technology for Real-Time Embedded Systems)

Journal Publications

1 B. Lisper. Synthesis and equivalence of concurrent systems. *Theoret. Comput. Sci.*, 58:183–199, 1988. Short version in Proc. 13th International Colloquium on Automata, Languages and Programming, pages 226–235, Rennes, France, July 1986.

2 B. Lisper. The Interactive Space-Time Scheduler. *Microprocessing and Microprogramming*, 30(1–5):109–116, Aug. 1990.

3 B. Lisper. Synthesis of time-optimal systolic arrays with cells with inner structure. *J. Parallel Distrib. Comput.*, 10(2):182–187, Oct. 1990.

4 B. Lisper. Computing transitive closure on systolic arrays of fixed size. *Distrib. Comput.*, 5(3):133–144, Dec. 1991.

5 B. Lisper. Total unfolding: Theory and applications. *J. Functional Programming*, 4(4):479–498, Oct. 1994.

6 B. Lisper. Preconditioning index set transformations for time-optimal affine scheduling. *Algorithmica*, 15:193–203, 1996. Preliminary version in *Proc. 2nd Ann. Symp. on Parallel Algorithms and Architectures*, pages 360–366, Crete, July 1990.

7 B. Lisper. Computing in unpredictable environments: Semantics, reduction strategies, and program transformations. *Theoret. Comput. Sci.*, 190(1):61–85, Jan. 1998. Short version in *Proc. Colloquium on Trees in Algebra and Programming*, pp. 165–179, April 1996.

8 B. Lisper. Infinite unfolding and transformations of nondeterministic programs. *Fundamenta Informaticae*, 66(4):415–439, Apr. 2005.

9 J. Gustafsson, B. Lisper, P. Puschner, and R. Kirner. Code analysis for temporal predictability. *Real-Time Systems*, 32(3):253–277, Mar. 2006.

10 X. Vera, B. Lisper, and J. Xue. Data cache locking for tight timing calculations. *ACM Trans. on Embedded Computing Sys.*, 7(1):1–38, Dec. 2007.

11 J. Carlson and B. Lisper. A resource-efficient event algebra. *Science of Computer Programming*, 75(12):1215–1234, Dec. 2010.

12 S. Bygde, A. Ermedahl, and B. Lisper. An efficient algorithm for parametric WCET calculation. *Journal of Systems Architecture*, 57:614–624, 2011.

13 B. Lisper. The ALL-TIMES project: introduction and overview. *International Journal on Software Tools for Technology Transfer (STTT)*, 15(1):1–8, 2013.

14 B. Lisper, A. Ermedahl, D. Schreiner, P. Gliwa, and J. Knoop. Practical experiences of applying source-level WCET flow analysis to industrial code. *International Journal on Software Tools for Technology Transfer (STTT)*, 15(1):53–63, 2013.

15 N. Merriam and B. Lisper. Estimation of productivity increase for timing analysis tool chains. *International Journal on Software Tools for Technology Transfer (STTT)*, 15(1):65–84, 2013.

16 M. Jägemar, S. Eldh, A. Ermedahl, and B. Lisper. Automatic message compression with overload protection. *Journal of Systems and Software*, 111(1):1–28, Apr. 2016.

17 P. Altenbernd, J. Gustafsson, B. Lisper, and F. Stappert. Early execution time-estimation through automatically generated timing models. *Real-Time Systems*, 52(6):731–760, Nov. 2016.

18 S. Bygde, B. Lisper, and N. Holsti. Improved precision in polyhedral analysis with wrapping. *Science of Computer Programming*, (133):74–87, Jan. 2017.

19 H. R. Faragardi, B. Lisper, K. Sandström, and T. Nolte. A resource efficient framework to run automotive embedded software on multi-core ECUs. *Journal of Systems and Software*, 135:1–61, Jan. 2018.

20 A. N. Masud, B. Lisper, and F. Ciccozzi. Automatic inference of task parallelism in task-graph-based actor models. *Journal of IEEE Access*, 99:1–27, Dec. 2018.

21 A. N. Masud and B. Lisper. Semantic correctness of dependence-based slicing for interprocedural, possibly nonterminating programs. *ACM Transactions on Programming Languages and Systems*, Jan. 2021.

22 M. H. Moghadam, M. Saadatmand, M. Borg, M. Bohlin, and B. Lisper. An autonomous performance testing framework using self-adaptive fuzzy reinforcement learning. *Software Quality Journal (Springer)*, 22(1), Mar. 2021.

