

Curriculum Vitae

February 2007

Education:

- 1970
Tekn.lic (Ph.D) in Control Engineering (major)
Mathematics, Applied Mathematics and
Optimization and Systems Theory (minors),
Chalmers Institute of Technology, Gothenburg, Sweden.
- 1967
Civilingenjör (M.S.) in Engineering Physics,
Chalmers Institute of Technology, Gothenburg, Sweden.
- 1963
Ingenjör in Electrical Engineering,
Tekniska Gymnasiet, Västerås, Sweden;
- 1963
Special Education on Navy Electrical and Electronics Systems,
Berga Schools of the Navy, Berga, Sweden.

Professional Experience:

- January 2001 – present: Director, ParallelDatorCentrum (PDC), Royal Institute of Technology, Stockholm, Sweden.
- October 2000 – present: Professor, Numerical Analysis and Computer Science, Royal Institute of Technology, Stockholm, Sweden.
- October 2000 – present: Member, Structural and Computational Biology and Molecular Biophysics (SCBMB) Program, Baylor College of Medicine, Houston, TX 77251.
- August 2000 – present: Institutional Representative, the Coalition for Academic Scientific Computation (CASC).
- January 2000 – present: Member, the Center for High Performance Software (HiPerSoft), Rice University, TX 77251.
- August 1999 – present: Director, the Texas Learning and Computation Center, University of Houston, Houston, TX 77204-3475.
- September 1997 – present: Member, the University Corporation for Advanced Internet Development (UCAID) Internet2 Applications group.

- July 1996 – present: Member, The W.M. Keck Center for Computational Biology, Houston, TX 77005-1892.
- December 1996 – 1999: Director, Texas Center for Computational and Information Sciences University of Houston, Houston, TX 77204-3475.
- September 1996 – 1999: Chair, Department of Computer Science, University of Houston, Houston, TX 77204-3475.
- September 1995 – present: Hugh Roy and Lillie Cranz Cullen Distinguished Professor of Computer Science, Mathematics and Electrical and Computer Engineering University of Houston, Houston, TX 77204-3475.
- July 1995 – present: Adjunct Professor, Department of Computer Science, Rice University, Houston, TX 77251.
- July 1995 – December 1999: Member, Center for Research in Parallel Computation (CRPC), Rice University, Houston, TX 77251.
- January 1995 – 2000: Visiting Professor, Department of Numerical Analysis and Computer Science Royal Institute of Technology, S-100 44 Stockholm, Sweden.
- July 1990 – 1996: Gordon McKay Professor of the Practice of Computer Science Harvard University, Cambridge, MA 02138.
- January 1987 – January 1995: Director of Computational Sciences, Thinking Machines Corporation, Cambridge, MA 02142.
- 1983 – 1990: Associate Professor of Computer Science and Electrical Engineering, Yale University, New Haven, CT.
- June 1987: Visiting Professor, Department of Computer Science, Uppsala University, Uppsala, Sweden.
- July – December 1986: Acting Head, Numerical Computing Group, Thinking Machines Corporation, Cambridge, MA.
- May – June 1986: Visiting Professor, Department of Computer Science, Uppsala University, Uppsala, Sweden.
- July 1985: Visiting Scientist, Mathematics and Computer Science Division, Argonne National Laboratories, Argonne, IL.
- May – June 1985: Visiting Professor, Departments of Mathematics and Computer Science, Linköping University, Linköping, Sweden.
- August – September 1983: Visiting Scientist, The Institute for Mathematics and its Applications, The Academy of Engineering Sciences, Stockholm, Sweden.
- 1979 – 1983: Senior Research Associate, 1981 – 1983, Research Associate, 1980 – 1981, Visiting Assistant Professor, 1979 – 1980, Computer Science, California Institute of Technology, Pasadena, CA.

- 1970 – 1980: Manager, Systems Engineering, Electrical Systems, 1974 – 1980, Systems Engineer, Electrical Systems Office, 1970 – 1974, Central Research and Development, ASEA AB, Västerås, Sweden.
- 1970 – 1971: Postdoctoral Scholar, Systems Science Department, School of Engineering and Applied Science, UCLA, Los Angeles, CA.
- 1967 – 1970: Research Scholar, Swedish Board for Technical Development at the Control Engineering Department, Chalmers Institute of Technology, Gothenburg, Sweden.

