

Education and academic positions:

- Oct 96- Dec 03 **ETH Zürich, Swiss Federal Institute of Technology** Zürich, Switzerland
Assistant Professor of Computer Science
Computer Science Department, Professor and leader of a research group in parallel and distributed systems, associated with the Institute for Computer Systems.
Head of the Institute for Computer Systems in 1999/2000 (Institutsvertretung)
- Oct 89- Oct 96 **Carnegie Mellon University, (School of Computer Science)** Pittsburgh, PA, USA
Doctoral Student, Ph.D. in Computer Science
Dissertation Title: "Direct Deposit - where shared memory meets message passing",
Thesis committee: Prof. Thomas Gross (advisor), Guy Blelloch, Dave O'Hallaron, Peter Steenkiste (CMU) and Kai Li (Princeton University).
- Oct 82- April 88 **ETH Zürich, Swiss Federal Institute of Technology** Zürich, Switzerland
Masters in Computer Science & Engineering (Diplom. als Informatik Ingenieur).
Masters thesis: "Self- and Cross-decimation of Shift-Register Sequences", crypto-graphy, Advisors: Prof. J. L. Massey (ETHZ), Dr. Rainer Rüppel, Dr. Xuejia Lai.
Minor thesis: Solid-state physics.
- Mar 74- Oct 82 **Solothurn State College (Kantonsschule Solothurn),** Olten, Switzerland
Baccalaureate/Matura Degree, awarded in the "**Gymnasium B track**", a competitive eight year grammar school; degree admits to university studies in any academic field.

Academic offers ("Rufe"):

- Jun 02- Dec 02 **Universities of Constance, Passau & the Technical University of Dresden** Germany
Three offers for full professorships (C4 "Rufe"). The "Rufe" of Univ. of Constance and TU Dresden (Siemens/Nixdorf endowed chair for systems engineering) were issued, a similar position at the University of Passau was declined before a "Ruf" was formally issued.
- May 02 **Imperial College, New Kensington, London** London UK
Offer for a tenured senior lecturer position (C3 or associate professor level) at the Dept. of Computer Science. Offer declined due to pending offers for full professor in Germany.

Industrial research positions and selected university projects:

- April 04- present **Google Inc., Zürich Research & Development Laboratory** Zürich, Switzerland
Senior Systems Scientist and full time Staff Member ("Googler")
Contributions: Technical work on a core infrastructure of Google which could potentially handle clusters with a "million of machines" worldwide. Also recruiting engineers from Universities all over in Europe and establishing the Google Zürich engineering site.
Manager: Dr. William M. Coughran, Jr. (Google)
- June 92- Sept 92 **IBM T. J. Watson Research Laboratory** Yorktown Heights, NY, USA
Industrial summer position, supplemental employee
Contributions: Evaluation/Optimization of the network interface for high performance message passing in the first generation of IBM POWER Parallel Systems (SP1).
Managers: Dr. Marc Snir, Dr. Pratap Patnaik (IBM)
- June 91- Sept. 91 and June 90- Sept 90 **Intel Supercomputer Systems Division** Portland, OR, USA
Industrial summer positions, research contractor, iWarp* project group.
Contributions: the iWarp message routing system, a fast mesh sorter, a configuration management system and a disassembler for the iWarp LIW instruction set.
Managers: Dave Riss, Chris Dodd, Paul Weiss (Intel)
- May 88- Aug 89 **IBM T. J. Watson Research Laboratory,** Yorktown Heights, NY, USA
Full time supplemental staff position in the department of VLSI & Microsystems.
Contributions: EMIT bricker, a CAD tool for the prediction of electromagnetic interference emitted from printed circuits based on lumped circuit models of conductors.
Manager: Dr. Albert E. Ruehli (IBM)
- 1991 **Area qualifier minor project in theory of computing** Pittsburgh, PA, USA
"Finite Fields, Public Keys and Mathematica", an illustrated electronic notebook with automated proofs of the principles in RSA. Advisor: Prof. Dana Scott (CMU).
- 1986 **Area qualifier major project in system software** Zürich, Switzerland
"A hierarchal file system extension for the Lilith MEDOS",
Advisors: Prof. Niklaus Wirth (ETHZ), Dr. Frank Peschel (now with Microsoft)

* iWarp' is a distributed memory, parallel supercomputer, developed as a joint project of CMU, ARPA, SPAWAR & Intel.