23 F. Ciccozzi, L. Addazi, S. Abbaspour, B. Lisper, A. N. Masud, and S. Mubeen. A comprehensive exploration of languages for parallel computing. *ACM Computing Surveys*, 55(2):1–39, Jan. 2022.

24 M. H. Moghadam, M. Borg, M. Saadatmand, S. J. Mousavirad, M. Bohlin, and B. Lisper. Machine learning testing in an ADAS case study using simulation-integrated bio-inspired search-based testing. *Journal of Software: Evolution and Process*, June 2023.

Books, Book Contributions, Edited Works

25 B. Lisper. *Synthesis of Synchronous Systems by Static Scheduling in Space-Time*, volume 362 of *Lecture Notes in Comput. Sci.* Springer-Verlag, Heidelberg, May 1989. (Revised veersion of Ph. D. thesis).

26 B. Lisper and S. V. Rajopadhye. Affine permutations of matrices on mesh-connected arrays. In M. A. Bayoumi, editor, *Parallel Algorithms and Architectures for DSP Applications*, pages 129–158. Kluwer Academic Publishers, 1991.

27 B. Lisper. Data parallelism and functional programming. In G.-R. Perrin and A. Darte, editors, *The Data Parallel Programming Model: Foundations, HPF Realization, and Scientific Applications*, Vol. 1132 of *Lecture Notes in Comput. Sci.*, pages 220–251, Les Ménuires, France, Mar. 1996. Springer-Verlag.

28 B. Lisper. Trends in timing analysis. In *From Model-Driven Design to Resource Management for Distributed Embedded Systems*, volume 225/2006, pages 85–94, Braga, Portugal, Oct. 2006. IFIP International Federation for Information Processing, Springer Boston.

29 B. Lisper, editor. *Proc. 10th International Workshop on Worst-Case Execution Time Analysis (WCET'2010)*, Brussels, Belgium, July 2010. OCG.

30 B. Lisper, guest editor. *International Journal on Software Tools for Technology Transfer (STTT)*, volume 15 no. 1. Springer, 2013. Special Section on the ALL-TIMES project.

Reviewed Conference and Workshop Publications

31 B. Lisper. Single assignment semantics for imperative programs. In E. Odjik, M. Rem, and J.-C. Syre, editors, *Proc. PARLE'89 vol. II: Parallel Languages*, pages 321–334, Berlin, June 1989. Volume 366 of *Lecture Notes in Comput. Sci.*, Springer-Verlag.

32 S. V. Rajopadhye and B. Lisper. Matrix permutations on mesh-connected arrays. In *International Symposium on Circuits and Systems*, pages 2626–2629, New Orleans, LA, May 1990. IEEE CaS Society.

33 B. Lisper. Detecting static algorithms by partial evaluation. In *Proc. ACM SIGPLAN Symposium on Partial Evaluation and Semantics Based Program Manipulation*, pages 31–42, June 1991.

34 S. V. Rajopadhye and B. Lisper. Reasoning about permutations in regular arrays. In J. Staunstrup and R. Sharp, editors, *Proc. IFIP WG 10.5 & 10.2 2nd Workshop on Designing Correct Circuits*, IFIP Transactions A-5, pages 139–157, Amsterdam, Jan. 1992. ElsevierScience Publishers B.V. (North-Holland).

35 P. Hammarlund and B. Lisper. On the relation between functional and data parallel programming languages. In *Proc. Sixth Conference on Functional Programming Languages and Computer Architecture*, pages 210–222. ACM Press, June 1993.

36 B. Lisper and J.-F. Collard. Extent analysis of data fields. In B. Le Charlier, editor, *Proc. International Symposium on Static Analysis*, Vol. 864 of *Lecture Notes in Comput. Sci.*, pages 208–222, Namur, Sept. 1994. Springer-Verlag.

37 J. Holmerin and B. Lisper. Development of parallel algorithms in Data Field Haskell. In A. Bode, T. Ludwig, W. Karl, and R. Weismüller, editors, *Proc. Euro-Par 2000*, volume 1900 of *Lecture Notes in Comput. Sci.*, pages 762–766, Munich, Germany, Aug. 2000. Springer-Verlag.

38 B. Lisper and J. Holmerin. Development and verification of parallel algorithms in the data field model. In S. Gorlatch and C. Lengauer, editors, *Proc. 2nd Int. Workshop on Constructive Methods for Parallel Programming*, pages 115–130, Ponte de Lima, Portugal, July 2000.