Teaching Experience:

Regular courses

2006	COSC6376 Grid Computing Department of Computer Science, University of Houston. COSC4310 Structure of Programming Languages and Compilers Department of Computer Science, University of Houston.
2005	COSC6365 Introduction to High-Performance Computation Department of Computer Science, University of Houston. COSC7377 Advanced topics in Computer Networks and Systems Department of Computer Science, University of Houston.
2004	COSC7364 Advanced Parallel Computation Department of Computer Science, University of Houston. COSC7377 Advanced topics in Computer Networks and Systems Department of Computer Science, University of Houston.
2003	COSC7364 Advanced Parallel Computation Department of Computer Science, University of Houston. COSC7377 Advanced topics in Computer Networks and Systems Department of Computer Science, University of Houston.
2002	COSC7377 Advanced topics in Computer Networks and Systems Department of Computer Science, University of Houston. COSC7364 Advanced Parallel Computation Department of Computer Science, University of Houston.
2001	COSC7377 Advanced topics in Computer Networks Department of Computer Science, University of Houston. COSC7364 Advanced Parallel Computation Department of Computer Science, University of Houston.
1999	COSC7397 Advanced topics in Computer Networks Department of Computer Science, University of Houston.
1998	COSC7364 Advanced Parallel Computation Department of Computer Science, University of Houston.

- COSC7397 Advanced topics in Computer Networks
Department of Computer Science, University of Houston.
- 1997 COSC7364 Advanced Parallel Computation
Department of Computer Science, University of Houston.
COSC7397 Advanced topics in Computer Networks
Department of Computer Science, University of Houston.
- 1996 COSC7397 Advanced topics in Computer Networks
Department of Computer Science, University of Houston.
- 1991 – 1995 CS231 Scientific Computing on Large Scale Parallel Computers
Division of Applied Sciences, Harvard University.
- 1988 – 1989 CS445/545a Parallel Algorithms and Architectures
Department of Computer Science, Yale University.
- 1987 – 1988 CS725b. The Fluent Supercomputer
Department of Computer Science, Yale University.
CS445/545a Parallel Algorithms and Architectures
Department of Computer Science, Yale University.
- 1985 – 1986 CS545b. Algorithms and Architecture for Parallel Computation
CS113a. A First Course in FORTRAN
CS624a. Implementation of Parallel Algorithms
Department of Computer Science, Yale University.
- 1984 – 1985 CS/EE 434/534b. VLSI and Computer Arithmetic
Department of Computer Science and Electrical Engineering
CS640a. Scientific Multiprocessors (with Martin H. Schultz)
Department of Computer Science, Yale University.
- 1983 – 1984 CS529/429b. Parallel Computation
CS729a. Computer Arithmetic
Department of Computer Science, Yale University.
- 1982 – 1983 AMa/CS Concurrent Numerical Algorithms (with Bengt Fornberg)
CS/EE181a. VLSI Design Laboratory (with Charles L. Seitz)
Computer Science, California Institute of Technology.
- 1981 – 1982 CS/EE181abc. Introduction to VLSI Systems
CS/EE186abc. VLSI Design Laboratory (with Charles L. Seitz)
Computer Science, California Institute of Technology.
- 1980 – 1981 CS/EE181c. Introduction to VLSI Systems
CS/EE186c. VLSI Design Laboratory (with Charles L. Seitz)
Computer Science, California Institute of Technology.

Short courses

- August 1996 – : Introduction to High-Performance Computing, National Graduate School in Scientific Computing (NGSSC), The Royal Institute of Technology, Stockholm, Sweden.
- December 1986: Introduction to Scientific Computing on Vector and Parallel Architectures, University of Bergen, Bergen, Norway.
- May – June 1986: Parallel Algorithms, Uppsala University, Uppsala, Sweden (4 week course).
- May – June 1985: Parallel Algorithms and Architecture, Linköping University, Linköping, Sweden (3 week course).
- June 1984: Parallel Numerical Computation (with Robert Schreiber), Stanford University (1 week intensive course).
- 1972 – 1977: Courses on Control Theory and Power System Operation and Control, ASEA AB.

Tutorials

- Data Parallel Programming: Programming primitives and performance, given at Principles and Practices of Parallel Programming, PPOP91, Williamsburg, Va., April 21, 1990.

Editorial work:

- 2003 – present: International Journal of High Performance Computing and Networking
- 1997 – 2003: Editorial Board, Journal of Interconnection Networks.
- 1991 – present: Editorial Board, International Journal of High-Performance Computing Applications.
- 1991 – present: Editorial Advisory Board, Journal of Scientific Programming.
- 1990 – 1998: Editorial Board, Journal for Numerical Linear Algebra with Applications.
- 1988 – present: Editorial Board, Journal on Concurrency: Practice and Experience.
- 1988 – present: Editor, International Journal on High Speed Computing.
- 1984 – 2003: Editor, Journal of Parallel and Distributed Computing.

