

# Timo Strunk



## PERSONAL DETAILS

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Marital status	unmarried
Nationality	German
Date of Birth	20.11.1983
Place of Birth	Herne, Germany

## HIGHLIGHTS

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As part of my prior experiences I acquired skillsets, which complemented my aptitude for the analysis of complex problems: I am an expert C++ developer and was the main developer for the SIMONA program package used for protein folding and general simulations on the nanoscale. Source Code available at <http://www.int.kit.edu/nanosim/simona.php>. The code has been running on roughly 40,000 client computers (Linux, Windows, OSX, nvidia and ATI graphics adapters) through the distributed volunteer computing project POEM@HOME (<http://boinc.fzk.de>), which I developed during work for my diploma thesis and maintained successfully for 4 years. I am capable to work my way through foreign codebases, as I was not only required to fix numerous bugs in the previous in-house simulation software, but also in the BOINC libraries (<http://boinc.berkeley.edu/>), to make POEM@HOME a success.

In spite of the large compute capacities of the POEM@HOME network, I set up multiple small local clusters (up to 25 nodes) with a Ubuntu based netboot solution mainly written in Python and Bash. My solution minimized human interaction, when nodes were setup and only required a single MAC address entry in a DHCP database to add the node to the compute pool.

During my previous work experience I acquired a Ph.D in Biophysics including multiple undergraduate courses in CS. I pursued a successful academic career both for me (7 published papers, 2 submitted, 7 proceedings, grant for the duration of my phd) and for my group (multiple presentations in international conferences, communication with sponsors and successful acquisition of funds).

## WORK EXPERIENCE

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2000 - 2003	Voluntary administration of the computer science room of the Max-Planck-Gymnasium, my school, Gelsenkirchen
August 2007 - September 2008	Development and administration of the POEM@HOME project ( <a href="http://boinc.fzk.de">http://boinc.fzk.de</a> ) at the Research Center Karlsruhe, Institute of Nanotechnology, employment as a student research assistant
October 2008 - April 2013	Full-time employment at the Research Center Karlsruhe, now Karlsruhe Institute of Technology as a research assistant in the group of Prof. Dr. Wolfgang Wenzel. Administration of the POEM@HOME project ( <a href="http://boinc.fzk.de">http://boinc.fzk.de</a> ), modeling and simulating protein structures.

## EDUCATION AND QUALIFICATIONS

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1990 - 1994	Primary school Coesfelder Str., Gelsenkirchen
1994 - 2003	Highschool Max-Planck-Gymnasium, Gelsenkirchen
August 2003 - September 2008	Physics diploma at the university of Dortmund, graduation with honors.
October 2008 - November 2012	Ph.D in Biophysics, investigating the absolute quality and stability of protein structures in the group of Prof. Dr. Wolfgang Wenzel. Main developer of the SIMONA project, a general-purpose Monte-Carlo simulation program available at <a href="http://www.int.kit.edu/nanosim/simona.php">http://www.int.kit.edu/nanosim/simona.php</a> .

## SKILLS

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Programming Languages	Programming in C/C++, OpenCL, Python, Bash, Knowledge of Java, PHP, Fortran, CUDA
Data analysis tools	Matplotlib, numpy, Origin, Gnuplot, ROOT, Large Datasets, Databases, MySQL
Graphics and DTP	L <sup>A</sup> T <sub>E</sub> X, MS OFFICE, LibreOffice, Google Docs, GIMP, Photoshop
Server Administration	Proficient in Linux Server Administration, Knowledge of Windows Server Administration, AD, Grid Computing

## LANGUAGES

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German	mother tongue
English	business fluent
Italian	novice

## GRANTS, AWARDS

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2003	Book price of the German Physical Society
December 2003 - October 2008	e-fellows.net grant
August 2008	Graduation with honors in physics at the university of Dortmund
2009	JCP Editor's choice award for my Alanine screening paper
June 2009 - June 2012	Ph.D grant of the Carl-Zeiss foundation for the duration of three years in the project <i>Absolute Quality of Protein Structures</i>

Karlsruhe, April 17, 2013

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