39 J. Holmerin and B. Lisper. Data Field Haskell. In G. Hutton, editor, *Proc. Fourth Haskell Workshop*, pages 106–117, Montreal, Canada, Sept. 2000.

40 N. P. Drakenberg, F. Lundevall, and B. Lisper. An efficient semi-hierarchical array layout. In *Workshop on Interaction between Compilers and Computer Architectures*, Monterrey, Mexico, January 2001. Kluwer.

41 M. Carlsson, J. Engblom, A. Ermedahl, J. Lindblad, and B. Lisper. Worst-case execution time analysis of disable interrupt regions in a commercial real-time operating system. In P. Pettersson and W. Yi, editors, *Proc. Workshop on Real-Time Tools*, Copenhagen, Aug. 2002.

42 J. Gustafsson, B. Lisper, C. Sandberg, and N. Bermudo. A tool for automatic flow analysis of C-programs for WCET calculation. In B. Werner, editor, *Proc. Eight IEEE International Workshop on Object-Oriented Real-Time Dependable Systems*, Guadalajara, Jan. 2003. IEEE.

43 X. Vera, B. Lisper, and J. Xue. Data cache locking for higher program predictability. In *Proc. International Conference on Measurement and Modeling of Computer Systems (SIGMETRICS)*, pages 272–282, San Diego, CA, June 2003. ACM Press.

44 J. Carlson and B. Lisper. An interval-based algebra for restricted event detection. In *Proc. First International Workshop on Formal Modeling and Analysis of Timed Systems (FORMATS 2003)*, Marseille, Sept. 2003.

45 M. Sandberg, D. Persson, and B. Lisper. Automatic dimensional consistency checking for simulation specifications. In E. Dahlqvist, editor, *Proc. SIMS 2003*, Västerås, Sept. 2003.

46 J. Gustafsson, B. Lisper, P. Puschner, and R. Kirner. Input-dependency analysis for hard real-time software. In L. Bacellar and G. Fohler, editors, *Proc. Ninth IEEE International Workshop on Object-oriented Real-time Dependable Systems*, Capri Island, Oct. 2003. IEEE.

47 X. Vera, B. Lisper, and J. Xue. Data caches in multitasking hard real-time systems. In *Proc. International Real-Time Systems Symposium (RTSS)*, Cancun, MX, Dec. 2003. IEEE.

48 J. Carlson and B. Lisper. An event detection algebra for reactive systems. In *Proc. Fourth ACM International Conference on Embedded Software (EMSOFT'04)*, Pisa, Sep. 2004.

Sep. 16, 2024

49 D. Sandell, A. Ermedahl, J. Gustafsson, and B. Lisper. Static timing analysis of real-time operating system code. In *Proc. 1st International Symposium on Leveraging Applications of Formal Methods* (ISoLA-04), Paphos, Cyprus, Oct. 2004.

50 A. Ermedahl, J. Gustafsson and B. Lisper. Towards a flow analysis for embedded system C programs. In *Proc. 10th IEEE International Workshop on Object-oriented Real-time Dependable Systems (WORDS 2005)*, Sedona, USA, Feb. 2005.

51 A. Ermedahl, J. Gustafsson, and B. Lisper. Experiences from industrial WCET analysis case studies. In R. Wilhelm, editor, *Proc. Fifth International Workshop on Worst-Case Execution Time (WCET) Analysis*, pages 19–22, Palma de Mallorca, July 2005.

52 S. Byhlin, A. Ermedahl, J. Gustafsson, and B. Lisper. Applying static WCET analysis to automotive communication software. In *Proc. 17th Euromicro Conference of Real-Time Systems (ECRTS'05)*, Palma de Mallorca, July 2005.

53 J. Erikson and B. Lisper. Two formal semantics for PLEX. In *Proc. 3nd APPSEM II Workshop*, Frauenchiemsee, Germany, Sept. 2005.

54 C. Sandberg, A. Ermedahl, J. Gustafsson, and B. Lisper. Faster WCET flow analysis by program slicing. In *Proc. ACM SIGPLAN Conference on Languages, Compilers and Tools for Embedded Systems (LCTES'06)*, pages 103–112, June 2006.

55 D. Sehlberg, A. Ermedahl, J. Gustafsson, B. Lisper, and S. Wiegratz. Static WCET analysis of real-time task-oriented code in vehicle control systems. In *Proc. 2nd International Symposium on Leveraging Applications of Formal Methods (ISOLA'06)*, Nov. 2006.

