

GITA ALAGHBAND

Professor & Chair; Computer Science and Engineering Department
Co- Director of CSIS PhD Program,
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Education:

1986 Ph.D. Electrical Engineering, University of Colorado at Boulder
1980 M.S. Computer Science, University of Colorado at Boulder
1976 B.S. Physics

Professional Experience:

'09- Chair, Department of Computer Science and Engineering, UCD
'09- Co-Director of CSIS PhD program, UCD
'07-'09 Interim Director of University Honors and Leadership (UHL), UCD
'97- Professor, Department of Computer Science and Engineering, (UCD)
'96-'99 Chairperson, Department of Computer Science and Engineering, University of Colorado at Denver (UCD)
'96 Associate Professor, Department of Computer Science and Engineering, UCD
'92-'94 Assistant Professor, Department of Computer Science and Engineering, UCD
'87-'91 Assistant Professor, Department of Electrical Engineering and Computer Science, UCD
'96 Visiting Scientist: CERFACS, Toulouse, France
'87 Visiting Assistant Professor: Rensselaer Polytechnic Institute, Troy, New York
'86 Visiting Assistant Professor, University of Colorado, Boulder
'86 Doctoral Research Associate, University of Colorado, Boulder
'85 Research Fellow at ICASE, NASA Langley Research Center, Hampton, VA

Consultant:

USWEST/QWEST (2000)

Book:

Fundamentals of Parallel Processing, Harry F. Jordan and Gita Alaghband, Prentice Hall, 2002, ISBN: 0-13-901158-7

Solution Manual:

[Instructor's Resource CD-ROM](#), Harry F. Jordan, Gita Alaghband © 2003 | CD-ROM Only | ISBN: 0130334820 |

Publications:

51 papers and technical reports in national and international journals and conferences

Recognitions, Honors:

- 06 Who's Who among America's Teachers (nominated by students)
- 05 Who's Who among America's Teachers (nominated by students)
- 02 Elected IEEE Computer Society Senior Member
- 01-02 University of Colorado Emerging Leader
- 02 Who's Who in Engineering Education (WWEE), 2002 Edition
- 99 21st Edition of Who's Who of American Women
- 97 Who's Who in Science and Engineering, 5th Edition
- 96 Who's Who among America's Teachers (nominated by students)
- 96 National Science Foundation Research Initiation Award
- 97 Faculty Fellowship Award, UCD
- 94 Outstanding Faculty Award, College of Engineering, UCD
- 92 Excellence in Teaching Award, UCD
- 90 First President's Junior Teaching Scholar Award

Professional Organizations:

IEEE Computer Society, Senior Member
Journal of Computer and Software Engineering, Member of Editorial Board ('96 – '2000)
Faculty advisor for Society of Women Engineers, 2003.

Funded Projects:

Total of \$1,029,910 grants on sponsored research projects

Biography: Dr. Alaghband is professor of Computer Science and Engineering; received her B.S. degree in Physics (1976), M.S. in Computer Science and Ph.D. in Electrical Engineering from University of Colorado at Boulder in 1980 and 1986 respectively. She is a senior member of IEEE Computer Society.

Alaghband has worked at a number of research facilities. She has been a visiting scientist at NASA, ICASE, Norfolk, Virginia in 1985, a visiting professor at Rensselaer Polytechnic Institute, in 1987, a visiting scientist at, Centre European De Recherche Et De Formation Avancee Ec Calcul Scientifique, CERFACS, Toulouse, France in 1996, and a consultant with QWEST Information Technologies, Denver, Colorado in 2000.

Her research interests in parallel processing and distributed systems include application programs and algorithm design, computer architectures, operating systems, performance evaluation, and simulation. Her work on sparse matrices has resulted in a new methodology for parallel solution of large sparse linear systems of equations on shared memory multiprocessors. She has been involved in the design of the Force parallel programming language for scientific high performance applications. Her work on temporal characterization of parallel program performance was funded by NSF Research Initiation Award. Her research and teaching experience have resulted in "*Fundamentals of Parallel Processing*" textbook published by Prentice Hall. Alaghband and her students have co-authored numerous research articles.

Alaghband is the current Co-Director of the CSIS PhD program. She was the Interim Director of the University Honors and Leadership (UHL) Program from February 07 to December 08. In this time period, she designed, developed, and implemented the UHL at UCD. She was chair of the Computer Science and Engineering Department from 1996 to 1999. She is a fellow of the University of Colorado's Emerging Leaders Program. She is an active member of the Steering Committee on Quality Undergraduate Education (QUE). This committee initiated the design of new campus-wide core curriculum, honors program, and freshman seminars. She is a recipient of a NSF-STEM scholarship award to recruit students in engineering disciplines.

