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EDUCATION:

Ph.D. Clemson University, Computer Science, 5/1994
M.S., Clemson University, Computer Science, 12/1991
M.S., Bob Jones University, Educational Administration, 8/1988
B.S., Bob Jones University, Mathematics, Minor: Physics, 5/1986

EMPLOYMENT:

Department of Computer Science and Engineering,
University of Nevada, Reno, Nevada 89557

7/2007 - present Professor
7/2000 - 6/2007 Associate Professor
8/1994 - 6/2000 Assistant Professor

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7/2007-present Interim Senior Director, Center for Advanced Visualization,
Computation, and Modeling (CAVCaM)
7/2004-6/2007 Affiliated Faculty, Division of Atmospheric Sciences

8/1988 - 5/1994: Department of Computer Science,
Clemson University, Clemson, South Carolina 29634
Graduate Student Teaching Assistantship,
CCCS Research Assistantship
NASA Research Assistantship
Department of Defense Research Assistantship

8/1986 - 5/1988: Department of Computer Science,
Bob Jones University, Greenville, South Carolina 29614
Graduate Student Teaching Assistantship

PUBLICATIONS:

Journals:

- Romain Brette1, Michelle Rudolph, Ted Carnevale, Michael Hines, David Beeman, James M. Bower, Markus Diesmann, Abigail Morrison, Philip H. Goodman, Frederick C. Harris, Jr., Milind Zirpe, Thomas Natschlager, Dejan Pecevski, Bard Ermentrout, Mikael Djurfeldt, Anders Lansner, Olivier Rochel, Thierry Vieville, Eilif Muller, Andrew P. Davison, Sami El Boustani and Alain Destexhe “Simulation of networks of spiking neurons: A review of tools and strategies” *Journal of Computational Neuroscience* December 2007 (Vol 23), pp 349-398.
- Bill Sherman, Simon Su, Phil McDonald, Yi Mu, Fred Harris “Open-source Tools for Immersive Environmental Visualization” *IEEE Computer Graphics and Applications* March/April 2007 (Vol. 27, No. 2), pp 88-91.
- Greg Vert, Fred Harris, Sara Nasser, “Spatial Data Authentication Using Mathematical Visualization” *International Journal of Computer Science and Network Security* vol 7, no 1, pp 267-274. Jan. 2007.
- Greg Vert, Fred Harris, Sara Nasser, “Modeling State Changes in Computer Systems for Security” *International Journal of Computer Science and Network Security* vol 7, no 1, pp. 293-295. January 2007.
- Beifang Yi, Frederick C. Harris, Jr., Sergiu M. Dascalu, and Ali Erol, ”User Interface Aspects of a Human-Hand Simulation System,” *Journal of Systemics, Cybernetics and Informatics*, vol. 3 no. 5, 2006
- Jeff Stuart, Joseph Jaquish, Scott Bassett, Frederick Harris, and William Sherman, “An Interactive Visualization Method for Integrating Digital Elevation Models and Geographic Information Systems Vector Layers,” *Lecture Notes in Computer Science LNCS-3804*, Springer-Verlag, December 2005, pp. 553-561.
- Beifang Yi, Frederick C. Harris, Jr., Ling Wang, and Yusong Yan “Generating Natural Hand Gestures in Real Time.” *IEEE Computing in Science and Engineering*, **7**, (3), May/June 2005, pp. 92-97.
- Ripplinger MC, Wilson CJ, King JG, Frye J, Drewes R, Harris FC, and Goodman PH, “Computational Model of Interacting Brain Networks,” *Journal of Investigative Medicine*, **52**, (1), Jan 2004, pp. S155.
- Bei Yuan, Sean C. Martin, Judith R. Fredrickson, and Frederick C. Harris, Jr., “A Generic Queuing System for Computationally Intensive Problems.” *Congr. Numer.*, **171**, (2004) pp. 193–206.
- Judith R. Fredrickson, Bei Yuan, and Frederick C. Harris, Jr., “A Time Saving Region Restriction for Calculating the Crossing Number.” *Congr. Numer.*, **168**, (2004) pp. 145–158.
- Kallman, J., Minaie, P., Truppi, J., Dascalu, S.M., and Harris, F.C., Jr., “Software Modeling for Open Distributed Network Monitoring Systems,” *Lecture Notes in Computer Science LNCS-3126*, Springer-Verlag, August 2004, pp. 158-169
- Brian T. Westphal, Frederick C. Harris, Jr., and Sergiu M. Dascalu, “Snippets: Support for Drag-and-Drop Programming in the Redwood Environment.” *Journal of Universal Computer Science*, **10**(7), 2004, pp 859-871.

