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
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
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 *(offered)*
	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
	1993	Book-prize of the chemical industry for the best high-school-degree
Memberships		Gesellschaft für Informatik German Physical Society (DPG) Bunsen-Society for physical chemistry, focus group theo. chemistry
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 (PC^2), 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. 1^{st} *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. 1^{st} *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. 1^{st} *position, turned down due to Liebig-Fellowship*

Organization of Workshops

Year	Topic	Venue/Place
2013	Dagstuhl-Workshop *"Genomic Privacy"*	Schloß Dagstuhl, Oct. 2013
2012	Workshop *"Bitcoin"*, INFORMATIK2012	42. Annual Meeting of the Gesellschaft für Informatik e.V., Braunschweig, Germany
2011	Symposium *"Securing medical and social data"*	TU Darmstadt, together with the "Darmstädter Juristischen Gesellschaft"
2010	Symposium *"Securing medical and genomical data"*	TU Darmstadt, together with the "Darmstädter Juristischen Gesellschaft"
2009	*"Function and Failure of Adapative Biological Networks"*	Center for interdisciplinary research, Bielefeld University
2009	*"Massively-Parallel Computational Biology on GPUs"*, 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 Dyamical Systems
  - German-Israeli-Foundation (GIF), Statistical Physics
  - Carl-Zeiss-Stiftung
  - BMWFW, 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
  - Artifical 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)