Alaghband has developed and taught several courses in the area of parallel processing, operating systems, and computer

architectures. She has developed and taught on-line senior-level computer architectures as part of a Colorado Institute of Technology grant. She has received a faculty fellowship and numerous teaching awards.

Leadership and Professional Development Workshops:

- 04 "Negotiation," lead by Bernard Mayer, CDR Associates, President Hoffman's Emerging Leaders Program, University of Colorado, reunion workshop, Phipps Conference Center, Denver, CO October 22, 2004.
- 03 "Strategic Planning of Leadership," lead by Dr. Honan, Harvard Graduate School of Education, President Hoffman's Emerging Leaders Program, University of Colorado, reunion workshop, Phipps Conference Center, Denver, CO October 24, 03.
- 01-02 University of Colorado Emerging Leader (one year program 2001-2002)
 - Retreat with the Chancellors, Beaver Creak, Colorado, July 11-14, 2001
 - Political Savvy, Dr. Joel Deluca, Denver Campus, Sept. 21, 2001
 - Leadership: a Personal Perspective, President Hoffman, Koenig Alumni Center, Boulder, Co. Feb. 22, 2002
 - Federal and State Relations, Health and Sciences center, Nov. 2, 2001
 - Leadership Without Easy Answers, Boulder Campus, April 5, 2002
 - Team Building, Colorado Springs Campus, April 30, 2002
- 99 Chairing the Academic Department, American Council of Education, San Diego, California, Feb. 17-20
- 98 Management Development Initiative Program, Leadership Development Retreat, Grant-Humphreys Mansion, Denver, Colorado, Oct.30
- 94 College of Engineering Teaching Retreat, Executive Tower Inn, Denver, Colorado, September
- 94 Women Faculty Research Meeting, College of Engineering, UCD, June
- 93 Boot Camp for PROFS, Denver Colorado, Aug. 1-6
- 93 Sexual Harassment Seminar," UCD, Denver, Colorado, April
- 90-91 First President's Teaching Scholar (one-year program workshops, projects, and mentoring)
 - Retreat, Aspen Lodge, Estes Park, Co Jan. 12-13, 90

Services at the University

University

- President Search Committee, (nominated by UCD Faculty Assembly, voted by Board of Regents, Summer 2007 – present)
- Advisory Board for UCD Faculty Diversity (Fall 2007 – present)
- UCD Learning Taskforce (Summer 2007 – present)
- Core Curriculum Oversight Committee (CCOC) (Spring 2007 – present)
- Privilege and Tenure Committee, (University P&T, Fall 2006 – present)
- University Honors and Leadership Faculty Steering Committee, Chair, (Feb. 2007 – present)
- Retention, Tenure, Promotion Committee (University RTP, Fall 2004- Fall 2005)
- Director of Undergraduate Education (DUE) Search Committee (Fall 2005)
- Academic Master Planning, Rewards Committee, (Fall 2005 – present)

Academic Master Planning Search Conference (UCD) Oct. 14-15, 2004
Academic and Student Affairs Consolidation Study Group 2003-2004 (UCD)
University Without Walls, Vision 2010
UCD Vision 2010, University Without Walls, Co-Chair with Mark Gerlernter (2004)
Quality Undergraduate Education (QUE) Steering Commity (Fall 2003 –Present)
College of Business RTP First Level Review Committee (2001 (8 cases) – 2002 (3 cases))
College of Arts & Media RTP Primary Unit (2004)
Budget Priority Committee (Emerging Leaders Project) (2001-2002)
Sexual Harassment Committee ('97 – Present)
 Reviewer of Four-campus System wide new Sexual Harassment policy (2001)
 On-line Sexual Harassment Training review/evaluation (2001)
Department of Applied Mathematics Graduate Committee
Council of Chairs, Executive Committee Member
Developed the Lowry Academic Program in Computer Science.
Academic Instructional Technology
Search Committee, Office of Sponsored Programs
Faculty Assembly, Women's Issues
Department of Applied Mathematics Undergraduate Committee
University Research and Creative Committee
University Teaching Committee
Steering Committee for Academic Computing and Information Technology.
Academic Computing and Information Technology Retreat
First President's Teaching Scholars Program (1990)
College of Engineering Dean Search Committee (1990)
Member of CMG, Computational Math. Group,
Member of CCM, Center for Computational Math.,
Proposal Preparation Workshop

College of Engineering and Applied Science

NSF REACH (Recruiting Engineers to AChive) Steering Committee, Chair, – present)
Tapping Hidden Talents
 (A program to motivate talented high school students to pursue higher education) 2003 -2004
Computer Science Direction Committee
Computer Engineering/Curriculum Development Committee
Department of Electrical Engineering Search Committee
Adhoc Committee on Graduate and Research Programs
Extended Studies Committee
Teaching Enhancement Committee
Department of Civil Engineering Faculty Search Committee
College of Engineering RTP First Level Review Committee (Chair 2003), (2007)
College of Engineering RTP Procedures Committee
Faculty Advisor for Society for Women Engineers (2003- 2004)