56 J. Gustafsson, A. Ermedahl, C. Sandberg, and B. Lisper. Automatic derivation of loop bounds and infeasible paths for WCET analysis using abstract execution. In *Proc. 27th IEEE Real-Time Systems Symposium (RTSS'06)*, Dec. 2006.

57 A. Ermedahl, C. Sandberg, J. Gustafsson, S. Bygde, and B. Lisper. Loop bound analysis based on a combination of program slicing, abstract interpretation, and invariant analysis. In C. Rochange, editor, *Proc. 7th International Workshop on Worst-Case Execution Time Analysis, (WCET'2007)*, Pisa, Italy, July 2007.

58 M. Santos and B. Lisper. Evaluation of an additive WCET model for software components. In *Proc. 10th Brazilian Workshop on Real-Time and Embedded Systems (WTR'08)*, Rio de Janeiro, Brazil, May 2008.

59 S. Bygde and B. Lisper. Towards an automatic parametric WCET analysis. In R. Kirner, editor, *Proc. 8th International Workshop on Worst-Case Execution Time Analysis (WCET'2008)*, pages 9–17, Prague, Czech Republic, July 2008.

60 D. Barkah, A. Ermedahl, J. Gustafsson, B. Lisper, and C. Sandberg. Evaluation of automatic flow analysis for WCET calculation on industrial real-time system code. In *Proc. 20th Euromicro Conference of Real-Time Systems, (ECRTS'08)*, July 2008.

61 S. Altmeyer, C. Hümbert, B. Lisper, and R. Wilhelm. Parametric timing analysis for complex architectures. In *Proc. 14th IEEE International Conference on Embedded and Real-Time Computing Systems and Applications (RTCSA 08)*, Kaohsiung, Taiwan, Aug. 2008.

62 J. Gustafsson, B. Lisper, M. Schordan, C. Ferdinand, P. Gliwa, M. Jersak, and G. Bernat. ALL-TIMES - a European project on integrating timing technology. In *Proc. 3rd International Symposium on Leveraging Applications of Formal Methods (ISOLA'08)*, volume 17 of *CCIS*, pages 445–459, Porto Sani, Greece, Oct. 2008.

63 B. Lisper and M. Santos. Model identification for WCET analysis. In *Proc. 15th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS'09)*, pages 55–64, San Francisco, CA, Apr. 2009.

64 J. Gustafsson, A. Ermedahl, B. Lisper, C. Sandberg, and L. Källberg. ALF – a language for WCET flow analysis. In *Proc. 9th International Workshop on Worst-Case Execution Time Analysis (WCET'2009)*, pages 1–11, Dublin, Ireland, June 2009.

65 S. Bygde, A. Ermedahl, and B. Lisper. An efficient algorithm for parametric WCET calculation. In P. Kellenberger, editor, *Proc. 16th International Conference on Real-Time Computing Systems and Applications (RTCSA'09)*, pages 13–21, Beijing, China, Aug. 2009.

66 J. Gustafsson, A. Betts, A. Ermedahl, and B. Lisper. The Mälardalen WCET benchmarks – past, present and future. In B. Lisper, editor, *Proc. 10th International Workshop on Worst-Case Execution Time Analysis (WCET'2010)*, pages 137–147, Brussels, Belgium, July 2010. OCG.

67 A. Gustavsson, A. Ermedahl, B. Lisper, and P. Pettersson. Towards WCET analysis of multicore architectures using UPPAAL. In B. Lisper, editor, *Proc. 10th International Workshop on Worst-Case Execution Time Analysis (WCET'2010)*, pages 103–113, Brussels, Belgium, July 2010. OCG.

68 B. Lisper, A. Ermedahl, D. Schreiner, J. Knoop, and P. Gliwa. Practical experiences of applying source-level WCET flow analysis on industrial code. In T. Margaria and B. Steffen, editors, *Proc. 4th International Symposium on Leveraging Applications of Formal Methods (ISOLA'10)*, volume 6416 of *Lecture Notes in Comput. Sci.*, pages 449–463, Heraclion, Crete, Oct. 2010. Springer-Verlag.

69 A. Ermedahl, J. Gustafsson, and B. Lisper. Deriving WCET bounds by abstract execution. In C. Healy, editor, *Proc. 11th International Workshop on Worst-Case Execution Time Analysis (WCET'2011)*, Porto, Portugal, July 2011.