Boards and Committees:

Professional committees:

- 2007 – Member, Steering Committee, Gelato Federation for Advancing Linux on Itanium
- 2006 – Member, Open Grid Forum Advisory Committee
Member, the Gulf Coast Consortia Advisory Committee for Research Consortia
Member, the Swedish National Infrastructure for Computing (SNIC)
Technical Advisory Committee
Founding Board Member, Open Middleware Infrastructure Institute Europe
Founding Board Member, International Collaboration to Extend and Advance
Grid Education
- 2005 – Chair, Baltic Grid Executive Committee
Member, Texas Internet Grid for Research and Education (TIGRE) Steering
Committee
- 2004 – Founding Member, South East Texas GigaPoP Faculty Advisory Council
Member, NextGrid Management Board
- 2004 – 2006 Member, Global Grid Forum Advisory Council
- 2003 – Founding Member, Executive Committee, North European Grid Federation.
2003 – 2006 Founding Board Member, Globus Alliance
2003 – 2005 Member, Strategy Council, the Gelato Federation.
Founding Chair, Executive Board, the European Grid Support Center.
- 2002 – 2006 Chair, the Swedish National Infrastructure for Computing's (SNIC) Technical
Advisory Committee (STAC), Stockholm, Sweden.
- 2002 – 2004. Founding Chair, Executive Board, the Nordic Grid Consortium.
- 2000 – 2002 Member, External Advisory Board, the National Center for Macromolecular
Imaging, Baylor College of Medicine, Houston.
- 2002 – 2005 Member, Advisory Board, GridLab: A Grid Application Toolkit and Testbed,
a pan-European Laboratory.
- 2000 – Member, Executive Board, HiPCAT (High Performance Computing Across Texas).
- 1999 – 2006 Member, Executive Committee, The Los Alamos Computer Science Institute,
Los Alamos, NM.
- 1999 – 2001 Chair, the Swedish National Allocations Committee for High Performance
Computing, Storage and Visualization (SNAC), The Swedish Council for
Planning and Coordination of Research, S-103 87 Stockholm, Sweden.
- 1999 – 2000 Chair, External Advisory Board, The National Parallel Supercomputer
Center, The Royal Institute of Technology, S-100 44 Stockholm, Sweden.

- 1998 – 2002 Member, Executive Board, The W.M Keck Center for Computational Biology, Houston, TX 77005-1892.
- 1996 – 1999 Chair, Scientific Board, The National Parallel Supercomputer Center, PDC, The Royal Institute of Technology, S-100 44 Stockholm, Sweden.
- 1996 – 2000 Chair, Executive Board, The Houston Area Computational Science Consortium, Houston, TX.
- 1996 – 1999 Founding Member, the Texas GigaPoP, Houston, TX.
- 1994 – 1998 Member, Industrial Advisory Board, West Virginia Experimental Program to Stimulate Competitive Research, Morgantown, WV.
- 1993 – 2000 Member, Steering Committee, Conference series on *Massively Parallel Processing Using Optical Interconnections*.
- 1992 – 1994 Board Member, Computing Research Association.
- Member, Steering Committee, DIMACS Parallel Implementation Challenge.
- 1991 – 1992 Member, ICASE Search committee for new Institute Director.
- 1990 – 1995 Member, Universities Space Research Administration Science Council for CESDIS, NASA Goddard Space Flight Center.
- 1990 – 1992 Member, Universities Space Research Administration Science Council for ICASE, NASA Langley Research Center.
- 1988 Search Committee, Swedish Natural Sciences Research Council.
- 1986 Advisory Board for "Computational Methods and Computer Architecture", The Academy of Engineering Sciences, The Swedish Institute of Applied Mathematics, Stockholm.
- 1976 – 1978 CIGRE, Group 32, Power Systems Operation and Planning, Paris.
- 1966 – 1967 Educational Board of the Division of Engineering Physics, Chalmers Institute of Technology, Gothenburg.
Ombudsman of undergraduate students, Chalmers Institute of Technology, Gothenburg.

