Embedded Systems Engineering - DTU Orbit (08/04/2018)

Embedded Systems Engineering
Department of Applied Mathematics and Computer Science
Organisational unit: Section

Publications:

Activity-based DEVS modeling
Publication: Research - peer-review › Journal article – Annual report year: 2018

An Integrated Framework to Specify Domain-Specific Modeling Languages
Publication: Research - peer-review › Article in proceedings – Annual report year: 2018

AntibIoTic: Protecting IoT Devices Against DDoS Attacks
Publication: Research - peer-review › Article in proceedings – Annual report year: 2018

DDoS-Capable IoT Malwares: Comparative Analysis and Mirai Investigation
Publication: Research - peer-review › Journal article – Annual report year: 2018

Double-Loop Health Technology: Enabling Socio-technical Design of Personal Health Technology in Clinical Practice
Publication: Research - peer-review › Book chapter – Annual report year: 2018

Face Recognition using Approximate Arithmetic
Publication: Research › Report – Annual report year: 2018

Model-Based Systems Engineering for Life-Sciences Instrumentation Development
Publication: Research - peer-review › Journal article – Annual report year: 2018

Patmos: a time-predictable microprocessor
Publication: Research - peer-review › Journal article – Annual report year: 2018

Reconfiguration of Computation and Communication Resources in Multi-Core Real-Time Embedded Systems
Publication: Research › Ph.D. thesis – Annual report year: 2018

Selected papers from the 2nd IEEE Nordic Circuits and Systems Conference (NorCAS), 2016.
Sparse, J. 2018 In : Microprocessors and Microsystems. 3 p.
Publication: Research - peer-review › Editorial – Annual report year: 2018

Towards Domain-specific Flow-based Languages
Publication: Research - peer-review › Article in proceedings – Annual report year: 2018
Supporting smartphone-based behavioral activation: A simulation study
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Improving performance of single-path code through a time-predictable memory hierarchy
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Pin-count reduction for continuous flow microfluidic biochips
Publication: Research - peer-review › Journal article – Annual report year: 2017

A Controller for Dynamic Partial Reconfiguration in FPGA-Based Real-Time Systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Activity-Based Collaboration for Interactive Spaces
Publication: Research - peer-review › Book chapter – Annual report year: 2017

A language-based approach to modelling and analysis of Twitter interactions
Publication: Research - peer-review › Journal article – Annual report year: 2017

A Multi-Format Floating-Point Multiplier for Power-Efficient Operations
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Analysis of DDoS-capable IoT malwares
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

An Introduction to Malware
Publication: Education › Compendium/lecture notes – Annual report year: 2017

A resource-efficient network interface supporting low latency reconfiguration of virtual circuits in time-division multiplexing networks-on-chip
Publication: Research - peer-review › Journal article – Annual report year: 2017

A Shared Scratchpad Memory with Synchronization Support
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017
A Study on Text-Score Disagreement in Online Reviews
Fazzolari, M., Cozza, V., Petrocchi, M. & Spognardi, A. 2017 In : Cognitive Computation. 9, 5, p. 689-701
Publication: Research - peer-review › Journal article – Annual report year: 2017

A systematic and practical method for selecting systems engineering tools
Publication: Research - peer-review › Article in proceedings – Annual report year: 2018

A Top-down Approach to Genetic Circuit Synthesis and Optimized Technology Mapping
Publication: Research - peer-review › Article in proceedings – Annual report year: 2018

Best practice for caching of single-path code
Publication: Research - peer-review › Journal article – Annual report year: 2017

Best Practice for Caching of Single-Path Code
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Big Data hvor N=1
Publication: Research › Book chapter – Annual report year: 2017

Can Real-Time Systems Benefit from Dynamic Partial Reconfiguration?
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2017

Can smartphone-based electronic markers discriminate between patients with bipolar disorder, healthy first-degree relatives and healthy control individuals
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2017

Collaborative Affordances of Medical Records
Publication: Research - peer-review › Journal article – Annual report year: 2017

Co-Simulation of Cyber-Physical System with Distributed Embedded Control
Publication: Research › Ph.D. thesis – Annual report year: 2017

Digital Arithmetic: Division Algorithms
Publication: Research - peer-review › Book chapter – Annual report year: 2017

Distributed co-simulation of embedded control software with exhaust gas recirculation water handling system using INTO-CPS
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017
EEG source imaging assists decoding in a face recognition task
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Fast architecture-level synthesis of fault-tolerant flow-based microfluidic biochips
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Fault-Tolerant Topology and Routing Synthesis for IEEE Time-Sensitive Networking
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Helbredstjek af dansk sundhedsteknologi: Sektorudviklingsrapport
Publication: Commissioned › Report – Annual report year: 2017