70 R. von Hanxleden, N. Holsti, B. Lisper, E. Ploedereder, R. Wilhelm, A. Bonenfant, H. Casse, S. Bünte, W. Fellger, S. Gepperth, J. Gustafsson, B. Huber, N. M. Islam, D. Kästner, R. Kirner, L. Kovacs, F. Krause, M. de Michiel, M. C. Olesen, A. Prantl, W. Puffitsch, C. Rochange, M. Schoeberl, S. Wegener, M. Zolda, and J. Zwirchmayr. WCET tool challenge 2011: Report. In C. Healy, editor, *Proc. 11th International Workshop on Worst-Case Execution Time Analysis (WCET'2011)*, Porto, Portugal, July 2011.

71 S. Bygde, B. Lisper, and N. Holsti. Fully bounded polyhedral analysis of integers with wrapping. In D. Massé and L. Mauborgne, editors, *Proc. Int. Workshop on Numerical and Symbolic Abstract Domains (NSAD 2011)*, volume 288 of *Electronic Notes in Theoretical Computer Science*, pages 3–13, Venice, Italy, Sept. 2011. Elsevier.

72 P. Altenbernd, A. Ermedahl, B. Lisper, and J. Gustafsson. Automatic generation of timing models for timing analysis of high-level code. In S. Faucou, editor, *Proc. 19th International Conference on Real-Time and Network Systems (RTNS2011)*, Nantes, France, Sept. 2011.

73 B. Lisper. Static program analysis for real-time and embedded systems. In A. Vajda, editor, *Proc. First International Software Technology Exchange Workshop 2011 (STEW 2011)*, Kista, Sweden, Nov. 2011.

74 M. Santos, B. Lisper, G. Lima, and V. Lima. Sequential composition of execution time distributions by convolution. In R. Davis and L. T. X. Phan, editors, *Proc. 4th Workshop on Compositional Theory and Technology for Real-Time Embedded Systems (CRTS 2011)*, pages 30–37, Vienna, Austria, Nov. 2011.

75 A. Gustavsson, J. Gustafsson, and B. Lisper. Toward static timing analysis of parallel software. In T. Vardanega, editor, *Proc. 12th International Workshop on Worst-Case Execution Time Analysis (WCET'2012)*, volume 23 of *OpenAccess Series in Informatics (OASIcs)*, pages 38–47, July 2012.

76 B. Lisper. Towards parallel programming models for predictability. In T. Vardanega, editor, *Proc. 12th International Workshop on Worst-Case Execution Time Analysis (WCET'2012)*, volume 23 of *OpenAccess Series in Informatics (OASIcs)*, pages 48–58, July 2012.

77 M. Jägemar, S. Eldh, A. Ermedahl, and B. Lisper. Towards feedback-based generation of hardware characteristics. In *Proc. 7th International Workshop on Feedback Computing*, San José, California, Sept. 2012.

78 B. Lisper and J. Nordlander. A simple and flexible timing constraint logic. In T. Margaria and B. Steffen, editors, *Proc. 5th International Symposium on Leveraging Applications of Formal Methods (ISOLA'12)*, Lecture Notes in Comput. Sci., Heraclion, Crete, Oct. 2012. Springer-Verlag.

79 H. R. Faragardi, B. Lisper, and T. Nolte. Towards a communication-efficient mapping of AUTOSAR runnables on multi-cores. In *Proc. 18th IEEE International Conference on Emerging Technologies & Factory Automation*, Sept. 2013.

80 A. Gustavsson, J. Gustafsson, and B. Lisper. Timing analysis of parallel software using abstract execution. In K. L. McMillan and X. Rival, editors, *Proc. 15th International Conference on Verification, Model Checking, and Abstract Interpretation (VMCAI'14)*, volume 8318 of *Lecture Notes in Computer Science*, pages 79–97, San Diego, CA, Jan. 2014. Springer.

81 H. R. Faragardi, K. Sandström, B. Lisper, and T. Nolte. Communication-aware scheduling of AUTOSAR runnables on multi-core systems. In *Proc. Int. Workshop on Design Space Exploration of Cyber-physical Systems*, Apr. 2014.

82 B. Lisper. Principles for value annotation languages. In H. Falk, editor, *Proc. 14th International Workshop on Worst-Case Execution Time Analysis (WCET'2014)*, volume 39 of *OpenAccess Series in Informatics (OASIcs)*, pages 1–10, Dagstuhl, Germany, July 2014. Schloss Dagstuhl–Leibniz-Zentrum für Informatik.

83 M. Jägemar, S. Eldh, A. Ermedahl, and B. Lisper. Adaptive online feedback controlled message compression. In *Proc. 38th Annual International Computers, Software & Applications Conference (COMPSAC'14)*, July 2014.