Conference committees:

- 2007 Advisory Board, *International Supercomputing Conference 2007*
Dresden, June 26 -29, 2007

- 2006 Program Committee, *Gelato ICE 2006 Conference*
Singapore, October 1 - 4, 2006.
- 2005 Program Committee, *Information-Based Translational Medicine Symposium*,
Houston, September 29 - 30, 2005.
- 2004 Program Committee, the *Seventh Workshop on Languages, Compiler and
Run-Time Support for Scalable Systems*, Houston, October 22 - 24, 2004.
Chair, Program Committee, the *First Baltic Grid Conference*, Vilnius, Lithuania,
October 5 - 7, 2004.
Program Committee, the *2004 LACSI Symposium*, Santa Fe, October 12 - 14, 2004.
Program Committee, The *Second International Grid Summer School*, Vico Equense, Italy,
July 18 - 30, 2004.
- 2003 Organizing Committee, *Gelato Federation Annual Meeting*, Stockholm,
October 13 - 15, 2003.
Program Committee, The *First International Grid Summer School*, Vico Equense, Italy,
July 14 - 26, 2003.
Technical Program Committee, *SC2003*, Phoenix, AZ, November 15 - 21, 2003.
Program Committee, the *International Conference on Parallel Processing*
Kaohsiung, Taiwan, October 6 - 9, 2003.
- 2002 Steering Committee, the *Fourteenth IASTED International Conference on
Parallel and Distributed Computing and Systems*, Cambridge, MA,
November 4 - 6, 2002.
- 2001 Local Organizing Committee: *2001 Startup Annual Meeting*, Stockholm,
Sweden, June 5, 2001.
- Steering Committee, the *Thirteenth IASTED International Conference on
Parallel and Distributed Computing and Systems*, Anaheim, CA,
August 21 - 24, 2001.
- Organizing and Program Committees, the *KTH Linux Laboratorium
Inauguration*, Stockholm, February 13, 2001.
- 2000 Program Committee, the *Second Annual Los Alamos Computer Science
Institute Symposium*, Santa Fe, NM, October 15 - 18, 2001.
- Steering Committee, the *First EuroGlobus Workshop*, Lecce-Alimini Valtur,
Italy, June 16 - 23, 2001.
- Program Committee, The *Tenth IEEE International Symposium on High
Performance Distributed Computing*, San Fransisco, August 7 - 10, 2001.
- Organizing and Program Committees, *Simulation and Visualization
in the Life Sciences*, Eighth PDC Symposium, Stockholm, Sweden,
December 13 - 15, 2000.

- Organizing Committee, *The Fifth Grid Forum*, Marlborough, MA, October 15 - 18, 2000.
- Program Committee, the *Los Alamos Computer Science Institute 2000 Symposium*, Santa Fe, NM, August 27 - 30, 2000.
- Program Committee, *The First European Grid Forum Workshop, ISThmus 2000*, Poznan, Poland, April 11 - 13, 2000.
- 1999 Organizing and Program Committees, *Simulation and Visualization on the Grid*, Seventh PDC Symposium, Stockholm, Sweden, December 16 - 17, 1999.
- 1998 - 1999 Steering Committee, *IASTED 11th International Conference on Parallel and Distributed Computing and Systems*, Cambridge, MA, November 3 - 6, 1999.
- Program Committee, *11th Annual ACM Symposium on Parallel Algorithms and Architecture (SPAA)*, Saint-Malo, France, June 27 - June 30, 1999.
- 1998 Organizing and Program Committees, *Future Directions in Visualization and Virtual Reality*, Sixth PDC Symposium, Stockholm, Sweden, December 17 - 18, 1998.
- Organizing and Program Committees, *Cluster and Distributed Computation Workshop*, Stockholm, Sweden, September 24 - 25, 1998.
- 1997 - 1998 Steering Committee, *IASTED 10th International Conference on Parallel and Distributed Computing and Systems*, Las Vegas, NV, October 28 - 31, 1998.
- Program Committee, *12th ACM International Conference on Supercomputing*, Melbourne, Australia, July 13 - 17, 1998.
- 1997 Organizing and Program Committees, *Future Directions in High Performance Computation*, Fifth PDC Symposium, Stockholm, Sweden, December 18 - 19, 1997.
- Organizing and Program Committees, *The Swedish Council for High Performance Computing Summer School*, Stockholm, Sweden, August 1997.
- Organizing and Program Committees, *High Performance Computing Workshop* Stockholm, Sweden, June 18 - 19, 1997.
- 1996 - 1998 General Chair, *Fifth IEEE International Conference on Massively Parallel Processing Using Optical Interconnections*, Las Vegas, NV, June 15 - 17, 1998.

