# Gerd Zellweger


Contact Information

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## Education

**ETH Zürich**, Switzerland

*Ph.D. Student in Computer Science* **2013 – present**

- Advisor: Professor Timothy Roscoe

*Master of Science in Computer Science* **2009 – 2012**

- Focus: Distributed Systems
- Advisor: Professor Timothy Roscoe

*Bachelor of Science in Computer Science* **2006 – 2010**

**Kantonsschule Obwalden**, Switzerland

*Focus in physics and applied mathematics* **2000 – 2006**

## Professional Experience

**HP Labs**, Palo Alto, USA

*Research Associate* **June 2015 – September 2015**

I worked in the systems research group where I designed, implemented and evaluated extensions to the virtual memory subsystem for a BSD derivative OS, to address problems occurring with huge memory capacities in high-end server systems.
Technologies: C, virtual memory systems

**Microsoft Research**, Redmond, USA

*Research Intern* **July 2014 – September 2014**

I collaborated with the Orleans team to work on the Orleans actor system, a distributed runtime for the cloud. I looked specifically at actor placement algorithms and developed new algorithms to improve the actor placement decisions and evaluated them in the cloud.
Technologies: C#, .NET, Azure Cloud, Orleans

**sc-n.ch**, Zürich, Switzerland

*Software Engineer* **February 2012 – February 2013**

I was working as a consultant, for a large insurance company in Switzerland to assist in the migration of their SOA landscape from J2EE 1.4 and Java EE 5 to Java EE 6. As a member of the technical architecture team, I was helping developers with the migration of their codebase and troubleshooting the bugs that appeared as a result of the migration. I was also doing the migration for some of the core technical services of the company.
Technologies: Java, Java EE, IBM Websphere, Ant, XML, SOA

**Capgemini sd&m**, Zürich, Switzerland

*Working Student* **September 2008 – December 2008**

I continued working on the released version of the project environment (see internship below) and did most of the bug fixing. In addition, I helped to develop an Eclipse plugin, which aimed at providing teams with homogeneous configurations for their IDE and respective plugins.

*Developer Intern* **June 2008 – September 2008**

I worked in a team to develop a new version of the company's own project environment. My work consisted of providing RPM packages for new and updated modules, writing scripts for automatic migration and installation, and an application for snapshot generation to aid with the generation of RPM packages. My work also included bug fixing and test case creation for various applications.

## Publications

Simon Gerber, Gerd Zellweger, Reto Achermann, Kornilios Kourtis, Timothy Roscoe, Dejan Milojicic. "**Not Your Parents' Physical Address Space**", *Proceedings of the 15th Workshop on Hot Topics in Operating Systems*, Kartause Ittingen, May 2015.

Gerd Zellweger, Simon Gerber, Kornilios Kourtis, Timothy Roscoe. "**Decoupling Cores, Kernels, and Operating Systems**", *Proceedings of the 11th USENIX Symposium on Operating Systems Design and Implementation*, Broomfield, USA, October 2014.

Gerd Zellweger, Adrian Schüpbach, Timothy Roscoe. "**Unifying synchronization and events in a multicore OS**", *Proceedings of the Third ACM SIGOPS Asia-Pacific Conference on Systems*, Seoul, South Korea, July 2012.

Gerd Zellweger. "**Unifying synchronization and events in a multicore OS**", *Master's thesis*, ETH Zurich, March 2012.

## Teaching

I have been a teaching assistant at ETH for the following courses:

| | |
|---|---|
| *Systems Programming and Computer Architecture* | **Autumn 2015** |
| *Parallel Programming* | **Spring 2015** |
| *Systems Programming and Computer Architecture* | **Autumn 2014** |
| *Parallel Programming* | **Spring 2014** |
| *Advanced Operating Systems* | **Autumn 2013** |
| *Computer Science for Biology & Pharmaceutical Sciences* | **Autumn 2013** |
| *Computer Science for Biology & Pharmaceutical Sciences* | **Spring 2013** |

## Projects

### Barrelfish OS

`www.barrelfish.org`

The Barrelfish operating system is exploring how to structure an OS for future multi- and many- core systems motivated by the increasing amount of cores and diversity in computer hardware. I have contributed code to most areas of the system during my studies at ETH and I have written some of the core services and a few device drivers in the OS from scratch.
Technologies: C, Python, Haskell, x86, ARM

### TEXercises

`www.texercises.com`

TEXercises is a collaborative website providing a database containing exercises for all kinds of classes in science of nature and makes generating exercise sheets for teachers easy. I am the sole creator and maintainer of the project.
Technologies: Python, Django, SQL, JavaScript, LaTeX, HTML

### Open Source Software

`www.github.com/gz`

I am the creator and maintainer of several open source libraries, written in Rust, for low-level systems programming.

## Programming

I taught myself programming using PHP about 14 years ago. Currently I'm most comfortable using Python for scripting, C and Rust for low level programming and Java for everything in between. In addition, I have some experience programming in Haskell and Eiffel.

## Languages

- German: Native language
- English: Fluent in reading and writing
- French: Basic knowledge

## References

*Available on request.*