- Brian T. Westphal, Frederick C. Harris, Jr., and Sergiu M. Dascalu, “Redwood: A Visual Environment for Software Design and Implementation.” *WSEAS Transactions on Computers*, **3**(2), April 2004 pp 380-386.
- Juan Carlos Macera Rios, Philip H. Goodman, Rich Drewes, and Frederick C. Harris, Jr., “Remote-Neocortex Control of Robotic Search and Threat Identification” *Robotics and Autonomous Systems*, **46**(2), February 2004, pp 97-110.
- Pingyan Tan and Frederick C. Harris, Jr., “A Low-Cost Algorithm for Multicast Routing in Computer Networks,” *Congr. Numer.*, **145**, (2000) pp. 81–96.
- Frederick C. Harris, Jr., “Steiner Minimal Trees: Their Computational Past, Present, and Future,” *J. of Combin. Math. Combin. Comput.*, (**30**), (1999), pp. 195-220.
- John T. Thorpe, and Frederick C. Harris, Jr., “A Parallel Stochastic Optimization Algorithm for Finding Mappings of the Rectilinear Minimal Crossing Problem,” *Ars Comb.*, **43**, (1996), pp. 135 – 148.
- Frederick C. Harris, Jr., “An Introduction to Steiner Minimal Trees on Grids,” *Congr. Numer.*, **111**, (1995) pp. 3–17.
- Jean E. Dunbar, Frederick C. Harris, Jr., Sandra M. Hedetniemi, Stephen T. Hedetniemi, Alice A. McRae, and Renu C. Laskar, “Nearly Perfect Sets in Graphs,” *Discrete Math.* **138**(1995), pp. 229-246.
- Frederick C. Harris, Jr., “A Stochastic Optimization Algorithm for Steiner Minimal Trees,” *Congr. Numer.*, **105**, (1994) pp. 54 – 64.
- Robert Geist, A. Jefferson Offutt, and Frederick C. Harris, Jr., “Estimation and Enhancement of Real-Time Software Reliability through Mutation Analysis,” *IEEE Trans. on Comp., Special Issue on Fault-Tolerant Computing*, **41**(5)(1992), pp. 550-558.

Chapters in Books:

- Frederick C. Harris, Jr., “Steiner Minimal Trees: An Introduction, Parallel Computation, and Future Work,” In Ding-Zhu Du and Panos Pardalos, editors, *Handbook of Combinatorial Optimization* Kluwer Academic Publishers. Vol II. Dec 1998.

Refereed Conferences:

- Michael A. Penick, Roger V. Hoang, Frederick C. Harris Jr., Sergiu M. Dascalu, Timothy J. Brown, William R. Sherman, Philip A. McDonald, “Managing Data and Computational Complexity for Immersive Wildfire Visualization,” *Proceedings of High Performance Computing Systems (HPCS '07)* Prague, Czech, June 4-6, 2007.
- Michael Dye, Frederick C. Harris Jr., William R. Sherman, Philip A. McDonald, “Volumetric Visualization Methods for Atmospheric Model Data in an Immersive Virtual Environment,” *Proceedings of High Performance Computing Systems (HPCS '07)* Prague, Czech, June 4-6, 2007.
- Gregory Vert, Rawan Alkhaldi, Sara Nasser, Frederick C. Harris. Jr., Sergiu M. Dascalu, A Taxonomic Model Supporting High Performance Spatial-Temporal Queries in Spatial Databases *Proceedings of High Performance Computing Systems (HPCS '07)* Prague, Czech, June 4-6, 2007.
- Jeremy Murray, Frederick C. Harris, Jr., Danny L Taylor “Mining in the Cave: a beginning,” *Proceedings of the 33rd International Symposium on Application of Computers and Operations Research in the Mineral Industry (APCOM 2007)* Santiago, Chile April 24-27, 2007.

- William R. Sherman, Michael A. Penick, Simon Su, Timothy J. Brown, Frederick C. Harris, Jr. “VRFire: an Immersive Visualization Experience for Wildfire Spread Analysis,” *Proceedings of IEEE VR 2007*, March 12-15, 2007. Charlotte, NC.
- Simon Su, William Sherman, Frederick Harris, Mike Dye “TAVERNNS: Visualization and Manipulation of GIS data in 3D Large Screen Immersive Environments,” *Proceedings of the 16th International Conference on Artificial Reality and Telexistence (ICAT 2006)*, Zhejiang University of Technology, Hangzhou, P.R.China, November 29 - December 1st, 2006.
- Frederick C. Harris, Jr., Mark C. Ballew, Jason Baurick, James Frye, Lance Hutchinson, James G. King, Phillip H. Goodman, Rich Drewes “A Novel Parallel Hardware and Software Solution for A Large-Scale Biologically Realistic Cortical Simulation,” *Proceedings of the 19th International Conference on Computer Applications in Industry and Engineering*, (CAINE 2006), Las Vegas, NV, November 13-15, 2006
- Vert, G., Dascalu, S.M., Harris, F.C., Jr., and Buntha, S., “A Visual Environment for the Characterization of State Changes in Computer Systems,” *Proceedings of the International Conference on Security and Management (SAM-06)*, Las Vegas, NV, June 2006, pp. 435-440.
- Beifang Yi, Frederick C. Harris, Jr., and Sergiu M. Dascalu, “vHand: A Human Hand Simulation System,” *Proceedings of the 21st International Conference on Computers and Their Applications*, (CATA-2006), Seattle, WA, March 2006 **Best Paper Award**.
- Jeff Stuart, Joseph Jaquish, Scott Bassett, Frederick Harris, and William Sherman, “An Interactive Visualization Method for Integrating Digital Elevation Models and Geographic Information Systems Vector Layers,” *Proceedings of the First International Symposium of Visual Computing (ISVC 2005)* December 5-7, 2005. Advances in Visual Computing LNCS 3804, pp 553-561.
- Sergiu M Dascalu, Yaakov L Varol, Frederick C. Harris, Jr., and Brian T. Westphal, “Computer Science Capstone Course Senior Projects: From Project Idea to Prototype Implementation,” *Proceedings of Frontiers in Education 2005 (FIE 2005)*
- Westphal, B.T., Harris, F.C., Jr., and Dascalu, S.M., “Design Aspects of the Redwood Programming Environment,” *Proceedings of the 11th International Conference on Distributed Multimedia Systems (DMS-2005)*, Workshop on Visual Languages and Computing (VLC-2005), Banff, Alberta, Canada, September 5-7, 2005, pp. 321-326.
- Jeffery A. Stuart, Sergiu M. Dascalu, and Frederick C. Harris, Jr., “Towards a Unified Approach for Cross-Platform Software Development,” in *Proceedings of the 14th International Conference on Intelligent and Adaptive Systems and Software Engineering (IASSE-2005)*, July 20-22, 2005, Toronto, Canada, pp. 235-242.
- John D. Studebaker, Justin T. Gerthoffer David D. Colborne, Jeff A. Stuart, Frederick C. Harris, Jr., “Thraxion: Three-Dimensional Action Simulator,” in *Proceedings of The 2005 International Conference on Software Engineering Research and Practice (SERP '05)*, June 27-30, 2005, Las Vegas, NV
- Marcos C. Bagby, Ryan A. Romero Brett L. Sulprizio, Hiroko Uda, Joseph R. Jaquish, Frederick C. Harris, Jr., “DiRT - Dust in Real-Time: The Specification Process,” in *Proceedings of The 2005 International Conference on Software Engineering Research and Practice (SERP '05)*, June 27-30, 2005, Las Vegas, NV
- William E. Brandstetter, Michael P. Dye, Jessee D. Phillips, Jason C. Porterfield, Frederick C. Harris, Jr., Brian T. Westphal, “SAI-BOTS: Scripted Artificial Intelligent Basic

