

Patrick Marlier

PhD, Advanced Researcher



contact

Age 34, married
French citizenship

5, rue Emile Thomas
25300 Pontarlier
France

+33 6 17 09 14 22

patrick.marlier@gmail.com
<http://pmarlier.free.fr>

languages

french mother tongue
english fluent
spanish basic

programming

Multi-core programming
C/C++, x86, Java
Linux
Python, JavaScript/JSON

software

GCC Maintainer
TinySTM
EgisTec ES603
PowerSpy.py

personal interests

travel, volleyball, tennis

education

- 2008–2011 **Ph.D.** of Computer Science Université de Neuchâtel, Switzerland
Efficient Transactional Memory Runtimes for Unmanaged Environments
- New Transactional Memory algorithm and implementation.
 - Integration in system stack: language, compiler, runtime, OS, hardware.
 - TinySTM considered as a TM reference.
 - Many collaborations: AMD, Red Hat, BSC, TUD, Tel-Aviv, Chalmers.
- 2004–2007 **Dipl.-Ing.** of Computer Science Université de Technologie de Compiègne, France
M.S. of Computer Science
Optimized communications in multi-hop vehicular ad-hoc networks
Internship and Thesis at Orange Labs, France

experience

- 2015–Now **Cisco Systems** Switzerland
Software Engineer
- Design, implementation, test and support of features on network operating systems running on routers, switches and wireless controllers.
 - Keywords: Wireless, Embedded, Agile, Continuous integration, Scalability.
 - 2015 Winner of Worldwide Cisco Hackathon, Peer recognition for last quarter 2016.
- 2012–2015 **Université de Neuchâtel** Switzerland
Post-doctoral Researcher
- Main research topics: Cloud storage, Energy-aware computing, Transactional Memory.
 - Ph.D. and M.S. students supervision.
 - Teaching assistant: Project management workshop and tools for science.
 - Support ongoing research projects and pursue new fundings.
 - Member of the EU ParaDime project including Barcelona Supercomputing Center, Cloud&Heat, IMEC, Technische Universität Dresden.
 - Joint-research with Technische Universität Dresden (TUD) and Massachusetts Institute of Technology (MIT).
 - Collaboration with Hydrogeologists and Aquanty inc. on high performance computing.
 - Cluster and cloud infrastructure administrator (~80 machines).
- 2011–2012 **University of Rochester** United States of America
Post-doctoral Researcher
- Fellowship: *Scaling up Virtual Machines on Multicore Architectures using Transactional Memory.*
 - Worked with Michael Scott's group.
 - Started a collaboration with IBM and worked for 3 months at IBM Ottawa.
- 2008–2011 **Université de Neuchâtel** Switzerland
Teaching Assistant
Courses: Concurrent programming, Web technologies

references

- References available upon request.

publications

article in peer-reviewed journals

Supporting Time-Based QoS Requirements in Software Transactional Memory.

Walther Maldonado, Patrick Marlier, Pascal Felber, Julia Lawall, Gilles Muller, and Etienne Riviere
ACM Transactions on Parallel Computing, TOPC. ACM, 2015

Time-Based Software Transactional Memory.

Pascal Felber, Christof Fetzer, Patrick Marlier, and Torvald Riegel
IEEE Transactions on Parallel and Distributed Systems, TPDS. 2010

The Velox Transactional Memory Stack.

Yehuda Afek, Ulrich Drepper, Pascal Felber, Christof Fetzer, Vincent Gramoli, Michael Hohmuth, Etienne Riviere, Per Stenström, Osman S. Unsal, Walther Maldonado, Derin Harmanci, Patrick Marlier, Stephan Diestelhorst, Martin Pohlack, Adrián Cristal, Ibrahim Hur, Aleksandar Dragojevic, Rachid Guerraoui, Michal Kapalka, Sasa Tomic, Guy Korland, Nir Shavit, Martin Nowack, and Torvald Riegel
IEEE Micro. 2010

international peer-reviewed conferences/proceedings

A Performance Study of Java Garbage Collectors on Multicore Architectures.

Maria Carpen-Amarie, Patrick Marlier, Pascal Felber, and Gaël Thomas
International Workshop on Programming Models and Applications for Multicores and Manycores, PMAM'15, 2015, San Francisco, USA

Read-log-update: A Lightweight Synchronization Mechanism for Concurrent Programming.

Matveev, Shavit, Felber, and Marlier
Symposium on Operating Systems Principles, SOSP 15, 2015, Monterey, USA

The TURBO Diaries: Application-controlled Frequency Scaling Explained.

Jons-Tobias Wamhoff, Stephan Diestelhorst, Christof Fetzer, Patrick Marlier, Pascal Felber, and Dave Dice
USENIX Annual Technical Conference, USENIX ATC '14, 2014, Philadelphia, USA

Speculative Concurrent Processing with Transactional Memory in the Actor Model.

Yaroslav Hayduk, Anita Sobe, Derin Harmanci, Patrick Marlier, and Pascal Felber
International Conference on Principles of Distributed Systems, OPODIS 2013, 2013, Nice, France

Optimizing hybrid transactional memory: the importance of nonspeculative operations.

Torvald Riegel, Patrick Marlier, Martin Nowack, Pascal Felber, and Christof Fetzer
Symposium on Parallelism in Algorithms and Architectures, SPAA 2011, 2011, San Jose, USA

Deadline-aware scheduling for Software Transactional Memory.

Walther Maldonado, Patrick Marlier, Pascal Felber, Julia L. Lawall, Gilles Muller, and Etienne Riviere
International Conference on Dependable Systems and Networks, DSN 2011, 2011, Hong Kong, China

Evaluation of AMD's advanced synchronization facility within a complete transactional memory stack.

Dave Christie, Jae-Woong Chung, Stephan Diestelhorst, Michael Hohmuth, Martin Pohlack, Christof Fetzer, Martin Nowack, Torvald Riegel, Pascal Felber, Patrick Marlier, and Etienne Riviere
European conference on Computer systems, EuroSys 2010, 2010, Paris, France

Brief Announcement: Hybrid Time-Based Transactional Memory.

Pascal Felber, Christof Fetzer, Patrick Marlier, Martin Nowack, and Torvald Riegel
Distributed Computing, 24th International Symposium, DISC 2010, 2010, Cambridge, USA

Scheduling support for transactional memory contention management.

Walther Maldonado, Patrick Marlier, Pascal Felber, Adi Suissa, Danny Hendler, Alexandra Fedorova, Julia L. Lawall, and Gilles Muller
Symposium on Principles and Practice of Parallel Programming, PPOPP 2010, 2010, Bangalore, India

Experimental Assessment of V2V and I2V Communications.

Moez Jerbi, Patrick Marlier, and Sidi-Mohammed Senouci
IEEE 4th International Conference on Mobile Adhoc and Sensor Systems, MASS 2007, 2007, Pisa, Italy