Department (Computer Science and Engineering)

ABET/CSAB Curriculum Design
Chair, Department of Computer Science and Engineering
Equipment Committee (chair)
Executive Committee
Grievance Committee (chair)
Research Committee (chair)
Graduate Committee (chair)
Undergraduate committee
Faculty Search Committee
RTP Committee (Primary Unit)
Bylaws Committee
Graduate Advisor
Established Experimental Research Laboratory (funding acquired from Student Program Fees Award & Grant from Sun Micro Systems) 2005.

Other Professional Activities

NSF Review Panel: (S-STEM), Arlington, VA 22202, September 30-October 3, 2008.
Moderator, National Collegiate Honors Council (NCHC) 2007 Annual Conference
Santa Clara University, External Reviewer for RTP 2005
Metro State Computer Science Advisory Board, 2005
Member of the Technical Committee on Parallel and Distributed Computing & Systems, The International Association of Science and Technology for Development (IASTED), Invited, (2001-2004)
Meeting Organizer, "Parallel Processing Constructs for High Level Programming Languages, The ANSI Standards Committee X3H5," Hotel Boulderado, June 26-28, 1991
Reviewer for Parallel Computing.
Reviewer for Journal of Computers & Mathematics with Applications.
Reviewer for IEEE SMC, (2004- 2005)
Reviewer for IEEE Transactions on Software Engineering.
Reviewer for IEEE Transactions on Education.
Reviewer for the International Conference on Parallel Processing.
Reviewer for the International Parallel Processing Symposium.
Reviewer for COMPAR Conference.
Reviewer for Workshop on Mobile Wireless Networks
Reviewer for NSF Proposals.
Session Chair, 1989 International Conference on Parallel Processing.
Member of CMG, Computational Math Group, UCD.
Member of CSDG, Computer System Design Group, UCB.
Member of PARLAN, Parallel Language Research Group, UCB.
Science Fair Judge (2000- 2004)
Science Sponsor for Girl Scouts, 2001,
Invited IEEE panelist for Senior Member Application Qualification Review, Sept. 28, 2002,

Funded Projects:

- 07 UCD Matching Funds for Engineers to ACHieve (REACH), \$25,383.03, 4/19/2007 - 9/16/2011.
- 06-11 National Science Foundation, Recruiting Engineers to ACHieve (REACH), \$499,527.00
CO-PIs: Larry Armenta and Nien-Yin Chang, 09/15/06 - 9/16/2011.
- 05 Experimental System Laboratory, \$9,938.00, Student Program Fee Award, College of Engineering, UCD
- 05 Sun Micro Systems, Matching Grant for Experimental System Laboratory, \$9,641.76.

- 99 IT Grant for Computer Science Laboratory, \$ 125,000, UCD.
- 98 SITFAC Grant, \$13,000, UCD.
- 97 SITFACT Grant, \$17,500, UCD.
- 97 Omnis Software Incorporation, Software Engineering Clinic,” \$115,250, Wolfe and Alaghband.
- 95 University of Colorado at Denver: Faculty Seed Money, \$405.
- 94 Faculty Grant Award, “Performance Characterization of Scalable parallel Programs and Architectures,” \$2900.
- 94 University of Colorado at Denver: Faculty Seed Money, \$500.
- 93-96 Research Initiation Grant, National Science Foundation, NSF: “Parametric Modeling Tools for Performance Prediction of Parallel Programs,” July 15, 93 to December 31, 1996, \$94,008.
- 93 University of Colorado at Denver: Faculty Seed Money, \$400.
- 90-91 Cray Research and NCAR, “Parallel Performance Tool,” with Harry F. Jordan, Supercomputing time on Cray YMP computer.
- 91-01 Cray Research and NCAR, Supercomputing.
- 1989 Center for Software System Sciences, University of Colorado at Boulder, “Multiprocessor System,” with H. F. Jordan \$16,337.
- 1987 University of Colorado at Denver: Faculty Seed Money, \$300.
- 1987 AMOCO: Junior Faculty Research Development Award, \$20,000.
- 1987 National Science Foundation: “Slow Coherency Analysis of Inter Area Dynamics in Large Power Systems,” with Joe H. Chow, \$76,000.

Student Advising

Theses Supervisions (two Ph.D., 38 Masters, 41 Projects)
Member of Theses Committee (8 Ph.D.s, 36 Masters)

Improvement of Undergraduate Education

Interim Director of University Honors and Leadership Program (UHL), Spring 2007 – present:

Developed a unique two-tracks (academic honors and leadership) interdisciplinary undergraduate program new in Colorado that provides an intellectual laboratory for educational innovations for faculty and students.