- On-Line Tank Simulator,” in *Proceedings of The 2005 International Conference on Software Engineering Research and Practice (SERP '05)*, June 27-30, 2005, Las Vegas, NV
- Frederick C. Harris, Michael A. Penick, Grant M. Kelly, Juan C. Quiroz, Sergiu M. Dascalu, Brian T. Westphal, “V-FIRE: Virtual Fire in Realistic Environments,” The 4th International Workshop on System/Software Architectures in *Proceedings of The 2005 International Conference on Software Engineering Research and Practice (SERP '05)*, June 27-30, 2005, Las Vegas, NV
 - Manolo E. Sherrill, Roberto C. Mancini, Frederick C. Harris, Jr, and Sergiu M. Dascalu, “A Framework for Reuse and Parallelization of Large-Scale Scientific Simulation Code,” The 4th International Workshop on System/Software Architectures in *Proceedings of The 2005 International Conference on Software Engineering Research and Practice (SERP '05)*, June 27-30, 2005, Las Vegas, NV
 - Sergiu Dascalu, Maryann Chandy, Frederick Harris, Daniela Saru, “Software Assistant for Students with Learning Disabilities,” *Proceedings of The 15th International Conference on Control Systems and Computer Science (CSCS-15)* May 25-27, 2005, University ”Politehnica” of Bucharest, Romania
 - Robert Larmore, Matthew Knaus, Sergiu Dascalu, and Frederick C. Harris, Jr. “Virtual Environment for On-Campus Orientation,” *Proceedings of The 2005 International Symposium on Collaborative Technologies and Systems (CTS 2005)* May 15-20, 2005, Saint Louis, Missouri.
 - James Frye, James G. King, Christine J. Wilson, and Frederick C. Harris, Jr., “QQ: Nanoscale Timing and Profiling,” in *Proceedings of the 4th International Workshop on Performance Modeling, Evaluation, and Optimization of Parallel and Distributed Systems PMEOPDS (2005)*, April 4-8, 2005, Omni Interlocken Resort, Denver CO.
 - Beifang Yi, Frederick C. Harris, Jr., and Sergiu Dascalu “From Creating Virtual Gestures to ‘Writing’ in Sign Language,” in *Proceedings of Conference on Human Factors in Computing Systems (CHI 2005)*, April 2-7, 2005, Portland, OR.
 - Marcel Levy, Sergiu Dascalu, Frederick C. Harris Jr., “ARS VEHO: Augmented Reality System for Vehicle Operation,” in *Proceedings of Computers and Their Applications (CATA 2005)*, pp 282-289, March 16-18, 2005, New Orleans, LA.
 - Beifang Yi, Frederick C. Harris Jr., Sergiu M. Dascalu, “A Visualization Tool for Displaying Hand Gestures,” in *Proceedings of Computers and Their Applications (CATA 2005)*, pp 150-155, March 16-18, 2005, New Orleans, LA.
 - Mukesh Motwani, Mukesh Gadiya, Rakhi Motwani, and Frederick C. Harris, Jr., “A Survey of Image Denoising Techniques,” in *Proceedings of GSPx 2004*, September 27-30, 2004, Santa Clara Convention Center, Santa Clara, CA
 - Mukesh Motwani, Rakhi Motwani, and Frederick C. Harris, Jr., “Eye Detection using Wavelets and ANN,” in *Proceedings of GSPx 2004*, September 27-30, 2004, Santa Clara Convention Center, Santa Clara, CA
 - Jacob W. Kallman, Pedrum Minaie, Jason Truppi, Sergiu M. Dascalu, Frederick C. Harris, Jr. “Software Modeling of the Open Distributed Network Monitoring System,” in *Proceedings of The 2004 Service Assurance with Partial and Intermittent Resources (SAPIR 2004)*, August 1-6, 2004, Hotel Vila Gale, Fortaleza, Brazil
 - Beifang Yi, Frederick C. Harris, Jr., Sergiu M. Dascalu, Ali Erol, “User Interface Aspects of a Human-Hand Simulation System,” in *Proceedings of the International Conference*

on Education and Information Systems, Technologies and Applications (EISTA '04) July 21-25, 2004, Orlando, FL.