- 1996 – 1997 Program Committee, Mini-Conference on *Supercomputer/CFD Applications in the Automotive Industry*, Florence, Italy, June 16 - 19, 1997.
- 1996 Minisymposium Organizer, *Fast Parallel Orthogonal Transforms: Theory, Implementation and Applications*, 8th SIAM Conference on Parallel Processing for Scientific Computation, Minneapolis, MN, March 14 - 17, 1997.
- Minisymposium Organizer, *Generating Efficient Parallel Scientific Code from High-Level Descriptions*, 8th SIAM Conference on Parallel Processing for Scientific Computation, Minneapolis, MN, March 14 - 17, 1997.
- Organizing and Program Committees, *Software for Parallel Computing*, Fourth PDC Symposium, Stockholm, Sweden, December 16 – 17, 1996.
- Program Committee, IEEE Workshop on *Communication and Architectural Support for Network-based Parallel Computing (CANPC)*, San Antonio, TX, February 1 – 2, 1997.
- Organizing and Program Committees, *The Swedish Council for High Performance Computing Summer School*, Stockholm, Sweden, August 1996.
- 1995 – 1996 Program Committee, *Third IEEE International Conference on Massively Parallel Processing Using Optical Interconnections*, Maui, Hawaii, October 27 – 29, 1996.
- Program Committee, *The 1996 IEEE International Conference on Parallel Processing*, August 12 – 16, 1996.
- 1994 – 1995 Program Committee, *Second IEEE International Conference on Massively Parallel Processing Using Optical Interconnections*, San Antonio, TX, October 23 – 24, 1995.
- Program Committee, *Fifth ACM Symposium on Principles and Practice of Parallel Programming*, PPOPP 95, Santa Barbara, CA, July 19 – 21, 1995.
- Program Committee, *Ninth IEEE International Parallel Processing Symposium*, Santa Barbara, CA, April 1995.
- 1993 – 1994 Program Committee, *Eighth IEEE International Parallel Processing Symposium*, Cancun, Mexico, April 1994.
- Program Committee, *First International Workshop on Parallel Processing Using Optical Interconnect*, Cancun, Mexico, April, 1994.
- 1991 – 1992 Organizing committee, *7th IMACS International Conference on Computer Methods for Partial Differential Equations*, Rutgers University, New Brunswick, NJ, June 22 – 24, 1992.

- Program committee, *Scalable High Performance Computing Conference*, April 26 – 29, 1992.
- Program committee, *Sixth IEEE International Parallel Processing Symposium*, March 23 – 26, 1992.
- 1990 – 1991 Program committee, *Third ACM Symposium on Parallel Algorithms and Architectures* (SPAA), Hilton Head, SC, July 21 – 24, 1991.
- Minisymposia Organizer, *International Conference on Industrial and Applied Mathematics*, ICIAM 91, Washington D.C., July 8 – 12, 1991.
- 1990 Chair, Workshop on *Communication and I/O Libraries, Symposium on Scalable Libraries*, Oak Ridge National Laboratories, Oak Ridge, TN, September 5 – 7, 1990.
- Organizing committee, *Very Large Scale Computations in the 21st Century*, VLSC21, Cape Cod, MA, September 3 – 5, 1991.
- Minisymposia Organizer, *Large Scale Scientific Computation and Linear Algebra on Data Parallel Architectures*, Householder Symposium XI, Tylösand, Sweden, June 1990.
- Organizing committee, *The 1990 Conference on Distributed Memory Architectures*, Charleston S.C., April 1990.
- 1989 Session organizer, *Massively Parallel Computation*, SIAM Conference on Parallel Processing for Scientific Computing, Chicago, IL., December 1989.
- Program committee, *Third ACM International Conference on Supercomputing* Crete, Greece, July 1989.
- 1987 Session organizer, *Massively Parallel Architectures*, The 1987 National Computer Conference, Chicago, IL.
- 1986 Chairman, organizing committee, *International Symposium on Trends in High Performance Computation in Science and Engineering*, The Academy of Engineering Sciences, Stockholm, and Uppsala University.
- 1983 Program committee, *The Third Caltech Conference on VLSI*.
- Panels:*
- 2006 Canadian Foundation for Innovation, Ottawa, October 6, 2006.
- DoE SciDAC Panel, Washington D.C., April 19, 2006.
- 2003 Eighth International Symposium on Simulation Science,

”The Future of Simulation Science”, Hayama, Japan, March 4 - 7.

- 2001 Canada Foundation for Innovation, Mathematics and Computing Expert Committee, Montreal, Canada, September 21, 2001.
- ASCI Review Panel for the Center for Simulation of Advanced Rockets, University of Illinois, Urbana/Campaign, September 11 – 12, 2001.
- Linux - Just for Fun, Panel with Linus Thorvalds, Royal Institute of Technology, Stockholm, Sweden, August 20, 2001.
- ACM International Conference on Supercomputing, Next Generation Software, Sorrento, Italy, June 16 – 21, 2001.
- Danish Ministry of Education, Review panel for High Performance Scientific Computing in Denmark, Copenhagen, May 4, 2001.
- 2000 ASCI Review Panel for the Center for Simulation of Advanced Rockets, University of Illinois, Urbana/Campaign, October 26 – 27, 2000.
- Arcade 2000, High Performance Computation and Education, Bergen, Norway, November 28, 2000.
- 1999 NSF Code Assessment Panel for NCAR, Boulder, CO, July 27 – 29, 1999.
- NSF PACI Post-vBNS Workshop, San Diego, CA, March 4 – 5, 1999.
- Industry Panel, NSF CAREER PI Meeting, Washington DC, January 10 – 12, 1999.
- 1998 NSF Panel review, Rice University, October 19, 1998.
- NSF Site review, Electronic Visualization Laboratory, University of Illinois at Chicago, March 8, 1998.