High-level synthesis for reduction of WCET in real-time systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

High Performance with Prescriptive Optimization and Debugging
Publication: Research › Ph.D. thesis – Annual report year: 2017

Improving Loop Dependence Analysis
Publication: Research - peer-review › Journal article – Annual report year: 2017

Logic analysis and verification of n-input genetic logic circuits
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Methods and Tools for the Analysis, Verification and Synthesis of Genetic Logic Circuits,
Publication: Research › Ph.D. thesis – Annual report year: 2017

Microservices: Yesterday, Today, and Tomorrow
Publication: Research - peer-review › Journal article – Annual report year: 2017

Paper-Based Digital Microfluidic Chip for Multiple Electrochemical Assay Operated by a Wireless Portable Control System
Publication: Research - peer-review › Journal article – Annual report year: 2017
Performance Improvements and Congestion Reduction for Routing-based Synthesis for Digital Microfluidic Biochips
Publication: Research - peer-review › Journal article – Annual report year: 2016

Real-Time Audio Processing on the T-CREST Multicore Platform
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Reducing the rate and duration of Re-ADMISsions among patients with unipolar disorder and bipolar disorder using smartphone-based monitoring and treatment - the RADMIS trials: Study protocol for two randomized controlled trials
Faurholt-Jepsen, M., Frost, M., Martiny, K., Tuxen, N., Rosenberg, N., Busk, J., Winther, O., Bardram, J. E. & Kessing, L. V. 2017 In : Trials. 18, 1, 13 p., 277
Publication: Research - peer-review › Journal article – Annual report year: 2017

RNS Applications in Digital Signal Processing
Publication: Research - peer-review › Book chapter – Annual report year: 2017

Robust Throughput Boosting for Low Latency Dynamic Partial Reconfiguration
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Safe Cooperating Cyber-Physical Systems using Wireless Communication
Publication: Research - peer-review › Journal article – Annual report year: 2017

Scheduling and Fluid Routing for Flow-Based Microfluidic Laboratories-on-a-Chip
Publication: Research - peer-review › Journal article – Annual report year: 2017

Security And Privacy Issues in Healthcare Monitoring Systems: A Case Study
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Security And Privacy Issues in Healthcare Monitoring Systems: A Case Study
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Security flows in OAuth 2.0 framework: A case study
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Simulation Approach for Timing Analysis of Genetic Logic Circuits
Publication: Research - peer-review › Journal article – Annual report year: 2017
Social Fingerprinting: detection of spambot groups through DNA-inspired behavioral modeling
Publication: Research - peer-review › Journal article – Annual report year: 2017

Synthesis of on-chip control circuits for mVLSI biochips
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

System-Level Sensitivity Analysis of SiNW-bioFET-Based Biosensing Using Lockin Amplification
Publication: Research - peer-review › Journal article – Annual report year: 2017

Taming Living Logic using Formal Methods
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Test-Driven, Model-Based Systems Engineering
Publication: Research › Ph.D. thesis – Annual report year: 2017

Test-driven modeling and development of cloud-enabled cyber-physical smart systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

The Bipolar Illness Onset study: research protocol for the BIO cohort study
Publication: Research - peer-review › Journal article – Annual report year: 2017

The Internet of Hackable Things
Publication: Research - peer-review › Journal article – Annual report year: 2017

Timing analysis of rate-constrained traffic in TTEthernet using network calculus
Publication: Research - peer-review › Journal article – Annual report year: 2017

Timing organization of a real-time multicore processor
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Towards industry strength mapping of AUTOSAR automotive functionality on multicore architectures: work in progress
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017
Transport or Store? Synthesizing Flow-based Microfluidic Biochips using Distributed Channel Storage
Publication: Research › Article in proceedings – Annual report year: 2018

Volume management for fault-tolerant continuous-flow microfluidics
Publication: Research - peer-review › Conference article – Annual report year: 2017

Waste-aware fluid volume assignment for flow-based microfluidic biochips
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

A Framework for Dynamically-Loaded Hardware Library (HLL) in FPGA Acceleration
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

A Hardware Framework for on-Chip FPGA Acceleration
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

A Matter of Words: NLP for Quality Evaluation of Wikipedia Medical Articles
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

An Adaptive Middleware for Improved Computational Performance
Publication: Research › Ph.D. thesis – Annual report year: 2016

An Area-Efficient TDM NoC Supporting Reconfiguration for Mode Changes
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