- Pedrum Minaie, Jacob W. Kallman, Jason Truppi, Sergiu M. Dascalu, Frederick C. Harris, Jr. “Practical Educational Uses of the Open Distributed Network Monitor (ODNM)” in *Proceedings of the International Conference on Education and Information Systems, Technologies and Applications (EISTA '04)* July 21-25, 2004, Orlando, FL.
- Sergiu Dascalu, Frederick C. Harris, Jr., Matthew Knaus, Robert Larmore, Gianpaolo Sorreta, Devin Connell “Virtual UNR Campus: The Specification Process” in *Proceedings of The 2004 International Conference on Software Engineering Research and Practice (SERP '04)*, June 21-24, 2004, Monte Carlo Resort, Las Vegas, NV.
- Frederick C. Harris, Jr., Brent Devaney, John Kenyon, Charles Robertson, and Tchad Rogers “Modeling Aspects of the Dynasty 3-D Game” in *Proceedings of The 2004 International Conference on Software Engineering Research and Practice (SERP '04)*, June 21-24, 2004, Monte Carlo Resort, Las Vegas, NV.
- Frederick C. Harris, Jr., Leandro Basallo, Ryan Leigh, Regan Snyder, and Sam Talie “Software Specification of MERTIS: Modifiable, Extensible Real-Time Interactive Simulation System” in *Proceedings of The 2004 International Conference on Software Engineering Research and Practice (SERP '04)*, June 21-24, 2004, Monte Carlo Resort, Las Vegas, NV.
- Brian T. Westphal, Frederick C. Harris, Jr., and Sergiu M. Dascalu “Snippets: Support for Drag-and-Drop Programming in the Redwood Environment,” in *Proceedings of 4th Int. Conf. on Automation and Information (ICAI '03)*, Tenerife, Canary Islands, Spain, December 19-21, 2003.
- Brian T. Westphal, Frederick C. Harris, Jr., and Sergiu M. Dascalu “Redwood: A Visual Environment for Software Design and Implementation” in *Proceedings of 4th WSEAS Int. Conf. on Automation and Information (ICAI '03)* December 19-21, 2003, Tenerife, Canary Islands, Spain.
- Brian T. Westphal, Frederick C. Harris, Jr., and M. Sami Fadali, “Graphical programming: A vehicle for teaching computer problem solving” in *Proceedings of Frontiers in Education (FIE '03)* November 5-8, 2003 Bolder, CO.
- Alina Solovyova-Vincent, Frederick C. Harris, Jr., and M. Sami Fadali, “Parallel Inversion of Polynomial Matrices” in *Proceedings of PDCS 2003* August 13-15, 2003, Reno, NV
- Deanna M. Needel, Jeff A. Stuart, Tamara C. Thiel, Sergiu M. Dascalu, and Frederick C. Harris, Jr., “Software requirements specification for a university class scheduler” in *Proceedings of The 2003 International Conference on Software Engineering Research and Practice (SERP '03)*, June 23-26, 2003, Monte Carlo Resort, Las Vegas, NV.
- Christian Rayburn, James Hays, Bryan Phillips, and Frederick C. Harris, Jr., “Specification of an online advisement system” in *Proceedings of The 2003 International Conference on Software Engineering Research and Practice (SERP '03)*, June 23-26, 2003, Monte Carlo Resort, Las Vegas, NV.
- Frederick C. Harris, Jr., Yan W. Ha, Dianne M. Yumul, Joshua S. Estes, and Christopher E. Miles, “Software specification of a mining truck simulator and trainer” in *Proceedings of The 2003 International Conference on Software Engineering Research and Practice (SERP '03)*, June 23-26, 2003, Monte Carlo Resort, Las Vegas, NV.