Principle Investigator of five-year National Science Foundation, ReACH consisting of three main components:

(1) A pre-collegiate summer program designed for high school juniors and seniors interested in the engineering disciplines

(2) Scholarships that will provide up to \$7,600 the first year for full-time students enrolled in the College of Engineering who demonstrate financial need, academic achievement, and the commitment to pursue a career in Science, Technology, Engineering, or Mathematics (STEM).

(3) A network of academic and social support that will help REACH Scholars to achieve a high level of academic success, complete their baccalaureate in a timely manner, and pursue career and educational opportunities in the field.

Quality Undergraduate Education (QUE) Steering Committee (Fall 2003 –Present)

UCD Campus Core Curriculum Development

UCD Honor's Program

UCD Freshman Seminar

UCD Advising and Outreach Programs

Creation of Director of Undergraduate Education position

Director of Undergraduate Education (DUE) Search Committee (Fall 2005)

19th International Conference on The First-Year Experience, July 24-27, 2006, Toronto, Ontario, Canada

Experimental Computer Systems Laboratory (Funded by College of Engineering and Sun Micro Systems) 2005

Developed an On-Line senior-level Computer Architecture Course (Funded by Colorado Institute of Technology, CIT).

Chaired Computer Science and Engineering Department, doubled student enrollment through program offering and new advising strategies, 1996-1999.

Science Fair Judge, Southern Hills Middle School and Bixby Elementary School (six years).

Publications (Detailed list)

Book:

Fundamentals of Parallel Processing, Harry F. Jordan and Gita Alaghband, Prentice Hall, 2002.

Solution Manual:

[Instructor's Resource CD-ROM](#), Harry F. Jordan, Gita Alaghband © 2003 | CD-ROM Only | ISBN: 0130334820 |

Published Articles:

Stefan Muszala , Alaghband Gita, James Hack and Dan Connors, "Natural Load Indices (NLI) in NAMD2 load balancing algorithms ," [PARA 2008: 9th International Workshop on State-of-the-Art in Scientific and Parallel Computing](#), May 13-16,2008, NTNU, Trondheim, Norway. (<http://para08.idi.ntnu.no/index.php?page=minisymposia> : Parallel Scientific Computing: Performance Evaluation, Optimization and Scaling)

Alaghband, G., (January 15, 2008). "Parallel Architectures." In [Wiley Encyclopedia of Computer Science and Engineering](#) (Benjamin Wah, ed.) Hoboken: John Wiley & Sons, Inc. [DOI](#): 10.1002/9780470050118.ecse294 (invited by Steven Lai, Ohio State University)

Powers, F. E., Alaghband, G., "The hydra parallel programming system," [Journal of Concurrency and Computation: Practice and Experience](#), Vol. 20, Issue 1, pp. 1-27 Jan. , 2008, Online ISSN: 1532-0634, Print ISSN: 1532-0626 (<http://www3.interscience.wiley.com/>).

Alaghband, G., Gnabasik, D., "Dynamic Distribution of Java Applications," [Informatica, an International Journal of Computing and Informatics](#), Vol. 31, No. 3, November 2007 (<http://www.informatica.si/>).

Alaghband, G., Gnabasiq, D., Fardi, H. Z., "Scientific Assistant Virtual Laboratory (SAVL)," American Physics Society (APS), MA07 Meeting, Denver Convention Center, Denver, Colorado, March 5-9, 2007.

Powers, F. E., Alaghband, G., "Introducing the Hydra Parallel Programming System," 18th ACM Symposium on Parallelism in Algorithms and Architectures, July 30 - August 2, 2006 (SPAA 2006), Cambridge, MA

Fardi, H. Z., Alaghband, G., "Modeling Hot Electron in single Quantum Well P-i-N Photodiodes," Proceedings of the 2006 IEEE/LEOS Summer Topical Meetings, Quebec City, QC, Canada, 17 – 19 July 2006.

Muszala, S.P., Connors, D.A., D.A., Hack, J.J., Alaghband, G "The Promise of Load-Balancing the Parameterization of Moist Convection Using a Model Data Load Index," Journal of Atmospheric and Oceanic Technology, Vol. 23, No. 4, pp. 525-537, 2006.

Muszala, S.P., Alaghband, G., Connors, D.A., Hack, J.J., "A Very Fast Simulated Annealing Scheduler for Radiative Transfer data in Climate Models," The 17th International Conference on Parallel and Distributed Computing Systems, PDCS-2004, Sept. 15-17, 2004, San Francisco, CA.

Alaghband, G., Gnabasiq, D., "Streaming Java Applications to Mobile Computing Devices," The 2004 International Conference on Wireless Networks ,ICWN'04: June 21-24, 2004, Las Vegas, Nevada, USA.