84 A communication-aware solution framework for mapping AUTOSAR runnables on multi-core systems. In *Proc. 19th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA'14)*, Sept. 2014. (With H. R. Faragardi, K. Sandström, and T. Nolte.)

85 H. R. Faragardi, K. Sandström, B. Lisper, and T. Nolte. An efficient scheduling of AUTOSAR runnables to minimize communication cost in multi-core systems. In *Proc. Seventh International Symposium on Telecommunications*. IEEE, Sept. 2014.

86 B. Lisper. SWEET – a tool for WCET flow analysis (extended abstract). In T. Margaria and B. Steffen, editors, *Proc. 6th International Symposium on Leveraging Applications of Formal Methods (ISOLA'14)*, volume 8803 of *Lecture Notes in Computer Science*, pages 482–485, Corfu, Crete, Oct. 2014. Springer-Verlag.

87 B. Lisper, M. A. N. Masud, and H. Khanfar. Static backward demand-driven slicing. In *Proc. ACM SIGPLAN-SIGACT Symposium on Partial Evaluation and Program Manipulation (PEPM'15)*, pages 115–126. ACM, Jan. 2015.

88 H. Khanfar, B. Lisper, and M. A. N. Masud. Static backward program slicing for safety critical systems. In J. A. de la Puente and T. Vardanega, editors, *Proc. 20th International Conference on Reliable Software Technologies – Ada-Europe 2015*, volume 9111 of *Lecture Notes in Computer Science*, pages 9111–50–9111–65, Madrid, Spain, June 2015. Springer.

89 S. Altmeyer, B. Lisper, C. Maiza, J. Reineke, and C. Rochange. WCET and mixed-criticality: What does confidence in WCET estimations depend upon? In F. J. Cazorla, editor, *Proc. 15th International Workshop on Worst-Case Execution Time Analysis (WCET 2015)*, volume 47 of *OpenAccess Series in Informatics (OASIcs)*, pages 65–74, Dagstuhl, Germany, 2015. Schloss Dagstuhl–Leibniz-Zentrum fuer Informatik.

90 N. Holsti, J. Gustafsson, L. Källberg, and B. Lisper. Analysing switch-case code with abstract execution. In F. J. Cazorla, editor, *Proc. 15th International Workshop on Worst-Case Execution Time Analysis (WCET 2015)*, volume 47 of *OpenAccess Series in Informatics (OASIcs)*, pages 85–94, Dagstuhl, Germany, 2015. Schloss Dagstuhl–Leibniz-Zentrum fuer Informatik.

91 H. Khanfar and d B. Lisper. Enhanced PCB based slicing. In *Fifth International Valentin Turchin Workshop on Metacomputation*, June 2016.

92 H. Falk, S. Altmeyer, P. Hellinckx, B. Lisper, W. Puffitsch, C. Rochange, M. Schoeberl, R. B. Sørensen, P. Wägemann, and S. Wegener. TACLeBench: A benchmark collection to support worst-case execution time research. In M. Schoeberl, editor, *Proc. 16th International Workshop on Worst-Case Execution Time Analysis (WCET'2016)*, volume 55 of *OpenAccess Series in Informatics (OASIcs)*, pages 2:1–2:10, Dagstuhl, Germany, July 2016. Schloss Dagstuhl–Leibniz-Zentrum fuer Informatik.

93 B. Lisper, B. Lindström, P. Potena, M. Saadatmand, and M. Bohlin. Targeted mutation: Efficient mutation analysis for testing non-functional properties. In *Proc. IICST workshop on Testing Extra-Functional Properties and Quality Characteristics of Software Systems*. IEEE, Mar. 2017.

94 B. Lisper. Verifying event-based timing constraints by translation into presburger formulae. In L. Petrucci, C. Seceleanu, and A. Cavalcanti, editors, *Proc. Joint 22nd International Workshop on Formal Methods for Industrial Critical Systems and 17th International Workshop on Automated Verification of Critical Systems (FMICS-AVoCS'17)*, pages 19–33, Torino, Sept. 2017. Springer International Publishing.

95 M. H. Moghadam, M. Saadatmand, M. Borg, M. Bohlin, and B. Lisper. Learning-based self-adaptive assurance of timing properties in a real-time embedded system. In *Proc. ICST Workshop on Testing Extra-Functional Properties and Quality Characteristics of Software Systems*, Apr. 2018.

96 M. H. Moghadam, M. Saadatmand, M. Borg, M. Bohlin, and B. Lisper. Learning-based response time analysis in real-time embedded systems: A simulation-based approach. In *Proc. 1st International Workshop on Software Qualities and their Dependencies, located at the International Conference of Software Engineering (ICSE) 2018*, May 2018.