Other committees:

- 2005 – 2006 Member, Computer Science Department Executive Committee
- 2001 – 2004 Senior Faculty Search Committee, Department of Electrical and Computer Engineering, University of Houston.
- 2000 – 2004 Chair Search Committee, Department of Computer Science, University of Houston.
- 2000 – 2001 Faculty Search Committee, Department of Computer Science, University of Houston.

- 1999 – 2000 Faculty supervisor, Computer Science Department Computer Systems Administration
University of Houston.
- 1998 – 1999 Search Committee for Chair, Department of Electrical and Computer
Engineering, University of Houston.
- Search Committee for Dean of Graduate Studies, University of Houston.
- Search Committee for Director, Allied Geophysical Laboratories,
University of Houston.
- 1998 – 2000 Founding Member, College of Natural Sciences and Mathematics Multimedia
Classroom Advisory Committee, University of Houston.
- 1996 – 2000 Member, Telecommunications Program Advisory Board,
College of Engineering, University of Houston.
- 1995 – 1998 Member, Distinguished Professorships Committee,
University of Houston.
- 1995 – 1996 Chair, Computer Science Department Executive Committee,
University of Houston.
- Chair, Chair Search Committee, Department of Computer Science,
University of Houston.
- 1995 – 1999 Computation and Communication Infrastructure Working Group,
University of Houston.
- 1993 Serge G. Petiton, L’Habilitation a Diriger des Recherches,
Contribution a une Methodologie Globale Pour Le Calcul
Scientifique Parallele, University of Paris VI.

Ph.D Students:

- 2004 – Haiyan Teng, University of Houston.
Ayaz Alishaikh, University of Houston.
Purvi Shah, University of Houston.
Lianxiang Ji, University of Houston.
- 2003 – Mehran Ahsant, Royal Institute of Technology.
Erik Engquist, University of Houston.
Alex Olwal, Royal Institute of Technology.
Mitul Patel, University of Houston.
Thomas Sandholm, Royal Institute of Technology.

- 2002 – Bo Liu, University of Houston.
- 1999 – 2003 Juichan Wang, University of Houston.
- 1993 – 1997 Yu Hu: *Efficient Data Parallel Implementations of Highly Irregular Problems*, Harvard University (now Assist Prof. Purdue University).
Nadia Shalaby: *Parallel Orthogonal Transforms*, Harvard University.
- 1993 – 1995 Ted Nesson: *Constrained randomization for routing in computer networks*, Harvard University (now at Video Guide Inc.).
- 1984 – 1988 Ching-Tien Ho: *Optimal Communication Primitives and Graph Embeddings on Hypercubes*, Yale University (now group leader IBM Almaden Research Center).
- 1984 – 1987 Abhiram Ranade: *Fluent Parallel Computation*, Yale University.
(Assist Prof. UC Berkeley, now Professor Indian Institute of Technology)
- 1980 – 1983 Peggy Li (now at Jet Propulsion Laboratory): Caltech.

M.S. Students:

- 2000 – 2003 Meiqiu Wang, *UH-CMPP: A High Performance Multi-Precision Floating Point Library*, University of Houston.
- 1998 – 2002 Abhidnya Kanekar, University of Houston.
Priti Mehta, *On the use of OpenMP for the Recursive Spectral Bi-section Method*
University of Houston.
- 1998 – 2002 Matin Abdullah, *SimDB - A Grid Software Environment for Molecular Dynamics Simulation and Analysis: Design and User Interface*, University of Houston (now BMC Software, Houston, TX).
Fredrick Mwandia, *An Adaptive Software Library for Fast Fourier Transforms on Real Data*, University of Houston (now Texas Instruments, Houston, TX).
- 1998 – 2001 Kashif Shakil, *Admission Control and Resource Reservation for Quality of Service Provisioning in Cellular Mobile Wireless Networks*, University of Houston (now Ericsson, Dallas TX).
- 1997 – 2000 Hrishikesh Divate: *MPI – HPF Communication Techniques*, University of Houston (now Oracle).
Rishad Mahasoom: *An Adaptive Software Library for Fast Fourier Transforms*, University of Houston.
- 1997 – 1999 Manish Kumar Singh: *LSR-Sim: A Large-Scale Parallel Network Routing Simulator*, University of Houston (now Indian Institute of Information Technology, Allahabad).