- 1983,85,87, 99, 01, 03 **Military services (Swiss Militia)** **Kloten, Switzerland**
Telecommunication specialist and officer (non commissioned group leader), lately as a Cryptography Specialist.
- July 85- Oct 85 **Ascom Telecom (Hasler Gruppe, in House Devices)** **Berne, Switzerland**
Industrial summer position, practical trainee. Design of a line interface card for a packet assembler disassembler (PAD) according to CCITT X.3,X.25,X.28 and X.29.
- 1982 **Finalist in a National Youth Research Contest (Jugend Forscht Wettbewerb),**
Nationwide contest of independent research studies for high school students.
 Entry: ECONET, design and implementation of a low cost local area network for the first generation of personal computers (Apple II, V24 Star Network, Net-Booting).

Systems Built:

- Xibalba Cluster:** A reconfigurable high performance cluster of PCs for research in distributed databases and research in computational science. 2000-2001
- Patagonia Cluster:** A highly interconnected multi-boot, multi-purpose cluster of personal computers for educational use (day-time) and computational use (night-time). The installation is an early prototype of a "Desktop Grid". 1998
- CoPs Cluster:** A highly interconnected cluster with Gigabit Ethernet connectivity to each node for research in system software efficiency. This system includes a testbed for different Gigabit/s interconnection technologies 1996-1999
- Fx Fortran Compiler:** Parallelizing Fortran Compiler integrating data and task parallelism, contributions to the optimized inter-processor communication in the back-end. 1994-1996 (project directed by Thomas Gross, Jaspal Sublok and David O'Hallaron at CMU)
- iWarp:** Distributed memory parallel supercomputer, based on a single chip full custom VLSI implementation and a unique high performance communication system 1989-1994 (project directed by H.T. Kung and Thomas Gross at CMU)
- EMIT:** Software system to simulate and predict the electromagnetic radiation of electronic equipment on printed circuit board, based on a lumped circuit element model and a circuit simulator 1988-1989 (project directed by A.E.Rühli).

Teaching Experience:

- Summer 02- **University of Constance, Germany (1 semester course)**
 Problem Solving and Software Design in Java (Praktische Informatik II), a first year course in the information engineering program. Professor in charge for lectures, homeworks and laboratory assignments, 120 students per yr., 3 hrs. lectures per wk.
- Winter 97- Winter 02 **ETH Zürich (5 semester courses)**
 Programming at the systems level (The Hardware Software Interface), 37-023, a second year course for the computer science- & engineering program. Professor in charge for lectures, homeworks and laboratory assignments, 250 students per yr., 4 hrs.lecture plus 3 hrs. of recitations and lab works per wk. (Uebungen).
- Summer 97- Summer 99 **ETH Zürich (3 semester courses)**
 Algorithms, Data Structures and Problem Solving in C++ (Informatik II), 37-836, a first year service course in the electrical engineering undergraduate program. Professor in charge for lectures, homeworks and laboratory assignments, 200 students per yr., 4 hrs. of lecture per wk., based on a textbook of Mark Allan Weiss.
- Winter 97- Winter 02 **ETH Zürich (5 semester courses)**
 Computer Systems Performance Evaluation and Benchmarking, 37-235, a graduate level course for the computer science & electrical engineering programs. Professor in charge for lectures, homeworks and a practical project, 12 students per yr., 4 hrs. per wk., in English, based on a textbook of Raj Jain.
- Fall 93 Spring 91 **Carnegie Mellon University (2 semester courses)**
 Graduate course in computer architecture (15-740) and an undergraduate course in computer architecture (15-347). Teaching assistant, some lectures in class, office hours and grading with Prof. Randy Bryant and Prof. Dan Siewiorek (15-347)
- several dates **ETH Zürich (6 courses for practitioners in industry, 3 days each)**
 Distributed programming with CORBA, a compact introduction for practitioners in industry. Based on the public domain implementation of MICO CORBA. Concept, teaching and exercises.
- several dates **ETH Zürich (3 courses for practitioners in industry, 1 day each)**
 Computer Systems Performance Analysis and Benchmarking, a compact introduction for practitioners in industry. Concept, teaching and exercises.

