Research outputs:

**Improving Loop Dependence Analysis**
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

**A scalable lock-free hash table with open addressing**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2017 › Research › peer-review

**Towards Unifying OpenMP Under the Task-Parallel Paradigm Implementation and Performance of the taskloop Construct**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2017 › Research › peer-review

**A Scalable Prescriptive Parallel Debugging Model**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2015 › Research › peer-review

**Experiences with Compiler Support for Processors with Exposed Pipelines**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2015 › Research › peer-review

**Hardware Transactional Memory Optimization Guidelines, Applied to Ordered Maps**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2015 › Research › peer-review

**A Synthesizable Multicore Platform for Microwave Imaging**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2014 › Research › peer-review

**Automatic generation of application specific FPGA multicore accelerators**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2014 › Research › peer-review

**Code Commentary and Automatic Refactorings using Feedback from Multiple Compilers**
Collaborative Compiler Vectorization
Research output: Contribution to conference › Poster – Annual report year: 2014 › Research

Compiler Feedback using Continuous Dynamic Compilation during Development
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2014 › Research › peer-review

DySectAPI: Scalable Prescriptive Debugging
Research output: Contribution to conference › Poster – Annual report year: 2014 › Research › peer-review

DySectAPI: Scalable Prescriptive Debugging
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2014 › Research › peer-review

ELB-trees - Efficient Lock-free B+trees
Research output: Contribution to conference › Poster – Annual report year: 2014 › Research

ELB-trees - Efficient Lock-free B+trees
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2014 › Research › peer-review

Exposing MPI Objects for Debugging
Research output: Contribution to conference › Poster – Annual report year: 2014 › Research › peer-review

Exposing MPI Objects for Debugging
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2014 › Research › peer-review

Hardware Realization of an FPGA Processor - Operating System Call Offload and Experiences
Research output: Contribution to conference › Poster – Annual report year: 2014 › Research

Hardware Realization of an FPGA Processor - Operating System Call Offload and Experiences
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2014 › Research › peer-review

Hardware Realization of an FPGA Processor – Operating System Call Offload and Experiences
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2015 › Research › peer-review
Task Based Programming on Embedded Multicores
Research output: Contribution to conference › Poster – Annual report year: 2014 › Research

Design Principles for Synthesizable Processor Cores
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2012 › Research › peer-review

Guiding Programmers to Higher Memory Performance
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2012 › Research › peer-review

Parallelizing More Loops with Compiler Guided Refactoring
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2012 › Research › peer-review

Software Managed Cache for Parallel Systems
Research output: Contribution to conference › Poster – Annual report year: 2014 › Research

Adapt or Become Extinct! The Case for a Unified Framework for Deployment-Time Optimization
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2011 › Research › peer-review

Automatic Loop Parallelization via Compiler Guided Refactoring
Research output: Book/Report › Report – Annual report year: 2011 › Research

Comparing the Overhead of Lock-based and Lock-free Implementations of Priority Queues
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2011 › Research › peer-review

Compiler Driven Code Comments and Refactoring
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2011 › Research › peer-review

Efficient Co-Simulation of Multicore Systems
Research output: Contribution to conference › Poster – Annual report year: 2011 › Research › peer-review
Efficient Co-Simulation of Multicore Systems
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2011 › Research › peer-review

Expressing Coarse-Grain Dependencies Among Tasks in Shared Memory Programs
Research output: Contribution to journal › Journal article – Annual report year: 2011 › Research › peer-review

Hardware Support for Dynamic Languages
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2011 › Research › peer-review

Hardware Support for Dynamic Languages
Research output: Contribution to conference › Poster – Annual report year: 2011 › Research › peer-review

Improving Performance of Software Implemented Floating Point Addition
Research output: Contribution to conference › Poster – Annual report year: 2011 › Research › peer-review

Improving Performance of Software Implemented Floating Point Addition
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2011 › Research › peer-review

SRC: FenixOS - A Research Operating System Focused on High Scalability and Reliability
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2011 › Research › peer-review

Towards a Time-predictable Dual-Issue Microprocessor: The Patmos Approach
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2011 › Research › peer-review

Compiler Driven Code Comments and Refactoring
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2010 › Research › peer-review

Expressing Inter-task Dependencies between Parallel Stencil Operations
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2010 › Research › peer-review

High Performance Triangle versus Box Intersection Checks
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2010 › Research › peer-review
Adaptable Support for Programming Models in Many-core Architectures
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2009 › Research › peer-review

Identifying Inter-task Communication in Shared Memory Programming Models
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2009 › Research › peer-review

Parallelism and Scalability in an Image Processing Application
Research output: Contribution to journal › Conference article – Annual report year: 2009 › Research › peer-review

Performance Analysis of a Hardware/Software-based Cache Coherence Protocol in Shared Memory MPSoCs
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2009 › Research › peer-review

Exploiting spatial parallelism in Ethernet-based cluster interconnects.
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2008 › Research › peer-review

Parallelism and Scalability in an Image Processing Application
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2008 › Research › peer-review

MultiEdge: An Edge-based Communication Subsystem for Scalable Commodity Servers
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2007 › Research › peer-review

Projects:

Systemarkitekturer baseret på Network-on-Chip
Rasmussen, M. S., Sparsø, J., Karlsson, S., Madsen, J., Probst, C. W., Grahn, H. & Nurmi, J. A.
DTU stipendium
01/10/2006 → 29/09/2010
Project: PhD

Test-driven model-based development of complex embedded systems
Munck, A., Madsen, J., Lindqvist, L., Mortensen, R., Pop, P., Karlsson, S., Nielsen, P. Ø. & Larsen, P. G.
Industrial PhD
01/08/2013 → 16/08/2017
Project: PhD

**Cognitive and Perceptive Cameras - Compilation system**
Jensen, N. B., Probst, C. W., Karlsson, S., Lluch Lafuente, A., Kessler, C. W. & Sestoft, P.
1/3 FUU, 1/3 inst 1/3 Andet
01/10/2013 → 18/01/2017
Project: PhD

**Portable and Predictable Performance Heterogeneous Embedded Manycores - Upper Level System stack**
1/3 FUU, 1/3 inst 1/3 Andet
01/10/2012 → 21/01/2016
Project: PhD

**Tools for model-based software descriptions**
Larsen, P., Karlsson, S., Madsen, J., Probst, C. W., Cohen, A. & Stenström, P.
DTU stipendium
01/02/2007 → 31/08/2011
Project: PhD

**Architecture concepts for improving programmability of multi-core architectures**
Schleuniger, P., Karlsson, S., Madsen, J., Pop, P., Grahn, H. & Ramirez, A.
Forskningsrådsfinansiering
15/06/2010 → 26/05/2014
Project: PhD

**Activities:**

**HiPEAC - European Network of Excellence on High Performance and Embedded Architecture and Compilation (External organisation)**
Sven Karlsson (Participant)
27 Jan 2008 → 31 Dec 2018
Activity: Membership › Membership of research networks or expert groups