Fardi, H. Z., Alaghband, G., "Simulation of Hot Electron Effect in Negative Electron Affinity GaN pn junction," Proceedings of SPIE-The International Society of Optical Engineering, Vol. 4646, San Jose, CA, January 20-25, 2002.

Rodriguez, B., Jordan, H. F., Alaghband, G. "A Metric for the Temporal characterization of Parallel Programs," Journal of Parallel and Distributed Computing, vol. 46, Article no. PC971379, pp. 113-124, 1997.

Fardi, H. Z., Alaghband, G., Pankove J. I., "Numerical Modeling and Characterization of High Frequency High Power High Temperature GaN-SiC Heterostructure Bipolar Transistors," Int. Journal of Electronics, vol. 82, no. 6, pp. 567-574, 1997.

Alaghband, G., Gates, M., "Utilizing Parallel Processing: A decision Support System for Service Delivery Scheduling," Journal of Parallel Algorithms, vol. 11, no. 1-2, 20 pages, 1996.

Rodriguez, B., Jordan, H. F., Alaghband, G., "Temporal Characterization of Demands for Data Movement on Parallel Programs" the 1996 Proceedings of International Parallel Processing Symposium, and presentation at the conference in Hawaii, pp. 776-779, April 96.

Alaghband, G., Jelinek, G., "Coherent Distributed Shared Memory: Design and Implementation," to appear in the Journal of Computer and Software Engineering.

Alaghband, G., Catalucci, B., Kalathil, R., "Supporting Shared Memory Parallel Programming Environment on a Global Address Spaced Multiprocessor," the Supercomputer Journal Volume XI, No. 1, pp. 24-40, April 95 (invited paper).

Alaghband, G., "Parallel Sparse Matrix Solution and Performance," Parallel Computing Journal, No. 21, 1995.

Alaghband, G., Reindel, M., "NADA: A Data-Driven Programming Language," Journal of Computer and Software Engineering Vol. 3, No. 3, pp. 319-354, 1995.

Alaghband, G., Jordan, H. F., "Overview of The Force Scientific Parallel Language," Scientific Programming, Vol. 3, pp. 33-47, 1994.

Alaghband, G., Rodriguez, B., Jordan, H. F., "Mathematical Models for Parallel Loops," Proceedings of the Sixth SIAM Conference in Parallel Processing, Norfolk, Virginia, pp. 992-995, March 93.

Alaghband, G., Benten, M.S., Jakob, R., Jordan, H.F., Ramanan, A.V., "Language Portability Across Shared Memory Multiprocessors," IEEE Transactions on Parallel and Distributed Systems, Vol. 4, No. 9, pp. 1064-1072, Sep. 93.

Alaghband, G., "A Memory Management Scheme for Parallel Data Access," Journal of Computer and Software Engineering, Vol. 1, No. 2, pp.123-146, 1993.

Wolfe, W.J., Mac Millan, J., Brady, G., Mathews, R., Rothman, J., Mathis, D., Orosz, Anderson, Alaghband, G., "Inhibitory Grids and The Assignment Problem," IEEE Transactions on Neural Networks, Vol. 4, no. 2, pp. 319-331, March 93.

Alaghband, G., "On the Performance of a Parallel Technique For Solving Large Sparse Linear Systems," Proceedings of the NASECODE VII, The Seventh International Conference on the Numerical Analysis of Semiconductor Devices and Integrated Circuits, Copper Mountain, Colorado, pp. 140-142, April 8-12, 1991.

Alaghband, G., "Solution of Structurally Identical Sparse Linear Systems Based on a Parallel Pivoting Technique," Proceedings of the Fifth SIAM Conference on Parallel Processing for Scientific Computing, Houston, TX, pp. 41-46, March 25-27, 1991.

Wolfe, J.W., Mathis, W.D., Anderson, C., Rothman, J., Gottler, M., Brady, G., Walker, R., Duane, G., Alaghband, G., "K-Winner Networks" IEEE Transactions On Neural Networks, Vol. 2, No. 2, pp. 310-315, Jan. 91.

Alaghband, G., "Issues in Parallel Data Access; An Alternative Approach," Fifth SIAM Conference on Parallel Processing for Scientific Computing, Houston, TX, March 25-27, 1991.

Wolfe, W.J., Mathis, D.W., Rothman, J., Alaghband, G., Gottler, M., "K-winner networks using interactive activation," Proceedings of the 1990 SPIE's Advances in Intelligent Robotics Systems, November 4-9, 1990.

Alaghband, G., Jordan, H.F., "Sparse Gaussian Elimination with Controlled Fill-in on a Shared Memory Multiprocessor," IEEE Transactions on Computers, Vol. 38, No. 11, pp. 1539-1557, Nov. 89.