Funding:

- Summer 02- **Combining Task and Data Parallelism to Speed Up Protein Folding in Widely Distributed Systems.** I graduate student funded for a summer term by United Devices Inc., Austin, Tx, (\$/€ 10k).
- Fall 2000 **Xibalba Cluster, Equipment Grant from Research Office of Swiss Inst. of Tech.** Proposal of (\$/€ 500k) is accepted and machine 128*2*1 GHz Cluster is procured in Spring 2001.
- Fall 1999-
Fall 2002 **Machine Learning in Parallel and Distribute Computing, Proposal to the Next Generation Software Systems Program, US NSF, Swiss part funded by SNF.** Swiss part of proposal of (\$/€ 200k) is accepted and 2 graduate/doctoral students are funded till 2001.
- Fall 1996-
Fall 2002 **Faculty start-up grant of the president of ETH Zürich** Full support for salaries (12 month/yr.) for an assistant professor and three graduate students (\$/€ 2'000k) including a substantial (\$/€ 300k) equipment grant. The grant period is 3 years, renewed for another 3 years.
- Fall 1989-
Fall 1996 **Graduate Fellowship, School of Computer Science, Carnegie Mellon University** Full tuition and stipend for the entire duration of my doctoral studies, funding was provided, in parts, by the US Office of Naval Research (ONR), US Strategic Warfare Command (SPAWAR) and the US Defense Advanced Research Project Agency (DARPA).

Research Collaborations:

- OPAL:** Institut für Molekularbiologie und Biophysik der ETH Zürich, Modelling 3D Structure of Prions, *Prof. Kurt Wüthrich, Dr. Peter Güntert.*
- LAPP:** Pittsburgh Supercomputer Center on Machine Learning in Parallel and Distributed Computing, *Dr. Sergiu Sanielevici*
- CHARMM:** Institute for Biochemistry of the University of Zürich, *Prof. Amedeo Caflisch.* Harvard University, Chemistry Department, *Prof. Martin Karplus.* United Devices Inc. *Dr. David Anderson (CTO), Dr. Ashok Adiga and Piush Patel.*

Invited presentations, 1989-present

- Invited lecture on Computer Performance Analysis and Benchmarking at the Technical University of Munich, May 2004, *Garching bei Munich.*
- Conference Plenary Panelist at the Clusters 2003 conference in Hong Kong, SAR, China, at the CAC3 Workshop *Nice, Frances* and at the SOS8 meeting in *Durango, Colorado,*
- Conference Plenary Talk at the PPAMo3 conference, September 2003 in *Czestochova, Poland.*
- Conference Keynote at Rechnerinfrastrukturtagung der Max Planck Gesellschaft, *Göttingen.*
- Invited talks at Sun Labs in *Grenoble, France;* Sandia National Labs, *Albuquerque New Mexico, USA;* Universite de Louvain, *Leuven Belgium;* Universities of *Lancaster, UK; Innsbruck, Austria; Saarbrücken, Karlsruhe, Stuttgart, Chemnitz, Dresden, Erlangen, Konstanz, Thübingen, Siegen, Paderborn, Passau* all in Germany; Imperial College, *London, UK,* Microsoft Research Lab, *Cambridge UK,* PC² Institut und Rechenzentrum, *Paderborn,* Intel Microprocessor Research Center, *San Jose, CA,* IBM Research Laboratories *Austin, TX* and *Yorktown Heights, NY,* Silicon Graphics Inc., *Mountain View, CA,* Washington University, *Saint Louis, MO,* University of Toronto, *Toronto, Ontario, Canada,* University of California at *Davis, CA* and the Swiss Center for Supercomputing, *Manno, TI.*

Professional activities in international conferences:

- *Steering Committee Member* of IEEE Cluster Conference Series (two terms), *Vice General Conference Chair* in Cluster 2000, Conference in Chemnitz, Saxony.
- *Programm Chair* in the 7th International Cluster Computing Conference, Cluster 2005, October in Boston, MA and *Programm Committee Member* in 2000, in Chemnitz, Clusters 2001 in Newport Beach, California, Cluster 2002 in Chicago IL & Cluster 2003 in Hongkong, China.
- *Programm Committee Member* in the Second and Third Cluster CCGrid, Computing and Grid Conference, May 2002 in Berlin, Germany and 2003 in Tokyo, Japan.
- *Programm Committee Member* in the International Parallel and Distributed Processing Symposium, Computer Architecture Track, April 2003, Nice, France.

