

KAY HAMACHER'S CURRICULUM VITAE

Address <http://www.kay-hamacher.de>

Education

1999 - 2001 PhD in theoretical physics at
"Theoretische Physik I", Dortmund University,
grade: 0.7 ("mit Auszeichnung", summa cum laude)
Title of Thesis: "Quantum mechanical correlation effects"
by means of the Density-Matrix-Renormalization-Group
additional fields studied: economic-related lectures on
game theory, information management, law

1998 - 1999 Study of theoretical physics at
University of California, San Diego, USA, GPA: 4.0
Main focus: statistical mechanics & biophysics

1994 - 1998 Study of Physics, Dortmund University, Germany
Degree: Diplom-Physiker
Grade: 1.0 ("mit Auszeichnung")
minor subject: mathematics (differential geometry)
Title Thesis: "Optimization of high-dimensional functions with
respect to protein-structure-prediction"

1984 - 1993 High-School (Städt. Gymnasium Gevelsberg)
degree: Abitur. Grade: 1.2 (US-equivalent: A)

Employment

2012 - W2-Professor "Computational Biology & Simulation",
Dept. of Biology, TU Darmstadt, Germany

since 2011 Professor (cooptation), Dept. of Computer Science, TU Darmstadt

since 2011 Professor (cooptation), Dept. of Physics, TU Darmstadt

2010 positive evaluation of junior-professorship

2007 - 2012 Group leader & Juniorprofessor, TU Darmstadt, Germany.
Statistical and computational models for molecular
biophysics, simulation methods, and information
theoretic foundations (tenure track)

2006 - 2007 Distinguished PKS Fellow, Max-Planck-Institut für die
Physik komplexer Systeme, Dresden, Germany. Independent research
in theoretical molecular biophysics

2004 - 2006 Liebig-Fellow, Center for theoretical biological physics
and Dept. of Chemistry & Biochemistry, UC San Diego, USA.
Focus: biophysical & mathematical modelling,
molecular biophysics and statistical mechanics

2002 - 2004 Assistant for business development with the
RWE Systems AG, Dortmund, Germany.
Main focus: mathematical finance, project management,
and process optimization

2001 - 2002 PostDoc in the Bionanotechnology-Group at the
Institute for Nanotechnology, Research-Center Karlsruhe,
Germany. Further development of my parallelized DMRG-software

1999 Research assistant at "Theoretische Physik II",
Dortmund University. Research on transition metal compounds
with computer simulations; teaching duties in mathematics

	1998 - 1999	UC San Diego, USA, Research Assistant & Fellow. Research on statistical mechanics of RNA-molecules and phase transitions by means of mathematical models and simulations. Teaching duties in physics (intro. level)
	1998 - 1998	Research assistant at the chair "Theoretische Physik I", Dortmund University, Germany. Research on global optimization, stochastic programming, algorithms, protein folding and teaching duties in mathematics
	1991 - 1995	Teacher for computer science for the city of Gevelsberg, topics: Pascal, robotics, C
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Fellowships	2004 - 2006	Liebig-Fellowship of the "Fonds der chemischen Industrie" for research at UC San Diego
	1999 - 2001	PhD-stipend of the "Fonds der chemischen Industrie" (Foundation of the chemical industry)
	1999 - 2001	PhD-stipend from the "Studienstiftung des deutschen Volkes"
	1998 - 1999	Research Fellowship, UC San Diego, USA
	1998	Graduate Study Stipend, Dept. of Physics, Cornell University, USA (<i>offered</i>)
	1994 - 1998	Stipend from "Studienstiftung des deutschen Volkes" (German National Academic Foundation)
Honors	2011	Outstanding Research Award, TU Darmstadt
	2009 - 2012	Nominated Fellow, Forum Interdisciplinary Research, TU Darmstadt, Germany
	2005 - 2009	Elected Member, Center for interdisciplinary research, Bielefeld University, Germany
	2003	Award for the best PhD-thesis, Dortmund University
	1998	Award for the best thesis, Dortmund University
	1994	Second prize in the state-wide contest "Jugend forscht" for the construction of a parallel computer
Memberships	1993	Book-prize of the chemical industry for the best high-school-degree Gesellschaft für Informatik German Physical Society (DPG) Bunsen-Society for physical chemistry, focus group theo. chemistry
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Languages		German - native speaker English - business fluent Latin
IT-Knowledge		C++, Fortran, R, Lisp, Julia, Python, MPI, Haskell, SQL, CUDA

OFFERED POSITIONS & LIST POSITIONS

- 2014 offer of a W2-Professorship for High-Performance-Computing/Big Data + Directorship of the Paderborn Center for Parallel Computing (PC²), University of Paderborn, *offer turned down*
- 2012 offer of a W2-Professorship for Computational Biology & Simulation, TU Darmstadt, *accepted*, start: April, 1st 2012
- 2011 Professor for Computational Biophysics, Dept. of Physics, NTNU, Trondheim, Norway. *1st position, position offered, offer turned down*
- 2010 Professor for Bioinformatics, Dept. of Computer Science, NTNU, Trondheim, Norway. *short-listed, list of 3*
- 2009 tenure-track option, Dept. of Biology, TU Darmstadt, Germany. *accepted*
- 2009 Faculty position for High-Performance Computing, CU New York, USA. *offer turned down*
- 2007 Junior-Professor for Bioinformatics & Theoretical Biology, Technische Universität Darmstadt, Germany. *1st position, offer accepted*
- 2007 Group-Leader in Computational Engineering, Aachen Institute for Advanced Studies in Computational Engineering Science of the Excellence Initiative Germany, RWTH Aachen, Germany. *offer turned down*
- 2004 Junior-Professor for computational physics & condensed matter physics, Universität Frankfurt a.M., Germany. *1st position, turned down due to Liebig-Fellowship*