- Thoren McDole, Hapin Cua, Chang Huang, Leon Kania, Sergiu Dascalu, Fred Harris, “Software Specification of the GORT Environment for 3D Modeling” in *Proceedings of The 7th World Multiconference on Systemics, Cybernetics and Informatics (SCI 2003)* July 27-30, 2003, Orlando, FL. **Best Paper Award**
- Lixing Ma and Frederick C. Harris, Jr., “A Parallel Algorithm for Solving a Tridiagonal Linear System with the ADI Method” in W.W. Smari and M. Guizani, editors, *Proceedings of PDCS 2002*, Louisville, KY, September 19-21, 2002, pp 379-385.
- Kishor K. Waikul, Lianjun Jiang, E. Courtenay Wilson, Frederick C. Harris, Jr., and Philip H. Goodman, “Design and Implementation of a Web Portal for a NeoCortical Simulator” in R. Gantenbein and S. Shin editors, *Proceedings of Computers and Their Applications (CATA) 2002* San Francisco, CA, April 4-6, 2002, pp. 349-353.
- E. Courtenay Wilson, Frederick C. Harris, Jr., and Phillip H. Goodman, “A Large-Scale Biologically Realistic Cortical Simulator” *Proceedings of SC2001* November 12-16, 2001, Denver, Colorado.
- M. Sami Fadali, L. LaForge, and F. Harris, Jr., “Linear Time Computation of QFT Feasible Regions” in A. Chung, editor, *Proceedings of Computers and their Applications in Industry and Engineering (CAINE '01)* , pp. 23-28, Las Vegas, NV, November 27-29, 2001.
- Nancy LaTourrette, Yaakov Varol, and Frederick C. Harris, Jr., “Empowerment to Success: The Class Structure in an Honors Engineering Course,” *Proceedings of Frontiers in Education 2001 (FIE 2001)* Reno, NV, October 10-13, 2001.
- E. Courtenay Wilson, Phillip H. Goodman, and Frederick C. Harris, Jr., “Implementation of a Biologically Realistic Parallel Neocortical-Neural Network Simulator,” *Proceedings of the Tenth SIAM Conf. on Parallel Process. for Sci. Comp.* Portsmouth, Virginia, March 12-14, 2001.
- Benjamin Lucchesi, Nerissa Oberlander, Frederick C. Harris, Jr., and Pierre Mousset-Jones, “Surface Mine Truck Safety Training: Scenario Setup for a VR Driving Simulator.” in Q. Yang, editor, *Proceedings of the 12th International Conference on Computer Applications in Industry and Engineering (CAINE '99)*, pp. 62–65 Atlanta, GA, November 4-6, 1999.
- Damien Ennis, Benjamin Lucchesi, Nerissa Oberlander, Keith Wesolowski, Frederick C. Harris, Jr., and Pierre Mousset-Jones, “Surface Mine Truck Safety Training: A VR Approach to Pre-Operational Vehicle Inspection,” in Kadri Dagelen, editor, *Proceedings of APCOM '99: Computer Applications in the Minerals Industries 28th International Symposium*, pp. 811–818, Colorado School of Mines, Golden, CO, October 20-22, 1999.
- Jane Niehues-Brooks and Frederick C. Harris, Jr., “Automated Digital Image Analysis of Video Ice Crystal Data.” in R. Y. Lee, editor, *Proceedings of the ISCA 14th International Conference on Computers and Their Applications*, pp. 91–94, Cancun, Mexico, April 7-9, 1999.
- Igor Golovkin, Roberto C. Mancini, and Frederick C. Harris, Jr., “Parallelization of Non-Equilibrium Radiation Transport Code.” in Bruce Hendrickson, Katherine A. Yelick, Christian H. Bischof, Iain S. Duff, Alan S. Edelman, George A. Geist, Michael T. Heath, Michael A. Heroux, Chuck Koelbel, Robert S. Schrieber, Richard F. Sincovec, and Mary F. Wheeler, editors, *Proceedings of The Ninth SIAM Conf. on Parallel Process. for Sci. Comp.*, San Antonio, TX, March 22-24, 1999.

- Frederick C. Harris, Jr. and Carl G. Looney, “Strategies for Effective Group Project-Based Courses.” in Brendan J. O’Toole, editor, *Proceedings of the 1999 ASEE-PSW Conference*, pp 59-66, Las Vegas, NV, March 19-20, 1999.
- Frederick C. Harris, Jr. and Cynthia R. Harris, “A Proposed Algorithm for Calculating the Minimum Crossing Number of a Graph,” In Yousef Alavi and Ronald L. Graham and Allen J. Schwenk, editors, *Proceedings of the Eighth International Conference on Graph Theory, Combinatorics, Algorithms and Applications*, pp 469-478, Vol II. (1998).
- Umid Tadjiev and Frederick C. Harris, Jr., “Parallel Computation of the Minimum Crossing Number of a Graph”, In Michael Heath and Virginia Torczon and Greg Astfalk and Petter E. Bjorstad and Alan H. Karp and Charles H. Koelbel and Vipin Kumar and Robert F. Lucas and Layne T. Watson and David E. Womble, editors, *Proceedings of The Eighth SIAM Conf. on Parallel Process. for Sci. Comp.*, Minneapolis, MN, March 14-17, 1997.
- Marat Zhaksilikov, and Frederick C. Harris, Jr. “Global Parallelization of Genetic Algorithms: Comparison of Implementations,” In F.C. Harris, Jr., editor, *Proceedings of the ISCA, 5th International Conference on Intelligent Systems (IS ’96)*, Reno, Nevada, June 19-21, 1996, pp. 40 – 44.
- Joseph Jones, and Frederick C. Harris, Jr. “A Genetic Algorithm for the Steiner Minimal Tree Problem, ” In F.C. Harris, Jr., editor, *Proceedings of the ISCA, 5th International Conference on Intelligent Systems (IS ’96)*, Reno, Nevada, June 19-21, 1996, pp. 35 – 39.
- Jerri Hines, John T. Thorpe, Kenneth B. Winiecki, Jr. and Frederick C. Harris, Jr., “Solving Quadratic Assignment Problems With Parallel Genetic Algorithms,” In S. Louis, editor, *Proc. Fourth Golden West International Conference on Intelligent Systems – GWIC-IV*, San Francisco, California, June 12-14, 1995, pp. 11 – 15.
- Frederick C. Harris, Jr., “Parallel Computation of Steiner Minimal Trees,” In David H. Bailey and Petter E. Bjorstad and John R. Gilbert and Michael V. Mascagni and Robert S. Schreiber and Horst D. Simon and Virginia J. Torczan and Layne T. Watson, editors, *Proc. 7th SIAM Conf. on Parallel Process. for Sci. Comput.*, San Francisco, California, February, 1995, pp. 267 – 272.
- Robert Geist, Darrell Suggs, Robert Reynolds, Shardul Divatia, Fred Harris, Evan Foster, and Priyadarshan Kolte, “Disk Performance Enhancement through Markov-based Cylinder Remapping,” In Cherri M. Pancake and Douglas S. Reeves, editors, *Proc. ACM Southeast Regional Conf.*, Raleigh, North Carolina, April, 1992, pp. 23-28. (*Highest-rated Paper*)

Technical Papers:

- Frederick C. Harris, Jr., “Parallel Computation of Steiner Minimal Trees,” Ph.D. dissertation, Department of Computer Science, Clemson University, Clemson, SC 29634, May 1994.
- Frederick C. Harris, Jr., “Data Diversity: A Search for Direction,” Master’s Thesis, Department of Computer Science, Clemson University, Clemson, SC, December 1991.