Doctoral students under my direct supervision at ETH Zürich

- *Michela Tauffer*, laurea di ingegneria, Università di Padova, Italy, ETH Ph.D. graduate of 10/4/02, now a researcher with Scripps Institute, San Diego, appointed to be professor starting 1.1.2005.
- *Christian Kurmann*, Dipl. Ing. ETH Zürich, ETH Ph.D. graduate of 12/13/02, now with Google Inc.
- *Felix Rauch*, Dipl. Ing. ETH Zürich, ETH Ph.D. graduate of 09/26/03, now a researcher with National Center of Excellence for Information and Communication Technology Australia, NICTA.
- *Irina Chihaiia*, Dipl. Ing. University of Cluj-Napoca, coadvised with Prof. Thomas Gross 1998-2001
- Co-referee (thesis committee member) of several other doctoral candidates at ETH Zürich.

Masters theses and term projects under my direct/indirect supervision at ETH Zürich:

- *A total of 40 master's theses and term projects of students with graded final reports.*

Professorial oversight and responsibility for problems given to the students and the grading of final report and presentations. Partial archive of those reports <http://www.cs.inf.ethz.ch/stricker/sada/>

Professional activities in committees at ETH Zürich (Kommissionen) / Referee Reports (Gutachten)

- Referee report/Gutachter on the merits of Dr. Vinton Cerf and Dr. Robert Kahn, for a doctorate "honoris causae (1998)" in recognition of their role as inventors of TCP/IP and founders of ARPANET/INTERNET.
- Faculty recruiting committee for three Assistant Professors in Computer Science, 1997-1999, and one in Electrical and Computer Engineering, 1999. Committee on computer science computing resources (member)
- Computer Science Faculty Committee on the review of a new ETH Internet policy (chairman). (a job which I should never have accepted)

Referee/reviewer for conference and journal papers, 1989-present

- IEEE Journal of Parallel and Distributed Computing, ACM Transactions of Parallel Languages and Systems, Journal of Supercomputing, ACM/IEEE High Performance Distributed Computing Conference 2003, IEEE CCGrid 2003, 2002, IEEE/ACM Supercomputing 92-01 and 2003, ACM/IEEE HPDC (High Performance Distributed Computing), IEEE/ACM IPDPS Intl. Parallel and Distributed Processing Symposium, IEEE Cluster 2000, 2001, 2002, IEEE/ACM ISCA 20-present (ACM/IEEE International Symposium of Computer Architecture), IEEE/ACM HPCA (Symp. on High Performance Computer Architecture), IEEE/ACM ASPLOS (Symp. on Architectural Support for Programming Language and Operating Systems).

Memberships in professional organizations:

- Voting Member of the Assoc. of Computing Machinery (ACM), SIGARCH, SIGOPS, SIGCOMM.
- Voting Regular Member of the IEEE and IEEE Computer Society.
- Founding member of UNIGS, Unix Interest Group Switzerland (member 1982-1992).

Language skills and interests outside computer science:

- German (native tongue, very good skills, in speaking, reading and writing)
- English (speaking, reading and writing, 5 years in school, 10 years of practice in the USA)
- French (good skills in reading, speaking, fair skills in writing, 6 years in school)
- Spanish (fair skills in reading and comprehension, 3 years in school)
- Leading and organizing outdoors activities, licensed as a camp leader in alpine sports, travel for cultural experience, photography, black/white- and color-printing, botany (Orchidophile).

Names of References:

The names of up to five references, who know my work and agreed to provide a letter of reference are available upon request. Please request the names and contact information directly from the candidate under <tomstr@acm.org>.

Biographical Data:

Name: Thomas Martin Stricker
Date of birth: June 6, 1963
Citizenship: Swiss Citizen, eligible for EU work permit under bi-lateral agreements.
Work-Permits: US Permanent Resident, eligible for US work permit any time.
Marital Status: Single

Selection of the five most relevant publications in international journals and conferences ** :