1996 – 1998 Olle Larsson: *Implementation and Performance Analysis of a high-order CEM Algorithm in Parallel and Distributed Computing Environments*, University of Houston (now Royal Institute of Technology, Stockholm).

1983 – 1984 Tak-Kwong Ng: *A Graph Model and the Embedding of MOS Circuits*, Caltech.

Ph.D Thesis Committees:

- 2004 – 2006 Meizhuo Zhang: *A Computational Approach for Ultra-Specific High-Throughput HLA Typing*,
University of Houston.
Catherine Putonti: *Computational Methods for the Design of Ultraspecific Pathogen Signatures*,
University of Houston.
Mark Huang: *Fast Pattern-Based Throughput Prediction for TCP Bulk transfers*,
University of Houston.
Jakub Kurzak: *Fast Multipole Methods in Parallel Molecular Dynamics Computations*,
University of Houston.
- 1999 Thanh T Tran: *Gated Direct Sequence Spread Spectrum Clock Distribution System*, University of Houston.
- 1997 Canfang Zhai: *Computation of Rotating Wave Solutions of Reaction Diffusion Systems*, University of Houston.
- 1996 Terry Clark: *Parallel Programming Approaches for Scientific Applications*, University of Houston.
- 1992 – 1995 Nikos K. Filippopoulos; Harvard University.
- 1994 Michel Jacquemin: *Compiling for Distributed Memory Machines*, Yale University.
Pangfeng Liu: *Efficient Parallel N-body simulation*, Yale University.
Chun-Hung Chen: *An Efficient Approach for Discrete Event System Decision Problems*, Harvard University.
- 1992 Zdenek Johan: *Data Parallel Finite Element Techniques for e-Scale Computational Fluid Dynamics*, Stanford University.
Dimitris Gerogiannis: *Efficient Implementation of Intermediate Level Image Analysis Tasks on Parallel Machines*, Yale University.
Pelle Olsson: *Stable Approximations for the Navier-Stokes Equations in Bounded Domains*, Uppsala University.
- 1991 Markus Wloka: *Parallel VLSI Synthesis*, Brown University.
- 1989 Yiwang Wong: *Algorithms for Systolic Array Synthesis*, Yale University.
Björn Lisper, thesis examiner: *Synthesizing Synchronous Systems by Static Scheduling in Space-time*,
The Royal Institute of Technology, Stockholm, Sweden.
- 1983 Erik DeBenedictis: *Techniques for Testing Integrated Circuits*, Caltech.
Marina Chen: *Space-Time Algorithms: Semantics and Methodology*, Caltech.
- 1982 Dick Lang: *The Extension of Object-Oriented Languages to a Homogeneous, Concurrent Architecture*, Caltech.
Mike Ullner: *Parallel Ray Tracing*, Caltech.

Christopher R. Carroll: *Hybrid Processing*, Caltech.

- 1980 Sally Anne Browning: *The Tree Machine: A Highly Concurrent Computing Environment*, Caltech.
Bart Locanthi: *The Homogeneous Machine*, Caltech.
Anthony F. Barton: *A Fault Tolerant Integrated Circuit Memory*, Caltech.
Jim A. Rowson: *Understanding Hierarchical Design*, Caltech.

M.S. Thesis Committees:

- 2002 Seonah Kim: *Database of Simulation Data: SimDB Design and Implementation*, University of Houston.
- 2001 Yun Calvin Lin: *CAL-SIM: A Distributed-memory Multi-Computer MPI Simulation System*, University of Houston.
Lavanya Prabu: *Implementation of an Architecture for a Simulation Data Base*, University of Houston.
- 2000 Sumanth Yamala: *A Parallel Implementation and Data Distribution for a Subset of Analysis Problems*, University of Houston.
Jimmy (Jinming) Ge: *Torus Adaptive Wormhole Routing: Algorithms & Router Design Evaluation*, University of Houston.
- 1998 Zhongheng Hu: *A Numerical Solution to Macroscopic Cylindrical Governing Equations for Transport Processes in Unsaturated Porous Media with a Line Heat Source*, University of Houston
Collin McCurdy: *Compilation of n-body/tree-codes, for parallel computers*, Rice University.
- 1996 Biao Xu: *An Exploration of Virtual Molecular Docking*, University of Houston.
Li Yuan: *XAlbert-2: A Graphics User Interface for Finite Element Computation*, University of Houston.