CONFERENCE PRESENTATIONS:

- “Managing Data and Computational Complexity for Immersive Wildfire Visualization,” *High Performance Computing Systems (HPCS '07)* Prague, Czech, June 4-6, 2007.
- “Volumetric Visualization Methods for Atmospheric Model Data in an Immersive Virtual Environment,” *High Performance Computing Systems (HPCS '07)* Prague, Czech, June 4-6, 2007.
- “DiRT - Dust in Real-Time: The Specification Process,” *The 2005 International Conference on Software Engineering Research and Practice (SERP '05)*, June 27-30, 2005, Las Vegas, NV
- “A Framework for Reuse and Parallelization of Large-Scale Scientific Simulation Code,” The 4th International Workshop on System/Software Architectures, June 27-30, 2005, Las Vegas, NV
- “A Generic Queuing System for Computationally Intensive Problems.” *35th Southeastern International Conference on Combinatorics, Graph Theory, and Computing*, Florida Atlantic University, Boca Raton, FL, March 3-12, 2004.
- “A Large-Scale Biologically Realistic Cortical Simulator” *SC 2001* Denver, CO, November 12-16, 2001.
- “Linear Time Computation of QFT Feasible Regions” *Computers and their Applications in Industry and Engineering (CAINE '01)* Las Vegas, NV, November 27-29, 2001.
- “A Low-Cost Algorithm for Multicast Routing in Computer Networks,” *31st Southeastern International Conference on Combinatorics, Graph Theory, and Computing*, Florida Atlantic University, Boca Raton, FL, March 13-17, 2000.
- “Virtual Reality in Mine Safety Training”, 1999 Training Resources Applied to Mining Conference (TRAM) National Mine Health and Safety Academy, Beaver, WV, October 12-13, 1999.
- “Virtual Reality in Mine Safety Training”, 1999 National Mine Instructors Seminar National Mine Health and Safety Academy, Beaver, WV, October 13-14, 1999.
- “Surface Mine Truck Safety Training.” *30th Institute on Mining, Health, Safety, and Research* Salt Lake City, UT, August 9-13, 1999.
- “Virtual Reality and Mine Safety Training.” *The 1999 Spring Great Basin Trainers Association Conference*, Round Mountain, NV, May 13-14, 1999.
- “Parallelization of Non-Equilibrium Radiation Transport Code.” *The Ninth SIAM Conf. on Parallel Process. for Sci. Comp.*, Adam’s Mark San Antonio-Riverwalk Hotel, San Antonio, TX, March 22-24, 1999.
- “Strategies for Effective Group Project-Based Courses.” *The 1999 ASEE-PSW Conference*, Harrah’s, Las Vegas, NV, March 19-20, 1999.
- “Parallel Computation of the Minimum Crossing Number of a Graph”, *The Eighth SIAM Conf. on Parallel Process. for Sci. Comp.*, Hyatt Regency Minneapolis on Nicollet Mall Hotel, Minneapolis, MN, March 14-17, 1997.

- “Steiner Minimal Trees: Their Computational Past, Present, and Future,” 11th *Midwestern Conference on Combinatorics, Cryptography, and Computing*, The University of Nevada, Las Vegas, Las Vegas, NV, Oct 31 - Nov 2, 1996.
- “A Genetic Algorithm for the Steiner Minimal Tree Problem,” 5th *International Conference on Intelligent Systems (IS '96)*, The Flamingo Hilton Hotel, Reno, Nevada, June 19-21, 1996.
- “A Proposed Algorithm for Calculating the Minimum Crossing Number of a Graph,” *Eighth Quadrennial International Conference on Graph Theory, Combinatorics, Algorithms and Application*, Western Michigan University, Kalamazoo, MI, June 3-7, 1996.
- “Solving Quadratic Assignment Problems Through Parallel Genetic Algorithms,” *Golden West International Conference on Intelligent Systems – (GWIC-IV)*, Sir Francis Drake Hotel, San Francisco, California, June 12-14, 1995.
- “An Introduction to Steiner Minimal Trees on Grids,” 26th *Southeastern International Conference on Combinatorics, Graph Theory, and Computing*, Florida Atlantic University, Boca Raton, FL, March 6-10, 1995.
- “Parallel Computation of Steiner Minimal Trees,” 7th *SIAM Conference on Parallel Processing for Scientific Computing*, The Hotel Nikko, San Francisco, CA, February 15-17, 1995.
- “An Initial Characterization of Steiner Minimal Trees on Grids,” 7th *Cumberland Conference on Graph Theory and Computing*, The University of Alabama in Huntsville, Huntsville, AL, May 10-13, 1994.
- “A Stochastic Optimization Algorithm for Steiner Minimal Trees,” 25th *Southeastern International Conference on Combinatorics, Graph Theory, and Computing*, Florida Atlantic University, Boca Raton, FL, March 7-11, 1994.
- “Parallel Solutions for Minimizing Network Connection Distances,” *CCCS 4th Annual Conference*, Clemson University, Clemson, SC, November 11-12, 1993 *Second Place, Paper Competition*.
- “New and Improved Results for the Rectilinear Minimal Crossing Problem,” 6th *Cumberland Conference on Graph Theory and Computing*, Rhodes College, Memphis, TN, May 17-19, 1993.