- *Zero-Copy for CORBA --- Efficient Communication for Distributed Object Middleware*, in proceedings of the 12th International Symposium on High Performance Distributed Computing HPDC, Seattle, Washington, June 22-25, 2003, with Ch. Kurmann.
- *Combining Task- and Data Parallelism to Speed up Protein Folding on a Desktop Grid Platform* in proceedings of CCGrid, the IEEE Intl. Symposium on Cluster Computing and the Grid, May, 2003, Tsukuba, Tokyo, Japan with Bennet Uk, Michela Taufer, Gianni Settanni, Andrea Cavalli and Amedeo Caflisch.
- *Scalability and Resource Usage of an OLAP Benchmark on Clusters of PCs*, in proceedings of the 14th Symposium of Parallel Algorithms and Architectures, ACM SPAA'02, August, 2002, Winnipeg, Manitoba, with Michela Taufer, Roger Weber.
- *Speculative Defragmentation - A Technique to Improve the Communication Software Efficiency for Gigabit Ethernet*. Distinguished paper in the proceedings of the 9th International Symposium on High Performance Distributed Computing HPDC, Pittsburgh, Pennsylvania, August 1-4, 2000, with Ch. Kurmann, M. Muller, F. Rauch. An extended version appears as Technical Report No.339, Computer Science Department, ETH.
- *The Impact of Communication Style on Machine Resource Usage for the iWarp LIW Parallel Processor*, in IEEE Computer, vol.27, no. 12, December 1994, with Thomas Gross, David R. O'Hallaron, Atsushi Hasegawa, Susan Hinrichs.

Most recent five papers in international conferences:

- *OS Support for a Commodity Database on PC clusters --- Distributed Devices vs. Distributed File Systems*, to appear in proceedings of the 16th. Australasian Database Conference. Newcastle, Australia, Feb 2005, with Felix Rauch.
- *Multimedial Enhancement of a Butoh Dance Performance - Mapping Motion to Emotion with a Wearable Computer System*. Best paper award at the Second International Conference on Advances in Mobile Multimedia (MoMM2004), September 22-24, 2004, in Bali, Indonesia with Jürg Gutknecht, Irena Kulka, Pawl Lukowicz and Michael Barry.
- *A Performance Monitor based on Virtual Global Time for Clusters of PCs*, in proceedings of the IEEE International Conference on Cluster Computing 2003, Hongkong, SAR, China, Dec 1-4, 2003 with Dr. Michela Taufer.
- *Zero-Copy for CORBA --- Efficient Communication for Distributed Object Middleware*, in proceedings of the 12th International Symposium on High Performance Distributed Computing HPDC, Seattle, Washington, June 22-25, 2003, with Ch. Kurmann.
- *Combining Task- and Data Parallelism to Speed up Protein Folding on a Desktop Grid Platform* in proceedings of CCGrid, the IEEE Intl. Symposium on Cluster Computing and the Grid, May, 2003, Tsukuba, Tokyo, Japan with Bennet Uk, Michela Taufer, Gianni Settanni, Andrea Cavalli and Amedeo Caflisch.

Publications:

Reprints of all my publications are distributed electronically by the World Wide Web, see <http://www.cs.inf.ethz.ch/CoPs/papers>

**The co-authors C. Kurmann, M. Taufer, F. Rauch, M. Müller, B.M. Müller, G. Roos, I. Chihai, E. Peratoner are doctoral- or masters-students under my direct supervision.

List of publications in refereed international journals and book chapters:

- 1 *Speculative Defragmentation — Leading Gigabit Ethernet to True Zero-Copy Communication* in Cluster Computing: the Journal of Networks, Software Tools and Applications, Vol 4, Issue 1 (March 2001), p7-18, Baltzer Science Publishers, Bussum, The Netherland, ISSN 1386-7857, with Christian Kurmann and Felix Rauch.
- 2 *Partition Cast - Modelling and Optimizing the Distribution of Large Data Sets in PC Clusters*. in Concurrency and Computation: Practice and Experience, Vol 14, Issue 3 (March 2002), p165-181, John Wiley & Sons Ltd, Chichester, England, ISSN 1040 3108, with Felix Rauch, Christian Kurmann.
- 3 *A Comparison of Three Gigabit Technologies: SCI, Myrinet and SGI/Cray T3D*. Book Chapter in SCI Based Cluster Computing, H. Hellwagner and A. Reinefeld, eds. Springer, Berlin, Fall 1999 with Christian Kurmann.
- 4 *The Impact of Communication Style on Machine Resource Usage for the iWarp LIW Parallel Processor*, in IEEE Computer, vol.27, no. 12, December 1994, with Thomas Gross, David R. O'Hallaron, Atsushi Hasegawa, Susan Hinrichs. Extended version appears also as CMU technical report CMU-CS-92-215.
- 5 *Message Routing in Irregular Meshes and Tori*, a journal version of my original conference article (DMCC6, 1991) was plagiarized by Mr. C.V. Papadopoulos, accepted by all peer reviewers and appeared in the European Journal of Elsevier Press: Microprocessing and Microprogramming, Amsterdam, August 1995.