A Pin-Count Reduction Algorithm for Flow-Based Microfluidic Biochips
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Architecture Synthesis for Cost-Constrained Fault-Tolerant Flow-based Biochips
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Argo: A Real-Time Network-on-Chip Architecture With an Efficient GALS Implementation
Publication: Research - peer-review › Journal article – Annual report year: 2015
A scalable lock-free hash table with open addressing
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

A Software Managed Stack Cache for Real-Time Systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

A Stack Cache for Real-Time Systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

A Survey of Man in the Middle Attacks
Conti, M., Dragoni, N. & Lesyk, V. 2016 In : IEEE Communications Surveys and Tutorials. 18, 3, p. 2027-2051
Publication: Research - peer-review › Journal article – Annual report year: 2016

Automatic Functionality Assignment to AUTOSAR Multicore Distributed Architectures
Publication: Research - peer-review › Journal article – Annual report year: 2016

Avionics Applications on a Time-Predictable Chip-Multiprocessor
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Behavioral activities collected through smartphones and the association with illness activity in bipolar disorder
Publication: Research - peer-review › Journal article – Annual report year: 2016

Bioinspired Security Analysis of Wireless Protocols
Petrocchi, M., Spognardi, A. & Santi, P. 2016 In : Mobile Networks and Applications. 21, 1, p. 139-148
Publication: Research - peer-review › Journal article – Annual report year: 2016

Clock domain crossing modules for OCP-style read/write interfaces
Publication: Research › Report – Annual report year: 2016

Dedicated workspaces: Faster resumption times and reduced cognitive load in sequential multitasking
Publication: Research - peer-review › Journal article – Annual report year: 2016

Design and Simulation of a Quaternary Memory Cell based on a Physical Memristor
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Designing Context-Aware Cognitive Behavioral Therapy for Unipolar and Bipolar Disorders
Design optimization for security-and safety-critical distributed real-time applications
Publication: Research - peer-review › Journal article – Annual report year: 2016

Design Optimization of Cyber-Physical Distributed Systems using IEEE Time-sensitive Networks (TSN)
Publication: Research - peer-review › Journal article – Annual report year: 2016

Discounted Duration Calculus
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

DNA-Inspired Online Behavioral Modeling and Its Application to Spambot Detection
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

D-VA$^2$Sim: An Interactive Virtual Laboratory Environment for the Simulation and Analysis of Genetic Circuits
Publication: Research - peer-review › Journal article – Annual report year: 2016

D-VA$^2$Sim: A Software Tool to Simulate and Analyze Genetic Logic Circuits
Baig, H. & Madsen, J. 2016 Case study.

Dynamically-Loaded Hardware Libraries (HLL) Technology for Audio Applications
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Efficient Worst-Case Execution Time Analysis of Dynamic Branch Prediction
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Electronic self-monitoring of mood using IT platforms in adult patients with bipolar disorder: A systematic review of the validity and evidence
Faurholt-Jepsen, M., Munkholm, K., Frost, M., Bardram, J. E. & Kessing, L. V. 2016 In : Molecular Psychiatry. 16, 7, p. 1-14
Publication: Research - peer-review › Journal article – Annual report year: 2016

Evaluation of Professional Cloud Password Management Tools
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Evolvable Smartphone-Based Platforms for Point-Of-Care In-Vitro Diagnostics Applications
Publication: Research - peer-review › Journal article – Annual report year: 2016
Experimental Measures of News Personalization in Google News
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

FMI for Co-Simulation of Embedded Control Software
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

FPGA Acceleration by Dynamically-Loaded Hardware Libraries
Publication: Research › Report – Annual report year: 2016

Game-based verification and synthesis
Publication: Research › Ph.D. thesis – Annual report year: 2016

Hardware locks for a real-time Java chip multiprocessor
Publication: Research - peer-review › Journal article – Annual report year: 2016

Implementation of Hardware Accelerators on Zynq
Publication: Research › Report – Annual report year: 2016

Improved 64-bit Radix-16 Booth Multiplier Based on Partial Product Array Height Reduction
Publication: Research - peer-review › Journal article – Annual report year: 2017

Lessons learned from the EU project T-CREST
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Logic and Timing Analysis of Genetic Logic Circuits using D-VASim
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2016

Microfluidic Very Large Scale Integration (VLSI): Modeling, Simulation, Testing, Compilation and Physical Synthesis
Publication: Research - peer-review › Book – Annual report year: 2016

Mind the tracker you wear: a security analysis of wearable health trackers
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016
Synthesis of railway-signaling plans using reachability games
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

TACLeBench: A benchmark collection to support worst-case execution time research
Publication: Research - peer-review › Journal article – Annual report year: 2017