Honors and Awards:

- 1998 Global Information Infrastructure Next Generation Award, April, 1998 (as Globus project participant).
- 1997 “Contract most in the spirit of the Alliance”, NCSA All-hands meeting, Urbana/Champaign, May 15 – 16, 1997.
- 1994 “Impressive Entry” recognition in the 1994 Gordon Bell Prize contest (with Yu Hu).
- 1986 Outstanding Paper Award for “Distributed Routing Algorithms for Broadcasting and Personalized Communication in Hypercubes”,

the 1986 International Conference for Parallel Processing.

- 1984 Nomination for Best Paper Award for "Generation of Layouts from Circuit Schematics: A Graph Theoretic Approach" at the 1984 Design Automation Conference. (2nd in the final rating)
- 1967 The John Ericson Medal (1 out of 2 awarded in 10 years for outstanding undergraduate/graduate student achievements).

Recent funding:

Gulf Star Grid - Houston Network of Environmental Towers, \$483,600, EPA, 9/1/2006 - 8/31/2007.

Population Scale HLA Typing for Homeland Defense, \$555,000, NIH, 9/1/2006 - 8/31/2009. (Co-PI).

Texas Internet Grid for Research and Education, TIGRE, State of Texas, \$500,000, 12/1/2005 - 11/30/2007.

Discrete Fourier Transform Interface, Intel, \$59,580, 8/1/04 - 1/31/06 (extended).

Virtual Grid Application Development System (VGrADS), NSF, \$667,230, 9/1/03 - 8/31/08.

Efficient Script-Based Application Development for Networked High-Performance Computers, NSF, \$1,000,000, 10/1/01 - 9/30/03.

Los Alamos Computer Science Institute (LACSI), DOE, \$3,814,388, 5/1/99 - 9/30/06.

Grid Application Development Software (GrADS), NSF, \$500,000, 10/1/99 - 1/31/03.

Scalable Parallel Computational Methods for Partial Differential Equations with Moving and Varying Boundaries, NSF, \$330,222, 8/1/99 - 7/31/02.

Wireless LAN, Texas Telecommunications Infrastructure Fund, \$149,388 (1999).

Scientific Software Libraries for High Performance Architectures, Texas Higher Education Coordinating Board, \$285,176, 1/1/98 - 12/31/99.

High-Performance Computing Partnership, IBM, \$70,000, 1/1/98.

Scientific Software and Data Cache deployment, NPACI (NSF), \$815,000, 9/1/97 - 9/30/03.

Scalable Scientific Software Libraries, the Alliance (NSF), \$412,000, 9/1/97 - 9/30/03.

High-Performance Computation, Visualization and Networking, Paralleldatorcentrum, \$40,000, 1/1/97 - 12/31/01.

Support for Innovative Applications of High-Performance Computing in Houston, \$1,037,000, 9/1/96 - 12/31/00 (extended).

Fast Evaluation of Electrostatic Potentials, Technical Management Concepts, \$360,000, 6/1/96 - 12/31/00 (extended).

Fast Algorithms for Spherical Transforms and Many-Body Interactions, AFOSR, \$384,344, 6/1/96 – 12/31/99.

Support for Innovative Applications of High-Performance Computing in Houston, NSF, \$1,037,000, 7/1/96 - 6/30/98.

Fast Algorithms for Spherical Transforms, AFOSR, \$538,916, 6/1/96 – 12/31/99.

UH Internal grants:

Terascale distributed storage: \$400,000 (2002).

PC lab: \$120,000 (1996).

Multimedia Teaching Theatre: \$250,000 (1997).

Networking Lab: \$130,000 (1999).

Digital Lab: \$35,000 (1999).

PC Lab: \$120,000 (1999).

Gigabit backbone, fiber and category 5 wiring: \$150,000 (1999).

Mobile Computing: \$100,000 (2000).

Donations:

Abovenet: Dark Fiber \$3,312,915(2004).

HP: Equipment \$377,005 (2004).

HP: Equipment \$1,981,857 (2003).

AMD: Equipment, \$10,000 (2002).

Cisco: Equipment \$57,805 (2002).

Avaya: Equipment \$21,000 (2000).

Cisco: Equipment, \$85,000 (2000).

Alcatel: Equipment, \$250,000 (1999).

HP: Equipment, \$364,494 (1999).

SGI: Equipment \$100,000 (1997).

Worldcom: Equipment, \$50,000 (1997).

IBM: Equipment, \$4,862,844 (1996).