INVITED PRESENTATIONS:

- “Advanced Computation and Visualization,” *Nevada KEEP Seminar* February 27, 2007
- “Neo Cortical Simulation: Software Design and Future Directions,” *INCF Workshop on Large-scale Modeling of the Nervous System* Karolinska Institute, Stockholm, Sweden, December 12, 2006
- “Cool Science, Cool Places, Cool Things,” *Northern Nevada Math Council: Math and Science Mini-Conference* Reno, NV, October 13, 2006
- “Advanced Computation and Immersive Visualization” Junior Science Humanities Symposium for Western Nevada and Northern California. Reno, NV, March 9-11, 2006

- “Advanced Computation and Visualization” Honors Program Lecture Series, University of Nevada, Reno, September 28, 2005.
- “Advanced Computation and Visualization” Computational Science Workshop Reno, NV, June 19-25, 2005.
- “Cool Science, Cool Places, Cool Things,” *Nevada KEEP Seminar* March 15, 2005
- “Cool Science, Cool Places, Cool Things” *Nevada Regional Science Bowl* Las Vegas, NV February 11-12, 2005.
- “Cluster Computing and Beyond” *2002 Government Information Technology Conference* Carson City, NV, October 16, 2002.

FUNDED RESEARCH:

I have been PI, CO-PI, and Senior Personnel on proposals that were funded totaling more than \$19.7 Million. This external funding has supported the department and my research infrastructure with more than \$1.25 Million in hardware support. When the funding for these proposals is completed they will have provided a total of 37 months financial support for myself and 52 RA positions that I will have filled with my students.

FUNDED PROPOSALS:

- *Exploring Planetary Surfaces: Earth, Moon, and Mars*,
NASA EPSCoR,
CO-PI with Chris Fritzen (PI), Wendy Calvin, Nick Lancaster, Henry Sun, Sergiu Dascalu,
Scott Bassett,
NASA, September 1, 2007 - August 31, 2010,
\$1,500,000
- *Parallel Beowulf Computing Phase IV*
DURIP 2007
CO-PI with Phillip H. Goodman(PI)
Office of Naval Research, June 1, 2007 - May 30, 2008
\$287,000.00
- *Cortical Microcircuit Dynamics*
CO-PI with Phillip H. Goodman(PI)
ONR, October 1, 2006-September 30, 2009.
\$877,000.00.
- *Scientific Visualization*
PI
NSF EPSCoR, November 1, 2005 - January 31, 2006
\$16,110.00
- *Immersive Visualization*
Senior Personnel at DRI
DoD-STTC, July 1, 2004 - June 31, 2008
\$8,200,477.00

- *Development of a Nationally Competitive Program in Computer Vision Technologies for Effective Human-Computer Interaction in Virtual Environments*,
 CO-PI with George Bebis(PI), Angelo Yfantis, and Peter Stubberud
 NASA, September 1, 2004 - August 31, 2006.
 \$520,892.00
- *Modeling the Effect of Mountainous Terrain on Stratospheric/Tropospheric Exchange, Atmospheric Chemistry, Deposition and Water Quality*,
 CO-PI with William Stockwell(PI), Gayle Dana, Vanda Grubisic, Darko Koracin, and John Lewis
 NASA, September 1, 2004 - August 31, 2006.
 \$496,170.00
- Brain Simulation
 PI, Sun Microsystems September 10, 2004
 \$101,189.00
- Parallel Beowulf Computing Phase III
 DURIP 2004
 CO-PI with Phillip H. Goodman(PI)
 Office of Naval Research, June 1, 2004 - May 30, 2005
 \$250,000.00
- *Models of Cortical Microcircuit Dynamics*,
 CO-PI with Phillip H. Goodman(PI)
 ONR, July 1, 2003-June 30, 2006.
 \$660,000.00
- Parallel Beowulf Computing Phase II
 DURIP 2002
 CO-PI with Phillip H. Goodman(PI)
 Office of Naval Research, June 1, 2002 - May 30, 2003
 \$240,952.00
- *Advanced Computing in the Environmental Sciences*,
 CO-PI with Vanda Grubisic(PI), Ania Panorska, David Benson, Doug Boyle, Gayle Dana, Giles Marion, Jichun Li, Joe McConnell, Kelly Redmond, Kenneth McGwire, Peter Barber, Regina Tempel, Lyle Pritchett, Angkul Kongmunvattana, Ahmed Hassan
 NSF, January 1, 2002 - December 31, 2004.
 \$3,500,000.00.
- *Development of a Nationally Competitive Program in Computer Vision Technologies for Effective Human-Computer Interaction in Virtual Environments*,
 CO-PI with George Bebis(PI), Angelo Yfantis, and Peter Stubberud
 NASA, October 1, 2001 - September 30, 2004.
 \$1,148,940
- *Modeling the Effect of Mountainous Terrain on Stratospheric/Tropospheric Exchange, Atmospheric Chemistry, Deposition and Water Quality*,
 CO-PI with William Stockwell(PI), Gayle Dana, Vanda Grubisic, Darko Koracin, and John Lewis

NASA, October 1, 2001 - September 30, 2004.
\$1,094,412

- Parallel Beowulf Computing Phase I
DURIP 2001
CO-PI with Phillip H. Goodman(PI) and Sushil Louis
Office of Naval Research, March 1, 2001 - February 28, 2002
\$265,000.00
- *Cortical Microcircuit Dynamics*
CO-PI with Phil Goodman(PI), Henrey Markram, and Sushil Louis
Office of Naval Research, April 1, 2000 - May 31, 2003.
\$541,325
- *Development of a Mine Truck Driving Simulator Program for Accident prevention*
CO-PI with Pierre Mousset-Jones(PI)
Nevada Division of Industrial Relations, Newmont Gold Co., and Echo Bay Minerals Co. Oct
2,1996 - Set 30, 1998.
\$19,200
- *Instructional Enhancement Grant*,
with S. Louis, R. Langsner, and Y. Varol
Academic Affairs, University of Nevada, Reno, June 1996 - June 1997.
\$2,472.