The Personal Health Technology Design Space
Publication: Research - peer-review › Journal article – Annual report year: 2016

The SafeCOP ECSEL Project: Safe Cooperating Cyber-Physical Systems Using Wireless Communication
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Time-Predictable Communication on a Time-Division Multiplexing Network-on-Chip Multicore
Publication: Research › Ph.D. thesis – Annual report year: 2016

Time-predictable Stack Caching
Publication: Research › Ph.D. thesis – Annual report year: 2016

Time-Predictable Virtual Memory
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Timing Analysis of Genetic Logic Circuits using D-VASim
Baig, H. & Madsen, J. 2016
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2016

Towards Unifying OpenMP Under the Task-Parallel Paradigm Implementation and Performance of the taskloop Construct
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Traffic class assignment for mixed-criticality frames in TTEthernet
Publication: Research - peer-review › Conference article – Annual report year: 2016

Voice analysis as an objective state marker in bipolar disorder
Faurholt-Jepsen, M., Busk, J., Frost, M., Vinberg, M., Christensen, E. M., Winther, O., Bardram, J. E. & Kessing, L. V. 2016 In : Translational Psychiatry. 6, 7, 8 p., e856
Publication: Research - peer-review › Journal article – Annual report year: 2016

Voice analysis as an objective state marker in bipolar disorder
Why Hackers Love eHealth Applications

Adaptive Multipath Key Reinforcement for Energy Harvesting Wireless Sensor Networks


A Framework and Classification for Fault Detection Approaches in Wireless Sensor Networks with an Energy Efficiency Perspective

An approach to multicore parallelism using functional programming: A case study based on Presburger Arithmetic

An Asynchronous Time-Division-Multiplexed Network-on-Chip for Real-Time Systems

A Probabilistic Approach for the System-Level Design of Multi-ASIP Platforms

A Scalable Prescriptive Parallel Debugging Model

A Smart Mobile Lab-on-Chip-Based Medical Diagnostics System Architecture Designed For Evolvability

A Time-Composable Operating System for the Patmos Processor

Attributes Enhanced Role-Based Access Control Model
Characterization of RNS multiply-add units for power efficient DSP
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Continuous Context-Aware Device Comfort Evaluation Method
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Continuous-flow biochips: Current platforms and emerging research challenges: Special Session
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Continuous-Flow Biochips: Technology, Physical Design Methods and Testing
Publication: Research - peer-review › Journal article – Annual report year: 2015

Design of Mixed-Criticality Applications on Distributed Real-Time Systems
Publication: Research › Ph.D. thesis – Annual report year: 2015

Design Optimization of Mixed-Criticality Real-Time Embedded Systems
Publication: Research - peer-review › Journal article – Annual report year: 2015

Design optimization of TTEthernet-based distributed real-time systems
Publication: Research - peer-review › Journal article – Annual report year: 2014

Developing merged CDIO based curricula for diploma (B.Eng.) IT study programs at DTU
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

D-VASim: Dynamic Virtual Analyzer and Simulator for Genetic Circuits
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2015

Efficient Context Switching for the Stack Cache: Implementation and Analysis
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Publication: Research - peer-review › Article in proceedings – Annual report year: 2015
Experiences with Compiler Support for Processors with Exposed Pipelines
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Fame for sale: Efficient detection of fake Twitter followers
Publication: Research - peer-review › Journal article – Annual report year: 2015

Fault Detection in WSNs - An Energy Efficiency Perspective Towards Human-Centric WSNs
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Fault-Tolerant Digital Microfluidic Biochips: Compilation and Synthesis
Publication: Research › Book – Annual report year: 2015

Fault-Tolerant Topology Selection for TTEthernet Networks
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Fernando: An educational ahead-of-time bytecode compiler
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Flow-Based Biochips: Fault-Tolerant Design and Error Recovery
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Hardware Locks with Priority Ceiling Emulation for a Java Chip-Multiprocessor
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Hardware Transactional Memory Optimization Guidelines, Applied to Ordered Maps
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Implementation of an Ethernet-Based Communication Channel for the Patmos Processor
Publication: Research › Report – Annual report year: 2015

Integrating Attributes into Role-Based Access Control
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Integrating Attributes into Role-Based Access Control
Interfacing Hardware Accelerators to a Time-Division Multiplexing Network-on-Chip
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Introduction
Publication: Research › Book chapter – Annual report year: 2015

Message Passing on a Time-predictable Multicore Processor
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Microfluidic very large-scale integration for biochips: Technology, testing and fault-tolerant design
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Modelling and Analysis for Cyber-Physical Systems: An SMT-based approach
Publication: Research › Ph.D. thesis – Annual report year: 2015