97 M. H. Moghadam, M. Saadatmand, M. Borg, M. Bohlin, and B. Lisper. Adaptive runtime response time control in PLC-based real-time systems using reinforcement learning. In *Proc. 13th International Symposium on Software Engineering for Adaptive and Self-Managing Systems*, May 2018.

98 F. Markovic, J. Carlson, A. Thekkilakattil, R. Dobrin, and B. Lisper. Probabilistic response time analysis for fixed preemption point selection. In *Proc. 13th International Symposium on Industrial Embedded Systems*, June 2018.

99 M. Jägemar, S. Eldh, B. Lisper, M. Behnam, and A. Ermedahl. Enforcing quality of service through hardware resource aware process scheduling. In *Proc. International Conference on Emerging Technologies and Factory Automation*, Sept. 2018.

100 J. Malm, F. Ciccozzi, J. Gustafsson, B. Lisper, and J. Skoog. Static flow analysis of the action language for foundational UML. In *Proc. International Conference on Emerging Technologies and Factory Automation*, Oct. 2018.

101 M. H. Moghadam, M. Saadatmand, M. Borg, M. Bohlin, and B. Lisper. Machine learning to guide performance testing: An autonomous test framework. In *Proc. ICST Workshop on Testing Extra-Functional Properties and Quality Characteristics of Software Systems*, Apr. 2019.

102 L. Addazi, F. Ciccozzi, and B. Lisper. Executable modelling for highly parallel accelerators. In *Workshop on Modelling Language Engineering and Execution at IEEE/ACM 22nd International Conference on Model Driven Engineering Languages and Systems*, Sept. 2019.

103 J. Malm, A. Causevic, B. Lisper, and S. Eldh. Automated analysis of flakiness-mitigating delays. In *IEEE/ACM 1st International Conference on Automation of Software Test*, Oct. 2020.

104 M. H. Moghadam, M. Saadatmand, M. Borg, M. Bohlin, and B. Lisper. Poster: Performance testing driven by reinforcement learning. In *IEEE 13th International Conference on Software Testing, Validation and Verification*, Oct. 2020.

105 A. N. Masud and B. Lisper. On the computation of interprocedural weak control closure. In *ACM SIGPLAN 2022 International Conference on Compiler Construction*. ACM, Apr. 2022.

106 B. Lisper and L. Källberg. Hero-ML: A very high-level array language for executable modelling of data parallel algorithms. In *ARRAY 2023*, June 2023.

Workshop Papers

107 B. Lisper. Linear programming methods for minimizing execution time of indexed computations. In *Proc. Int. Workshop on Compilers for Parallel Computers*, pages 131–142, Dec. 1990.

108 B. Lisper. Data fields. In *Proc. International Workshop on Generic Programming*, Marstrand, Sweden, June 1998.

109 C. Thornberg and B. Lisper. Elemental function overloading in explicitly typed languages. In M. Mohnen and P. Koopman, editors, *Proc. 12th International Workshop of Implementation of Functional Languages*, pages 31–46, Aachen, Germany, Sept. 2000.

110 M. Sandberg and B. Lisper. Dimensional analysis for Modelica. In *Proc. Modelica Workshop 2000*, Lund, Oct. 2000.

111 B. Lisper and P. Mellgren. Response-time calculation and priority assignment with integer programming methods. In E. Tovar and C. Norström, editors, *Proc. Work-in-progress and Industrial Sessions, 13th Euromicro Conference on Real-Time Systems*, pages 13–16. TU Delft, June 2001.

112 J. Erikson, P. Funk, J. Gustafsson, and B. Lisper. A tool concept for execution time analysis of legacy systems. In *Proc. Work-in-progress and Industrial Sessions, 14th Euromicro Conference on Real-Time System*, Vienna, June 2002. J. Erikson, P. Funk, and J. Gustafsson.)

113 N. Bermudo, J. Gustafsson, B. Lisper, C. Sandberg, and L. Sjöberg. A prototype tool for flow analysis of C programs. In G. Bernat, editor, *Proc. WCET 2002 Workshop*, Vienna, June 2002.

114 B. Lisper and J. Malmström. Haxcel: A spreadsheet interface to Haskell. In *Proc. 14th International Workshop of Implementation of Functional Languages*, Madrid, Sept. 2002.