ORGANIZATION OF WORKSHOPS

Year	Topic	Venue/Place
2013	Dagstuhl-Workshop “ <i>Genomic Privacy</i> ”	Schloß Dagstuhl, Oct. 2013
2012	Workshop “ <i>Bitcoin</i> ”, INFORMATIK2012	42. Annual Meeting of the Gesellschaft für Informatik e.V., Braunschweig, Germany
2011	Symposium “ <i>Securing medical and social data</i> ”	TU Darmstadt, together with the “Darmstädter Juristischen Gesellschaft”
2010	Symposium “ <i>Securing medical and genomics data</i> ”	TU Darmstadt, together with the “Darmstädter Juristischen Gesellschaft”
2009	“ <i>Function and Failure of Adaptive Biological Networks</i> ”	Center for interdisciplinary research, Bielefeld University
2009	“ <i>Massively-Parallel Computational Biology on GPUs</i> ”, INFORMATIK2009	39. Annual Meeting of the Gesellschaft für Informatik e.V., Lübeck, Germany

EDITORIAL ACTIVITIES

- Editor-in-Chief of 'Frontiers in Computational Physics', 2013-2018
- Member of Editorial Board of 'PLOS One', 2013-2018
- Co-Editor of Book “Datenschutz als multidisziplinäre Aufgabe”, Springer, June 2013

ADMINISTRATIVE SERVICE

- 2014- Member of the budget committee, Dept. of Biology, TU Darmstadt
- 2012-2014 Senate delegate for appointment committees
- 2011 Member of the faculty search committee “Bio-inspired communication technologies”
- 2011-2013 elected member in the faculty committee (Fachbereichsrat)
- since 2009 representative of TU Darmstadt for High-Performance-Computing (HPC) in the state Hessen
- 2009-2011 elected member in the faculty committee (Fachbereichsrat)
- 2009 Responsible for Outreach and PR, Dept. of Biology, TU Darmstadt
- 2008-2010 Member of the committee for students affairs, Dept. of Biology, TU Darmstadt
- 2008-2014 Member of the committee for PhD studies, Dept. of Biology, TU Darmstadt
- since 2007 Member of 14 faculty appointments committees at TU Darmstadt

REVIEWING & REFEREEING ...

- ... for Funding Agencies
 - Deutsche Forschungsgemeinschaft (DFG), Section Computational Biology and Bioinformatics & Section Dynamical Systems
 - German-Israeli-Foundation (GIF), Statistical Physics
 - Carl-Zeiss-Stiftung
 - BMFWF, Austria, Section Bioinformatics
 - Agence Nationale de la Recherche (ANR), France, Section Biophysics & Section Bioinformatics
 - CECAM (Centre Européen de Calcul Atomique et Moléculaire), Paris
 - National Research Agency (UEFISCDI), Romania, Computational Biophysics
 - Health Research Board (Ireland) for Biophysics, Simulation, and Virology
 - University of Witwatersrand, South Africa, Tenure
 - South Africa National Research Foundation (NRF)
 - Strategic University Research, Hong Kong
- ... for Journals
 - ACM Computing Surveys
 - Algorithms
 - Artificial Intelligence in Medicine
 - Bioinformatics
 - Biological Research
 - Biosystems
 - BMC Medical Informatics and Decision Making
 - Chaos (AIP)
 - Computer Methods and Programs in Biomedicine
 - Concurrency and Computation: Practice and Experience
 - Entropy
 - Gene
 - IEEE Signal Processing Letters
 - IEEE Security & Privacy
 - IEEE Transactions on Evolutionary Computing
 - IET Systems Biology
 - Journal of Chemical Physics
 - Journal of Chemical Theory and Computation
 - Journal of Computational Physics
 - Journal of Computational Chemistry
 - Journal of Digital Forensics, Security and Law
 - Journal of Global Optimization
 - Physica A
 - Physical Chemistry Chemical Physics
 - Plant Biology
 - Plant Physiology
 - PLoS One
 - PLoS Computational Biology
 - Proteins
 - Scientific Reports (Nature)
 - SIAM Journal on Control and Optimization
- ... for Conferences (program committee member)
 - Genomic Privacy (GenoPri), 2015, 2016, 2017, 2018
 - SICHERHEIT 2018 (Gesell. für Informatik)
 - BioStar, 2017, 2016, 2018
 - Bio-inspired Cyber Security & Networking (BCSN 2015)
 - IEEE Information Visualization Conference (InfoVis), 2014
 - PETS Workshop on Genome Privacy (GenoPri), 2014
 - BITCOIN'14, workshop during Financial Cryptography and Data Security 2014
 - Int. Conference on Computer Communication Networks (ICCCN 2012)
 - 11th IEEE Int. Conf. on Bioinformatics and Bioengineering (BIBE2011)