Models of Communication for Multicore Processors
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Multiprocessor Priority Ceiling Emulation for Safety-Critical Java
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

No Need Knowing Numerous Neighbours: Towards a Realizable Interpretation of MLSL
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Off-line mapping of multi-rate dependent task sets to many-core platforms
Publication: Research - peer-review › Journal article – Annual report year: 2015

Publication: Research › Ph.D. thesis – Annual report year: 2015

Optimal Sceduling of Stochastic Production Processes Through Model Checking
Publication: Research - peer-review › Book chapter – Annual report year: 2014
Persistence-Based Branch Misprediction Bounds for WCET Analysis
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Physical trust-based persistent authentication
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Pin count-aware biochemical application compilation for mVLSI biochips
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Power and thermal efficient numerical processing
Publication: Research - peer-review › Book chapter – Annual report year: 2015

Quantifying system safety: A comparison of the SBOAT & Safety Barrier Manager tools
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Receiver-initiated medium access control protocols for wireless sensor networks
Publication: Research - peer-review › Journal article – Annual report year: 2014

Redundancy Optimization for Error Recovery in Digital Microfluidic Biochips
Publication: Research - peer-review › Journal article – Annual report year: 2015

Reliability in Warehouse-Scale Computing: Why Low Latency Matters
Nannarelli, A. 2015 Proceedings of MEDIAN Finale - Workshop on Manufacturable and Dependable Multicore Architectures at Nanoscale. p. 2-6
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Safety-critical Java on a time-predictable processor
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Scala for Real-Time Systems?
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Stack Caching Using Split Data Caches
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015
Synthesis of Biochemical Applications on Digital Microfluidic Biochips with Operation Execution Time Variability
Alistar, M. & Pop, P. 2015 In : Integration. 51, September, p. 158-168
Publication: Research - peer-review › Journal article – Annual report year: 2015

System-level synthesis of multi-ASIP platforms using an uncertainty model
Publication: Research - peer-review › Journal article – Annual report year: 2015

T-CREST: Time-predictable multi-core architecture for embedded systems
Publication: Research - peer-review › Journal article – Annual report year: 2015

Test-driven modeling of embedded systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

The Argo NOC: Combining TDM and GALS
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Thermal Aware Floorplanning Incorporating Temperature Dependent Wire Delay Estimation
Publication: Research - peer-review › Journal article – Annual report year: 2015

Time-division multiplexing vs network calculus: A comparison
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Timing Analysis of Rate Constrained Traffic for the TTEthernet Communication Protocol
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Towards droplet size-aware biochemical application compilation for AM-EWOD biochips
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Video Surveillance: Privacy Issues and Legal Compliance
Publication: Research - peer-review › Book chapter – Annual report year: 2015

vZ - An Optimizing SMT Solver
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

vZ - Maximal Satisfaction with Z3
Compilation and Synthesis for Fault-Tolerant Digital Microfluidic Biochips
Publication: Research › Ph.D. thesis – Annual report year: 2014

Compilation and Synthesis for Fault-Tolerant Digital Microfluidic Biochips (DMBs)
Alistar, M. 2014
Publication: Research - peer-review › Poster – Annual report year: 2014

Compilation Tool Chains and Intermediate Representations
Publication: Research › Book chapter – Annual report year: 2015

Compiler Feedback using Continuous Dynamic Compilation during Development
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Criticality: static profiling for real-time programs
Publication: Research - peer-review › Journal article – Annual report year: 2014

Decimal Engine for Energy-Efficient Multicore Processors
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Design and Implementation of Energy Harvesting Powered Wireless Sensor Networks
Publication: Research › Ph.D. thesis – Annual report year: 2014

DySectAPI: Scalable Prescriptive Debugging
Publication: Research - peer-review › Poster – Annual report year: 2014

DySectAPI: Scalable Prescriptive Debugging
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2014

Editorial: Thematic series on best articles from IFIPTM and PST
Publication: Research › Editorial – Annual report year: 2014

Publication: Research - peer-review › Book chapter – Annual report year: 2014

ELB-trees - Efficient Lock-free B+trees
Publication: Research › Poster – Annual report year: 2014

ELB-trees - Efficient Lock-free B+trees
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2014
Enabling short fragments for uncoordinated spread spectrum communication
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Energy Efficient FPGA based Hardware Accelerators for Financial Applications
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Evaluating and Estimating the WCET Criticality Metric
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Evolutionary optimisation of production materials workflow processes
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Evolutionary optimization of production materials workflow processes
Publication: Research - peer-review › Conference article – Annual report year: 2014