Alaghband, G., "Parallel Pivoting Combined With Parallel Reduction," Parallel Computing Journal, 11, pp. 201-221, Nov. 89.

Wolfe, W.J., Alaghband, G., Mathis, D.W., "The Fusion of Voice and Video," Proceedings of the 1989 SPIE's Advances in Intelligent Robotics Systems, November 7-10, 1989.

Wolfe, W.J., Alaghband, G., Mathis, D.W., Baxter, A., "Applications of the Connection Machine to Computer Vision," Proceedings of the 1989 SPIE's Advances in Intelligent Robotics Systems, November 7-10, 1989.

Alaghband, G., Slifka, A., Kim, Y., "Comparison of Two parallel Solution Techniques in Sparse Linear Systems," SIAM Conference on Parallel Processing, Chicago, Illinois, Dec. 89.

Jordan, H.F., Benten, M.S., Alaghband, G., R. Jakob, "The Force: A Highly Portable Parallel Programming Language," Proceedings of the 1989 International Conference on Parallel Processing, Vol. 2, pp. 112-117, Aug. 89.

Alaghband, G., "A Parallel Pivoting Algorithm on a Shared Memory Multiprocessor With Controlled Fill-in," Proceedings of the 1988 International Conference on Parallel Processing, pp. 177-180, Aug. 88.

Alaghband, G., "Multiprocessor Sparse LU Decomposition with Controlled Fill-in," Ph.D. Thesis, Department of Electrical and Computer Engineering, University of Colorado, Boulder, May 86.

Alaghband, G., Jordan, H.F., "Parallelization of the MA28 Sparse Matrix Package for the HEP," SIAM Conference on Parallel Processing for Scientific Computing, November 7-11, 1983.

Rodriguez, B., Jordan, H., Alaghband, G., "Temporal Characterization of the Scalability of Data Movement," Technical Report TR-49, Department of Computer Science and Engineering, University of Colorado at Denver, August 8, 1995.

Rodriguez, B., Jordan, H., Alaghband, G., "Characterizing the Scalability of Parallel Programs and Architectures," Technical Report TR-39, Department of Computer Science and Engineering, University of Colorado at Denver, Jan. 94.

Alaghband, G., Mah, J., "Software Tools for Parallel Processing the Force," Technical Report TR-21, Department of Computer Science and Engineering, University of Colorado at Denver, Oct. 92.

Alaghband, G., Bisque, C., "Initialization, Failure Detection, Routing, Mutual Exclusion and Election Algorithms for Hypercube Networks," Technical Report TR-22, Department of Computer Science and Engineering, University of Colorado at Denver, Oct. 92.

Alaghband, G., Jordan H. F., "The Force, A Language for Programming Shared Memory Multiprocessors," Technical Report TR-23, Department of Computer Science and Engineering, University of Colorado at Denver, Oct. 92.

Reindel, M.S., Alaghband, G., "NADA- A Non-Imperative Yet Practical High-Level Programming Language," Technical Report TR-10, Department of Computer Science and Engineering, University of Colorado at Denver, Jan. 92.

Alaghband, G., "Issues in Parallel Data Access; An Alternative Approach," Report CSDG 90-4, Computer System Design Group, Electrical and Computer Engineering Department, University of Colorado, Boulder, Dec. 90. A short version was later presented in the Fifth SIAM Conference on Parallel Processing for Scientific Computing.

Jordan, H.F., Schnabel, R.B., Alaghband, G., Parallel Language Research Group, "2nd Comment on the Language Definition of PCF Fortran - Draft 2", letter to the Parallel Computing Forum, Bruce Leasure, Executive Director, 1906 Fox Drive, Champaign, IL 61820, Jan. 90.

Jordan, H.F., Schnabel, R. B., Alaghband, G., Parallel Language Research Group, "Comments on the Language Definition of PCF Fortran," letter to the Parallel Computing Forum, Bruce Leasure, Executive Director, 1906 Fox Drive, Champaign, IL 61820, Feb. 89.

Alaghband, G., "Parallel Pivoting Combined With Parallel Reduction," ICASE Report NO. 87-75, NASA Langley Research Center, Hampton, VA, Dec. 87. A full version was later published in the Parallel Computing Journal.

Alaghband, G., Jordan, H.F., "Sparse Gaussian Elimination with Controlled Fill-in on a Shared Memory Multiprocessor," Report CSDG 86-4, Computer System Design Group, Electrical and Computer Engineering Dept., University of Colorado, Boulder, Nov. 86. A full version was later published in the IEEE Transactions on Computers.

Alaghband, G., Jordan, H.F., "Multiprocessor Sparse L/U Decomposition with Controlled Fill-in," ICASE Report No. 85-48, NASA Langley Research Center, Hampton, Virginia 23665, Oct. 85.