115 B. Lisper. Fully automatic, parametric worst-case execution time analysis. In J. Gustafsson, editor, *Proc. Third International Workshop on Worst-Case Execution Time (WCET) Analysis*, pages 77–80, Porto, July 2003.

116 J. Erikson and B. Lisper. A formal semantics for PLEX. In *Proc. 2nd APPSEM II Workshop*, Tallinn, Estonia, Apr. 2004.

117 J. Lindhult and B. Lisper. Sequential PLEX, and its potential for parallel execution. In *13th International Workshop on Compilers for Parallel Computers (CPC 2007)*, Lisbon, Portugal, July 2007.

118 J. Gustafsson, P. Altenbernd, A. Ermedahl, and B. Lisper. Approximate worst-case execution time analysis for early stage embedded systems development. In S. Lee and P. Narasimhan, editors, *Proc. Seventh IFIP Workshop on Software Technologies for Future Embedded and Ubiquitous Systems (SEUS 2009)*, pages 308–319, San Diego, CA, Nov. 2009.

119 S. Bygde, B. Lisper, and N. Holsti. Static analysis of bounded polyhedra. In P. Pettersson and C. Seceleanu, editors, *Proc. 23rd Nordic Workshop of Programming Theory (NWPT'11)*, Västerås, Sweden, Oct. 2011.

120 M. Jägemar, S. Eldh, A. Ermedahl, and B. Lisper. Automatic multi-core cache characteristics modelling. In *Proc. Sixth Swedish Workshop on Multicore Computing*, Nov. 2013.

121 H. R. Faragardi, K. Sandström, T. Nolte, and B. Lisper. Towards a communication-aware mapping of software components in multi-core embedded real-time systems. In *Proc. 20th IEEE Real-Time and Embedded Technology and Applications Symposium (WiP session)*, Apr. 2014.

Research Reports

122 E. Tidén, B. Lisper, and R. Schreiber. Systolic arrays. Tech. Rep. TRITA-NA-8315, Dept. of Numerical Analysis and Computer Science, Royal Institute of Technology, Stockholm, 1983.

123 B. Lisper. Explicit routing in the Fluent Machine. Tech. Rep. YALEU/DCS/TR-645, Dept. Comput. Sci., Yale University, Aug. 1988.

124 B. Lisper. Formal derivation of concurrent assignments from scheduled single assignments. Res. Rep. R91:15, Swedish Institute of Computer Science, Oct. 1991.

125 P. Hammarlund and B. Lisper. Data parallel programming – a survey and a proposal for a new model. Technical Report TRITA-IT R 93:08, Dept. of Teleinformatics, Royal Institute of Technology, Stockholm, Sept. 1993.

126 J. Halén, P. Hammarlund, and B. Lisper. An experimental implementation of a highly abstract model of data parallel programming. Technical Report TRITA-IT R 97:02, Dept. of Teleinformatics, Royal Institute of Technology, Stockholm, Mar. 1997.

127 B. Lisper and P. Hammarlund. The Data Field Model. Technical Report TRITA-IT R 99:02, Dept. of Teleinformatics, Royal Institute of Technology, Stockholm, Mar. 1999. (Revised version 2001, Dept. of Computer Engineering, Mälardalen University.)

128 B. Lisper. Fully automatic, parametric worst-case execution time analysis. MRTC report, Dept. of Computer Science and Engineering, Mälardalen University, Apr. 2003. (Long version of WCET Workshop paper with same title.)

129 W. Kocjan, P. Kreuger, and B. Lisper. Symmetric cardinality constraint with costs. MRTC report, Mälardalen Real-Time Research Centre, Mälardalen University, Västerås, Dec. 2004.

130 W. Kocjan, P. Kreuger, and B. Lisper. Maintaining consistency of dynamic cardinality constraints with costs. MRTC report, Mälardalen Real-Time Research Centre, Mälardalen University, Västerås, Jan. 2005.

131 J. Gustafsson, A. Ermedahl, and B. Lisper. ALF (ARTIST2 Language for Flow Analysis) specification. Technical report, Mälardalen University, Västerås, Sweden, Jan. 2009.

132 H. Khanfar, B. Lisper, and S. Mubeen. Demand-driven static backward slicing for unstructured programs. Technical report, Mälardalen Real-Time Research Centre, Mälardalen University, Västerås, May 2019.

133 B. Lisper and L. Källberg. HERO-ML specification. Technical report, Mälardalen Real-Time Research Centre, Mälardalen University, Västerås, Feb. 2023.

Note: Conference/workshop papers and research reports are listed only if not subsumed by later publications.