Exposing MPI Objects for Debugging
Publication: Research - peer-review › Poster – Annual report year: 2014

Exposing MPI Objects for Debugging
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2014

Guest Editors’ Introduction: Special Section on Computer Arithmetic
Publication: Research - peer-review › Journal article – Annual report year: 2014

Hardware Realization of an FPGA Processor - Operating System Call Offload and Experiences
Hindborg, A. E. & Karlsson, S. 2014
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Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2014

Hardware Realization of an FPGA Processor – Operating System Call Offload and Experiences
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Improving Usability of Passphrase Authentication
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014
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Library Support for Resource Constrained Accelerators
Brock-Nannestad, L. & Karlsson, S. 2014
Publication: Research - peer-review › Poster – Annual report year: 2014

Medium Access Control in Energy Harvesting - Wireless Sensor Networks
Publication: Research › Ph.D. thesis – Annual report year: 2014

MPI Debugging with Handle Introspection
Publication: Research - peer-review › Paper – Annual report year: 2014

Online Synthesis for Operation Execution Time Variability on Digital Microfluidic Biochips
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Open Core Protocol (OCP) Clock Domain Crossing Interfaces
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Optimization of Partitioned Architectures to Support Soft Real-Time Applications
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Optimization of TTEthernet Networks to Support Best-Effort Traffic
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Performance Aspects of Synthesizable Computing Systems
Publication: Research › Ph.D. thesis – Annual report year: 2014

Programming language and tools for Multipurpose Lab-on-a-Chip Platforms
Publication: Research - peer-review › Poster – Annual report year: 2014
Smart Multicore Embedded Systems
Publication: Research - peer-review › Book – Annual report year: 2014

Publication: Research › Ph.D. thesis – Annual report year: 2014

Synthesis and Layout of an Asynchronous Network-on-Chip using Standard EDA Tools
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

T-Crest: A Time-Predictable Multi-Core Platform For Aerospace Applications
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Testing Infrastructure for Operating System Kernel Development
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

The importance of trust in computer security
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Tradeoff analysis for Dependable Real-Time Embedded Systems during the Early Design Phases
Publication: Research › Ph.D. thesis – Annual report year: 2014

Twenty Years of Research on RNS for DSP: Lessons Learned and Future Perspectives
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Unit Testing Framework for Operating System Kernels
Walter, M. & Karlsson, S. 2014
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2014

Unit Testing Framework for Operating System Kernels
Walter, M. & Karlsson, S. 2014
Publication: Research - peer-review › Poster – Annual report year: 2014

Using quantitative stochastic model checking tool to increase safety and improve efficiency in production processes
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014
WCET-based comparison of an instruction scratchpad and a method cache
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Workflow Fault Tree Generation Through Model Checking
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

A 65-nm CMOS Area Optimized De-synchronization Flow for sub-VT Designs
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

A Behavioral Study on the Effects of Rock Music on Auditory Attention
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Analyzing Properties of Stochastic Business Processes By Model Checking
Herbert, L. T. & Sharp, R. 2013 Model Checking Business Processes. American Society of Mechanical Engineers, Ch. 1, p. 3-40 (Advances in Computational Sciences and Information in Engineering (ACIER)).
Publication: Research - peer-review › Book chapter – Annual report year: 2013

An area-efficient network interface for a TDM-based Network-on-Chip
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

A network-flow based valve-switching aware binding algorithm for flow-based microfluidic biochips
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

An SDRAM controller for real-time systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Application-specific fault-tolerant architecture synthesis for digital microfluidic biochips
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

ASAM: Automatic architecture synthesis and application mapping
Publication: Research - peer-review › Journal article – Annual report year: 2014

A Time-predictable Stack Cache
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013
A Time-predictable Stack Cache
Abbaspour, S., Brandner, F. & Schoeberl, M. 2013 IEEE 16th International Symposium on 
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

BCI using imaginary movements: The simulator
Rohani, D. A., Henning, W. S., Thomsen, C. E., Kjaer, T. W., Puthusserypady, S. & Sorensen, H. B. D. 2013 In : 
Computer Methods and Programs in Biomedicine. 111, 2, p. 300-307
Publication: Research - peer-review › Journal article – Annual report year: 2013

Biochemical Application Compilation and Architecture Synthesis for Fault-Tolerant Digital Microfluidic Biochips
Alistar, M., Pop, P. & Madsen, J. 2013
Publication: Research - peer-review › Poster – Annual report year: 2014

