

Artur Podobas

Address: 3-1-54-906 Minatojima Nakamachi, Kobe, Japan

Phone: (+81) 5055399742

Email: artur@podobas.net

Date of Birth: 11th November 1982

RESEARCH INTERESTS

Hardware Design, Neuromorphic Computing, Reconfigurable Computing, Parallel Programming, Parallel Runtime systems, Teaching, Supervising

EMPLOYMENT HISTORY

2019-Current Postdoc, Processor Research Team, RIKEN, Japan

Responsibilities:

- Investigate future post-Moore architectures
- Reconfigurable computing (FPGAs, CGRAs)

2016-2018 Postdoc, Matsuoka laboratory, Tokyo Institute of Technology, Japan

Responsibilities:

- Funded by JSPS postdoc grant
- Research on High-Performance Computers
- Research on reconfigurable computing
- Supervise master- and PhD students

2015-2016 Postdoc, DTU Compute, Denmark Technical University, Denmark

Responsibilities:

- Represent DTU in the EU Artemis-JU COPCAMS project
- Research parallel runtime systems

2012-2012 Internship, Advanced RISC Machines (ARM), United Kingdom

Responsibilities:

- HiPEAC sponsored internship to research parallel runtime systems and compilers on future ARM platforms

2010-2015 PhD Student, Royal Institute of Technology, Sweden

Responsibilities:

- Supervise bachelor/master students
 - Working in 2 EU project: FP7 Encore and Artemis JU PaPP
 - Teach 20% of time at university level
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HIGHER EDUCATION

2015

Doctor of Philosophy, Royal Institute of Technology, KTH

Thesis: Improving Performance and Quality-of-Service through the Task-Parallel Model

Supervisor: Professor Mats Brorsson

Co-Supervisor: Professor Vladimir Vlassov

Opponent: Professor Georgi Gaydadjiev (Chalmers)

2013

Licentiate of Eng., Royal Institute of Technology, KTH

Thesis: Performance-Driven Exploration using Task-based Parallel Programming Frameworks

Supervisor: Professor Mats Brorsson

Co-Supervisor: Professor Vladimir Vlassov

Opponent: Professor David Black-Schaeffer (Uppsala Univ.)

LANGUAGE SKILLS

Native Swedish (*mother tongue*)

Full Professional English

Professional Working Polish

Elementary Japanese

TEACHING AND PEDAGOGICAL EXPERIENCE

- 1) **Course:** IS1200 Computer Hardware Engineering
Institute: Royal Institute of Technology (KTH)
Students: Several hundred per year.
Year(s): 2010 - 2015
Credits: 7.5 HP
Level: First cycle
Course Responsible: Docent David Broman
- 2) **Course:** IS2202 Computer Architecture
Institute: Royal Institute of Technology (KTH)
Students: ~30-80 per year
Year(s): 2011 - 2015
Credits: 7.5 HP
Level: Second cycle.
Course Responsible: Professor Mats Brorsson
- 3) **Course:** IS2200 Parallel Computer Systems
Institute: Royal Institute of Technology (KTH)
Students: ~30 per year
Year(s): 2012 - 2015
Credits: 7.5 HP
Level: Second cycle.
Course Responsible: Professor Mats Brorsson
- 4) **Course:** ID1217 Concurrent Programming
Institute: Royal Institute of Technology (KTH)
Students: 50-100 per year
Year(s): 2014
Credits: 7.5 HP
Level: Second cycle.
Course Responsible: Professor Vladimir Vlassov
- 5) **Course:** KTH Ericsson Joint Education Program on Parallel Programming

Institute: Royal Institute of Technology / Ericsson Research
Students: ~50
Year(s): 2013 and 2015
Credits: Not Applicable
Level: Not Applicable.
Course Responsible: Professor Mats Brorsson / Myself and colleagues

Supervision at bachelor and advanced/master level

- 1) **Student(s):** Göran Angelo Kalderen & Anton From
Year: 2013
Type: Bachelor Thesis, 15 HP
Title: “A Comparative Analysis between Parallel Models in C/C++ and C#/Java”
Institution: Royal Institute of Technology, KTH
Link: <http://kth.diva-portal.org/smash/get/diva2:648395/FULLTEXT01.pdf>
- 2) **Student:** Muhammad Sharjeel Khilji
Year: 2014
Type: Master Thesis, 15 HP
Title: “Design and Implementation of a Heterogeneous Multicore Architecture using Field Programmable Technology”
Institution: Royal Institute of Technology, KTH
Link: <http://www.diva-portal.org/smash/get/diva2:619396/fulltext01.pdf>
- 3) **Student:** Gustav Engström & Falgert Marcus
Year: 2015
Type: Bachelor Thesis, 15 HP
Title: “Implementation and Evaluation of Concurrency on Parallella”
Institution: Royal Institute of Technology, KTH
Link: <http://kth.diva-portal.org/smash/get/diva2:872598/FULLTEXT01.pdf>
- 4) **Student:** Kazuaki Matsumura
Year(s): 2017-2018
Type: Individual Research Project
Scope: OpenMP Compiler for Multi-GPU Use in Tsubame 3 Supercomputer
Institution: Tokyo Institute of Technology
Link: www.oopen.org/download?type=document&docid=1002292#page=118.
- 5) **Student:** Erwin Raynald De Haan
Year(s): 2018-2019
Type: Individual Research Project
Scope: Deep-Learning Inference using High-Level Synthesis on FPGAs
Institution: Tokyo Institute of Technology
- 6) **Student:** Ryan Barton
Year(s): 2018-2019
Type: Individual Research Project
Scope: Investigating Adapting Numerical Representation for Adaptive Mesh Refinement
Institution: Tokyo Institute of Technology

Supervision at doctoral level

- 7) **Student:** Hamid Reza Zohouri
Year(s): 2017-2018.
Thesis: High-Performance Computing with FPGAs and OpenCL
Institution: Tokyo Institute of Technology
My role: co-supervisor
Link: <https://arxiv.org/pdf/1810.09773>

8) **Student:** Shweta Salaria
Year(s): 2018-2019
Thesis: Performance Prediction for Cloud-based High-Performance Computing Systems
Institution: Tokyo Institute of Technology
My role: co-supervisor