Alaghband, G., "Study of Parallelization of SPICE 2G.6 on an MIMD Computer," Report CSDG 84-3, Computer System Design Group, Electrical and Computer Engineering Department, University of Colorado, Boulder, Sept. 84.

Alaghband, G., Jordan, H.F., "Parallelization of the MA28 Sparse Matrix package for the HEP," Report CSDG 83-3, Computer System Design Group, Electrical and Computer Engineering Department, University of Colorado, Boulder, June 83.

Presentations at Meetings or Seminar Presentations

Nov. 02 "Invited Panelist on Supercomputing 2002, "Are Designer Supercomputers an Endangered Species?" Friday, November 22 8:30–10:00am, November 16-22, 2002, Baltimore, Maryland.

Moderator: Aruna Ramanan, IBM

Panelists: Thomas Sterling (Center for Advanced Computing Research, California Institute of Technology & Jet Propulsion Laboratory);

Gita Alaghband (University of Colorado, Denver);

Jamshed Mirza (IBM Corporation);
Tadaski Watanabe (NEC Corporation);
Candace Culhane (NSA)

- Jan. 01 "Parallel Computing with Shared Memory Multiprocessors," MACS Colloquium, (invited speaker), Colorado School of Mines, Golden, Colorado.
- Nov. 00 "Temporal Characterization of Parallel Program Performance," MACS Colloquium, (invited speaker), Colorado School of Mines, Golden, Colorado.
- Aug. 00 "Relationship Model Among Technology Areas", (81 pages) QWEST Information Technologies, Denver, Colorado.
- Feb. 99 Conference on Leadership "Academic Chairs," San Diego California.
- Oct. 98 "Performance Prediction and Modeling of Parallel Programs," UCD/UCB Joint Math Seminar.
- Sept. 96 "Performance Prediction of Parallel Programs," Department of Mathematics and Computer Science, Denver University.
- June 96 "Temporal Characterization of Data Movement Demand To Predict Performance of Parallel Programs," CERFACS, Toulouse, France.
- Oct. 95 "Parallel Solution of Large Sparse Linear Systems of Equations," Department of Mathematics and Computer Science, Colorado School of Mines, Golden, Colorado.
- Sept. 94 "Dossier Preparation for Non-tenured Faculty," College of Engineering, University of Colorado at Denver.
- Nov. 92 "Performance of Parallel Loops," Computer Science Seminars, University of Colorado at Denver.
- Oct. 92 "Programming Shared Memory Multiprocessors," Electrical Engineering Seminars, University of Colorado at Denver.
- Mar. 92 "The Force Parallel Language," Computer Science Seminars, University of Colorado at Denver.
- Feb. 92 "A Parallel Algorithm for the Solution of Sparse Matrices," Computer Science Seminars, University of Colorado at Denver.
- April 91 "On the Performance of a Parallel Technique For Solving Large Sparse Linear Systems," NASECODE VII, The Seventh International Conference on the Numerical Analysis of Semiconductor Devices and Integrated Circuits," Copper Mountain, CO.
- March 91 "Issues in Parallel Data Access; An Alternative Approach," Fifth SIAM Conference on Parallel Processing for Scientific Computing, Houston, TX.
- Nov. 90 "Vector Computers," Parallel Computing Seminar, Computational Mathematics, University of Colorado at Denver.
- Dec. 89 "Comparison of Two Parallel Solution Techniques in Sparse Linear Systems," SIAM Conference on Parallel Processing, Chicago, Illinois.
- Feb. 89 "Design of a Parallel Application Package for the Solution of Large Sparse Linear Systems of Equations," Computer System Design Group, Electrical and Computer Engineering Department, University of Colorado at Boulder.
- Jan. 89 "Hiding vs. Minimizing Latency in Shared Memory Multiprocessors," Lecture in Future of Supercomputers,