Chip-Multiprocessor Hardware Locks for Safety-Critical Java
Strøm, T. B., Puffitsch, W. & Schoeberl, M. 2013 Proceedings of the 11th International Workshop on Java Technologies 
for Real-time and Embedded Systems. Association for Computing Machinery, p. 38-46
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Control Synthesis for the Flow-Based Microfluidic Large-Scale Integration Biochips
Minhass, W. H., Pop, P., Madsen, J. & Ho, T-Y. 2013 2013 18th Asia and South Pacific Design Automation Conference 
(ASP-DAC). IEEE, p. 205-212
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Data cache organization for accurate timing analysis
Publication: Research - peer-review › Journal article – Annual report year: 2013

Detecting and Preventing Beacon Replay Attacks in Receiver-Initiated MAC Protocols for Energy Efficient WSNs
8208).
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Dynamic allocation and admission policies for QoS-aware provisioning systems
Publication: Research - peer-review › Journal article – Annual report year: 2013

ELB-trees an efficient and lock-free B-tree derivative
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

ELB-trees - Efficient Lock-free B+trees
Publication: Research › Poster – Annual report year: 2014

Explicit Precedence Constraints in Safety-Critical Java
Puffitsch, W., Noulard, E. & Pagetti, C. 2013 Proceedings of the 11th International Workshop on Java Technologies for 
Real-time and Embedded Systems. Association for Computing Machinery, p. 21-28
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013
Multi-ASIP Platform Synthesis for Real-Time Applications
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Operation placement for application-specific digital microfluidic biochips
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Optimal scheduling of complex processes through stochastic model checking: An example from the baked goods industry
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Optimisation of BPMN Business Models via Model Checking
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Precise Quantitative Analysis of Probabilistic Business Process Model and Notation Workflows
Publication: Research - peer-review › Journal article – Annual report year: 2013

Quality-Driven Model-Based Design of MultiProcessor Embedded Systems for Highlydemanding Applications
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Router Designs for an Asynchronous Time-Division-Multiplexed Network-on-Chip
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Social Networks and Collective Intelligence: A Return to the Agora
Mazzara, M., Biselli, L., Greco, P. P., Dragoni, N., Marraffa, A., Qamar, N. & de Nicola, S. 2013 Social Network Engineering for Secure Web Data and Services. IGI global, Ch. 5, p. 88-113
Publication: Research - peer-review › Book chapter – Annual report year: 2013

Static analysis of worst-case stack cache behavior
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Sustainable medium access control: Implementation and evaluation of ODMAC
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Sustainable Performance in Energy Harvesting - Wireless Sensor Networks
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013
Projects:

NordSecMob Master's Programme in Security and Mobile Computing - 2 continuation  
Stassen, F.  
01/08/2016 → 31/07/2018  
Project

Reducing the rate and duration of re-admission among patients with unipolar and bipolar disorder using smartphone-based monitoring and treatment  
Bardram, J. E. & Winther, O.  
01/03/2016 → 01/09/2019  
Project

UAV Ground Control System  
Stassen, F., Farabi Khangahi, F., Steffensen, R. & Haaning, C.  
30/11/2015 → 01/03/2016  
Project

COMPUTE Software Group  
Störrle, H., Madsen, J., Ersbøll, B. K. & Kristensen, K.  
01/01/2015 → 31/12/2015  
Project

SafeCores InfiniT Mini Project  
Stassen, F., Pop, P., Todirica, E. A. & Petersen, B.  
01/06/2012 → 31/01/2013  
Project

Functional Safety for Industrial Components  
Stassen, F., Todirica, E. A., Pop, P. & Petersen, B.  
01/02/2012 → 31/03/2013  
Project

NordSecMob Master's Programme in Security and Mobile Computing - 2  
Stassen, F.  
01/08/2011 → 31/07/2017  
Project

Nordic Master School in Innovative Information and Communication Technologies  
Stassen, F.  
01/09/2009 → 31/08/2013  
Project

Nordplus Framework Programme for Higher Education  
Stassen, F., Pop, P. & Madsen, J.  
01/09/2009 → 31/08/2013  
Project

NordSecMob Master's Programme in Security and Mobile Computing  
Stassen, F.  
01/08/2006 → 31/07/2012  
Project
Activities:

NordSecMob Network meeting (Event)
Stassen, F. (Reviewer)
19 Feb 2016
Activity: Communication › Peer review of manuscripts

10 years of NordSecMob: The NordSecMob journey
Stassen, F. (Invited speaker)
17 Oct 2015
Activity: Talks and presentations › Conference presentations

International Synthetic and Systems Biology Summer School
Baig, H. (Participant)
5 Jul 2015 → 9 Jul 2015
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