Correspondence:

- 6 *Comments on "Transparent User-Level Process Checkpoint and Restore for Migration" by Bozyigit and Wasig*, in Operating Systems Review, ACM, 36(3):8-9, July 2002 with Felix Rauch.

List of refereed publications in international conferences:

Note: It is my personal preference to publish of my work in time in highly selective international conferences instead of publishing late in journals. Conferences in the field of computer architecture and system software are highly competitive and have acceptance rates between 1 out of 12 (e.g. ISCA, HPDC) down to 1 out of 4 (e.g. IPDPS, Cluster).

- 7 *OS Support for a Commodity Database on PC clusters --- Distributed Devices vs. Distributed File Systems*, to appear in proceedings of the 16th. Australasian Database Conference. Newcastle, Australia, Feb 2005, with Felix Rauch.
- 8 *A Performance Monitor based on Virtual Global Time for Clusters of PCs*, in proceedings of the IEEE International Conference on Cluster Computing 2003, Hongkong, SAR, China, Dec 1-4, 2003 with Michela Taufer.
- 9 *Zero-Copy for CORBA --- Efficient Communication for Distributed Object Middleware*, in the proceedings of the 12th International Symposium on High Performance Distributed Computing HPDC, Seattle, Washington, June 22-25, 2003, with Ch. Kurmann.
- 10 *Combining Task- and Data Parallelism to Speed up Protein Folding on a Desktop Grid Platform* accepted for publication in the proceedings of CCGrid, the IEEE Intl. Symposium on Cluster Computing and the Grid, May, 2003, Tsukuba, Tokyo, Japan with Bennet Uk, Michela Taufer, Gianni Settanni, Andrea Cavalli and Amedeo Cafilisch.
- 11 *Implementation and Characterization of Protein Folding on a Desktop Computational Grid (Is CHARMM a suitable candidate for the United Devices MetaProcessor?)* in the proceedings of the IEEE/ACM International Parallel and Distributed Processing Symposium, April 2003, Nice, France, with Michela Taufer, Bennet Uk, Gianni Settanni and Andrea Cavalli.
- 12 *Cost/Performance Tradeoffs in Network Interconnects for Clusters of Commodity PCs*. in proceedings of CAC'03, Workshop on Communication Architectures for Clusters, April 03, Nice, France, with Felix Rauch, Christian Kurmann.
- 13 *Scalability and Resource Usage of an OLAP Benchmark on Clusters of PCs*, in proceedings of the 14th Symposium of Parallel Algorithms and Architectures, ACM SPAA'02, August, 2002, Winnipeg, Manitoba, with Michela Taufer, Roger Weber.