- ECEN 7903, Doctoral level seminar, Electrical and Computer Engineering Department, University of Colorado at Boulder.
- Sep. 88 "PCF: Parallel Concurrent Fortran," Parallel Language Research Group, University of Colorado, Boulder.
- Feb. 88 "Design of Parallel Algorithms for the Solution of Large Sparse Linear Systems," Center for Applied Parallel Processing, CAPP, University of Colorado, Boulder.
- Feb. 88 "Parallel Sparse Solvers," Computational Math Group, CMG, University of Colorado at Denver.
- Dec. 87 "A Multiple Processor Sparse Linear System Solver," Supercomputer Seminar, Advanced System Technology, INC. Denver.
- Sep. 87 "Parallelization of SPICE: A Circuit Simulation Package," Computer Science Seminars, University of Colorado at Denver.
- May 87 "Parallel Sparse Solvers," Computer Science Seminars, Rensselaer Polytechnic Institute.
- April 87 "Parallel Solution of Sparse matrices on Shared Memory Multiprocessors," (Invited Seminar), University of Colorado at Denver.
- Nov. 86 "Multiprocessor Sparse LU Decomposition with Controlled fill-in," (Invited Seminar), Rensselaer Polytechnic Institute.
- Nov. 86 "A Parallel Solution Technique for Large Sparse Systems of Equations," (Invited Seminar), Colorado School of Mines, Golden, Colorado.
- Nov. 86 "Multiprocessor Sparse LU Decomposition with Controlled fill-in," (Invited Seminar), The University of Rhode Island.
- May. 86 "Multiprocessor Sparse LU Decomposition with Controlled fill-in," (Invited Seminar), Institute for Information Technology, George Mason University.
- Feb. 86 "Multiprocessor Sparse LU Decomposition with Controlled fill-in," (Invited Seminar), University of Maryland, Baltimore.
- June 85 "Parallel Sparse Matrix Solvers, ICASE, Institute for Computer Applications in Science and Engineering, NASA Langley Research Center, Hampton, Virginia.
- Nov. 83 "Parallelization of the MA28 Sparse Matrix Package for the HEP," SIAM Conference on Parallel Processing, Norfolk, Virginia.

Conferences Attended

- Feb.08 "2008 Student Success Workshop" presented by Dr. Watson Scott Swail, President & CEO, The Educational Policy Institute, www.educationalpolicy.org, February 8, 2008, in Denver, CO.
- Nov. 07 National Collegiate Honors Council (NCHC) 2007 Annual Conference, Hyatt Regency Denver at Colorado Convention Center, Denver, CO. Oct. 31 – Nov. 4, 2007
- Oct. 07 3rd Annual Undergraduate Experience Symposium2007, Undergraduate Experiences Symposium: Undergraduate Research, Internships and Experiential learning, Speakers: Eugene Alpert, Lynne Montrose, Mary Crowe, St. Cajetan, UCD, Denver, CO. Oct. 4-5, 2007.
- Oct. 06 Annual First-Year Experience Symposium, John Gardner, [National Resource Center for the First-Year Experience and Students in Transition](http://www.nrc.edu)., 2006 UCD.

- July 06 The 20th International Conference on The First-Year Experience, Toronto Marriott Downtown Eaton Centre, Toronto, Canada, July 24-27, 2006
- Sept. 05 Symposium of the Undergraduate Experience, Richard Light, (UCD) Sept. 23, 2005
- March 05 CU Women Succeeding, Faculty Development Symposium, Denver, CO, March 4, 2005
- Oct. 04 Academic Master Planning Search Conference (UCD) Oct. 14-15, 2004
- April 03 Gender and Information Technology Symposium, University of Colorado, Tivoli, Denver, Colorado.
- Nov. 01 New Hampshire Budget Model, John Griffith, UCD.
- Jan. 00 SPIE Conference on Optoelectronics, San Jose, California.
- June 96 "International Linear Algebra Year, ILAY Workshop," Toulouse, France.
- Sept. 94 "College of Engineering Teaching Retreat," Executive Tower Inn, Denver, Colorado.
- June 94 "Women Faculty Research Meeting," College of Engineering, UCD.
- April 94 "Carnegie Mellon Engineering Curriculum Presentation," College of Engineering, UCD.
- April 93 "An Evening with Women in Engineering," Women Engineering Society, SWE, Denver, Colorado.
- April 93 "KSR1 Architecture," Steve Frank, University of Colorado, Boulder.
- Jan. 93 "A Bit Serial, Stored Program Optical Computer," H. F. Jordan, University of Colorado, Boulder.
- Jan. 93 "JD Edwards," Denver, Colorado.
- Oct. 92 "IBM Power Series Supercomputers," NOAA, Boulder, Colorado.
- Sept. 92 "Tera Supercomputer," Burton Smith, NCAR, Boulder, Colorado.
- June 91 "Parallel Processing Constructs for High Level Programming Languages, The ANSI Standards Committee X3H5," Boulder, Colorado.
- Oct. 87 "SIAM 35-th Anniversary Meeting, Conference on Parallel Processing," Denver, Colorado.
- Sep. 87 "Intel Hypercube Parallel Processing Conference," Golden, Colorado.
- Oct. 85 "Alternative Technologies for Class VI Computing," Golden, Colorado.

Teaching

Graduate

Parallel and Distributed Systems

Parallel Computation and Architectures

Advanced Topics in Parallel Processing

Advanced Computer Architectures

Operating Systems

Established Experimental Research Laboratory 2005.

Undergraduate

Operating Systems

Computer Architecture (designed and offered On-Line 2002)

Computer Architecture (regular classroom offering)

Senior Software Design Projects

Microprocessor Design Laboratory