NordSecMob Network meeting 2015 (Event)
Stassen, F. (Reviewer)
29 Jan 2015 → 30 Jan 2015
Activity: Research › Peer review of manuscripts

Erhvervs- og Vækstministeriet (External organisation)
Stassen, F. (Participant)
1 Jul 2014 → 30 Jun 2019
Activity: Membership › Membership of committees, commissions, boards, councils, associations, organisations, or similar

NordSecMob Network meeting 2014 (Event)
Stassen, F. (Reviewer)
29 Jan 2014 → 30 Jan 2014
Activity: Research › Peer review of manuscripts

Adaptivity Framework: libpappadapt
Bonnichsen, L. F. (Speaker)
22 Jan 2014
Activity: Talks and presentations › Conference presentations

NordSecMob Winter School on Innovation
Stassen, F. (Organizer)
6 Jan 2014 → 11 Jan 2014
Activity: Attending an event › Participating in or organising a conference

NordSecMob Network meeting 2013 (Event)
Stassen, F. (Reviewer)
24 Jan 2013 → 25 Jan 2013
Activity: Research › Peer review of manuscripts

6th ACM/IEEE International Symposium on Networks-on-Chip
Stassen, F. (Organizer)
9 May 2012 → 11 May 2012
Activity: Attending an event › Participating in or organising a conference

NordSecMob Network meeting 2012 (Event)
Stassen, F. (Reviewer)
1 Feb 2012 → 2 Feb 2012
Activity: Research › Peer review of manuscripts
KAIST-DTU Dual Degree Master Program in Computer Science
Stassen, F. (Other)
19 Jun 2010 → 31 Jul 2017
Activity: Other

Stassen, F. (Other)
1 Apr 2010 → 31 Aug 2017
Activity: Other

Erhvervs- og Vækstministeriet (External organisation)
Stassen, F. (Participant)
1 Jul 2009 → 30 Jun 2014
Activity: Membership › Membership of committees, commissions, boards, councils, associations, organisations, or similar

Nordic Master School in Innovative ICT (NMS iICT) (External organisation)
Stassen, F. (Participant)
16 Jan 2009 → 31 Aug 2014
Activity: Membership › Membership of research networks or expert groups

13th Nordic Workshop on Secure IT Systems
Stassen, F. (Organizer)
Activity: Attending an event › Participating in or organising a conference

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

Økonomi- og Erhvervsministeriet (External organisation)
Stassen, F. (Participant)
1 Jul 2004 → 30 Jun 2009
Activity: Membership › Membership of committees, commissions, boards, councils, associations, organisations, or similar

Press clippings:

Wolfgang Puffitsch
03/02/2016
1 media contribution
Press / Media

Center for Cybersikkerhed efter sen Shellshock-advarsel: »ikke vores opgave at informere bredt om nye sårbarheder«
Luke Thomas Herbert
03/11/2014
1 media contribution
Press / Media

Professionelle hackere kunne trække stikket til Europa
Luke Thomas Herbert
24/10/2014
1 media contribution
Press / Media
Politiets IT er guf for hackere
Luke Thomas Herbert
07/10/2014
1 media contribution
Press / Media

Hacker-angreb går efter energisektoren
Luke Thomas Herbert
04/10/2014
1 media contribution
Press / Media

Hacker angreb debat
Luke Thomas Herbert
04/10/2014
1 media contribution
Press / Media

Efterretningsskilder: Russiske cyberkrigere vil mørklægge Europa
Luke Thomas Herbert
03/10/2014
1 media contribution
Press / Media

Hackere angriber energinettet
Luke Thomas Herbert
03/10/2014
1 media contribution
Press / Media

Patch-kaos i kølvandet på Shellshock: Flere sikkerhedshuller skaber forvirring
Luke Thomas Herbert
01/10/2014
1 media contribution
Press / Media

It-sikkerhed, især i forhold til offentlige data
Luke Thomas Herbert
07/05/2014
1 media contribution
Press / Media

It-sikkerhed, især i forhold til offentlige data
Luke Thomas Herbert
07/05/2014
1 media contribution
Press / Media

Professor: Vores samfund har taget for let på al persondataskikkerhed: Personfølsomme oplysninger er blevet kompromitteret
Luke Thomas Herbert
07/05/2014
1 media contribution
Press / Media
Mørkenettet flyder med børneporno og narko
Luke Thomas Herbert
13/11/2013
1 media contribution
Press / Media

Mørkenettet: Mød aktivisten og narkohandlerne, som skjuler sig på nettet: Tilliden til internettet i frit fald - flere gør sig usynlige på nettet.
Luke Thomas Herbert
10/11/2013
1 media contribution
Press / Media