- 14 *Performance Characterization of a Molecular Dynamics Code on PC Clusters. Is there any easy parallelism in CHARMM?* submitted to IPDPS, the IEEE and ACM International Parallel and Distributed Processing Symposium, April 2002, Fort Lauderdale, Florida, with Michela Taufer, Egon Perathoner and Amedeo Caflisch.
- 15 *On the Migration of the Scientific Code Dyana from SMPs to Clusters of PCs and on to the Grid* in proceedings of CCGrido2, the IEEE International Symposium on Cluster Computing and the Grid, May, 2002, Berlin, Germany, with Michela Taufer, Gerard Roos and Peter Güntert.
- 16 *Partition Repositories for Partition Cloning - OS Independent Software Maintenance in Large Clusters of PCs.* Proceedings of the IEEE International Conference on Cluster Computing 2000, Chemnitz, Germany, Nov 28 - Dec 2, 2000 with Felix Rauch and Christian Kurmann.
- 17 *Speculative Defragmentation - A Technique to Improve the Communication Software Efficiency for Gigabit Ethernet.* Distinguished paper in the proceedings of the 9th International Symposium on High Performance Distributed Computing HPDC, Pittsburgh, Pennsylvania, August 1-4, 2000, with Ch. Kurmann, M. Muller, F. Rauch. An extended version appears as Technical Report No.339, Computer Science Department, ETH.
- 18 *Partition Cast - Modelling and Optimizing the Distribution of Large Data Sets in PC Clusters.* Distinguished paper in the proceedings of the European Conference on Parallel Computing Euro-Par 2000, Munich, Germany, August 29 - September 1, 2000 (Springer, LNCS Vol.1900, Eds. Arndt Bode and Thomas Ludwig), with F. Rauch, Ch. Kurmann. An extended version appears as Technical Report No. 343, Dept. of Computer Science, ETH Zürich.
- 19 *Patagonia - A Dual Use Cluster of PCs for Computation and Education.* in proceedings of the 2nd. Workshop on Cluster Computing, CC99, Karlsruhe, Germany, April 1999, with Felix Rauch, Christian Kurmann and Blanca Maria Müller-Lagunez.
- 20 *A Comparison of Three Gigabit Technologies: SCI, Myrinet and SGI/Cray T3D* in proceedings of the SCI Europe'98 Conference at EMMSEC'98, Sept. 1998, Bordeaux, France.
- 21 *Accurate Performance Evaluation, Modeling and Prediction of a Message Passing Simulation Code based on Middleware,* in Proceedings of the Supercomputing 98 Conference, ACM/IEEE SC98, November 1998, Orlando, USA, with Michela Taufer. An extended version appears as Computer Science Techn. Report #310, *Performance Characterization and Modeling of the Molecular Simulation Code Opal* with P.Arbenz, M.Taufer, U.von Matt.
- 22 *Characterizing memory system performance for local and remote accesses in high end SMPs, low end SMPs and clusters of SMPs* in proceedings of the 7th Meeting on Scalable Memory Multiprocessors held in conjunction with the 25th International Symposium of Computer Architecture, ACM/IEEE ISCA98, June 1998, Barcelona, Spain, with Christian Kurmann.
- 23 *Global Address Space, Non-Uniform Bandwidth: A Memory System Performance Characterization of Parallel Systems* in Proceedings of the IEEE High Performance Computer Architecture Conference, HPCA'97, San Antonio, TX, February 1997, with Thomas Gross.
- 24 *From AAPC Algorithms to High Performance Permutation Routing and Sorting,* in proceedings of the 8th. Symposium of Parallel Algorithms and Architectures, ACM SPAA'96, June 1996, with Jonathan Hardwick. Extended version appears as CMU Computer Science Technical Report CMU-CS-96-120.
- 25 *Decoupling Synchronization and Data Transfer in Message Passing Systems of Parallel Computers,* in proceedings of the International Conference on Supercomputing, IEEE ICS 95, July 1995, Barcelona, Spain, with Jim Stichnoth, David O'Hallaron, Susan Hinrichs, and Thomas Gross.
- 26 *Optimizing Memory Systems Performance for Communication in Parallel Computers,* in the 22nd International Symposium on Computer Architecture, IEEE/ACM ISCA, June 1995, Santa Margherita di Ligure, Italy, with Thomas Gross.
- 27 *An Architecture for Optimal All-to-All Personalized Communication,* in proceedings of the 6th Symposium of Parallel Algorithms and Architectures, ACM SPAA'94, Cape May, NJ, January 1994, with Susan Hinrichs, Corey Kosak, David O'Hallaron, Thomas Stricker, and Richiro Take. Extended version of the paper appears as CMU CS technical report CMU-CS-94-140.

- 28 *Supporting sets of Arbitrary Connections on iWarp through Communication Context Switches*, in proceedings of the 5th ACM Symposium on Parallel Algorithms and Architectures, SPAA, Schloss Velen, Westfalia, Germany, June 1993, with Anja Feldmann and Thomas Warfel.
- 29 *Supporting the Hypercube Programming Model on Mesh Architectures*, in Proceedings of the 4th Symposium on Parallel Algorithms and Architectures, SPAA, San Diego CA, June 1992.
- 30 *Subset Barrier Synchronization on Distributed Memory Parallel Computers* in the 4th ACM Symposium on Parallel Algorithms and Architectures, SPAA, San Diego CA, June 1992, with Anja Feldmann, Thomas Gross and David O'Hallaron.
- 31 *Message Routing in Irregular Meshes and Tori* in Proceedings of the 6th IEEE Distributed Memory Computing Conference, DMCC, Portland OR, May 1991, Extended version appeared as CMU Computer Science Technical Report CMU-CS-91-109, Carnegie Mellon School of Computer Science.

Refereed publications outside the immediate sope of my research group:

- 32 *Multimedial Enhancement of a Butoh Dance Performance - Mapping Motion to Emotion with a Wearable Computer System*. Best paper award at the Second International Conference on Advances in Mobile Multimedia (MoMM2004), September 22-24, 2004, in Bali, Indonesia with Jürg Gutknecht, Irena Kulka, Pawl Lukowicz and Michael Barry.