TEACHING EXPERIENCE:

Introduction to Computer Science
Computer Applications
Computer Science I
Computer Science II
Introduction to PASCAL Programming
Introduction to BASIC Programming
Introduction to C Programming
Introduction to MODULA-II Programming
Programming Methodology
Computer Systems Laboratory: C and Unix
Data Structures
Programming Languages
Compiler Construction
Parallel Computation
Computer System Administration
Computer Graphics
Topics: Programming Contest
Topics: Programming Languages
Compilers and Translators
Parallel and Distributed Processing
Seminar: Advanced Graphics
Topics: Advanced Graphics

ACADEMIC SUPERVISION:

Doctoral Degree - Those Finished:

- **Judith R. Fredrickson**
“On the Crossing Number of Complete Graphs,”
Ph.D. Computer Science and Engineering, University of Nevada, Reno, May 2006
- **Beifang Yi**
“A Framework for a Sign Language Interfacing System,”
Ph.D. Computer Science and Engineering, University of Nevada, Reno, May 2006

Doctoral Students currently under Supervision:

- **Sara Nasser**
Department of Computer Science and Engineering, University of Nevada, Reno,
Passed Comprehensives
Expected Graduation May 2008.
- **Mukesh Motwani**
Department of Computer Science and Engineering, University of Nevada, Reno,
Passed Comprehensives
Expected Graduation May 2009.
- **Rakhi Motwani**
Department of Computer Science and Engineering, University of Nevada, Reno,
Passed Comprehensives
Expected Graduation May 2009.
- **Bei Yuan**
Department of Computer Science and Engineering, University of Nevada, Reno,
Passed Comprehensives
Expected Graduation December 2009.
- **James Frye**
Department of Computer Science and Engineering, University of Nevada, Reno,
Expected Graduation May 2010.

Masters Degree - Those Finished:

- **Michael A. Penick**
“VFIRE: Virtual Fire in Realistic Environments A Framework for Wildfire Visualization in Immersive Environments,” MS Computer Science Department of Computer Science and Engineering, University of Nevada, Reno, May 2007.
- **Linda Humphrey**
“Efficient Generation of Minimal Graphs Using Independent Path Analysis,” MS Computer Engineering, Department of Computer Science and Engineering, University of Nevada, Reno, December 2006.
- **Qunming Peng**
“Brainstem: A NeoCortical Simulator Interface for Robotic Studies,” MS Computer Science, Department of Computer Science and Engineering, University of Nevada, Reno, December 2006.

- **Joseph Richard Jaquish**
 “Terrain Analyzing in a Virtual Environment with Real-Time Native Shape Creation,” MS Computer Science, Department of Computer Science and Engineering, University of Nevada, Reno, December 2005.
- **Marcel Andrew Levy**
 “Ringermute: An audio data mining toolkit,” MS Computer Science, Department of Computer Science and Engineering, University of Nevada, Reno, August 2005.
- **Jeffery Alan Stuart**
 “A Unified Approach for Cross-Platform Software Development,” MS Computer Science, Department of Computer Science and Engineering, University of Nevada, Reno, August 2005.
- **James G. King**
 “Brain Communication Server: A Dynamic Data Transferal System for A Parallel Brain Simulator,” MS Computer Science, Department of Computer Science and Engineering, University of Nevada, Reno, May 2005.
- **Rich Drewes**
 “Brainlab: a toolkit to aid in the design, simulation, and analysis of spiking neural networks with the NCS environment,” MS Computer Science, Department of Computer Science and Engineering, University of Nevada, Reno, May 2005.
- **Scott Crow**
 “Evolution of the Graphical Processing Unit,” MS Computer Science, Department of Computer Science and Engineering, University of Nevada, Reno, May 2005.
- **Bei Yuan**
 “A Generic Queuing System and Time Saving Region Restrictions for Calculating the Crossing Number of K_n ,” MS Computer Science, Department of Computer Science and Engineering, University of Nevada, Reno, August 2004.
- **Brian Westphal**
 “The Redwood Programming Environment,” MS Computer Science, Department of Computer Science and Engineering, University of Nevada, Reno, August 2004.
- **James Frye**
 “Parallel Optimization of a NeoCortical Simulation Program,” MS Computer Science, Department of Computer Science, University of Nevada, Reno, December 2003.
- **Sean Martin**
 “A Parallel Queuing System for Computationally Intensive Problems on Medium to Large Beowulf Clusters,” MS Computer Engineering, Department of Computer Science, University of Nevada, Reno, December 2003.
- **Juan Carlos Macera**
 “Design and Implementation of a Hierarchical Robotic System: a Platform for Artificial Intelligence Investigation,” MS Computer Engineering, Department of Computer Science, University of Nevada, Reno, December 2003.
- **Beifang Yi**
 “Virtual Hand: a HCI Testbed for Computer Vision Research on the Human Hand,” MS Computer Engineering, Department of Computer Science, University of Nevada, Reno, August 2003.

- **Wenwu Chen**
 “Parallel Computation, Pattern Recognition, and Scientific Visualization,” MS Computer Engineering, Department of Computer Science, University of Nevada, Reno, August 2003.
- **Kishor Waikul**
 “Implementation of the Integrated Courseware Manager for Computer Science,” MS Computer Science, Department of Computer Science, University of Nevada, Reno, May 2003.
- **Alina Solovyova-Vincent**
 “Parallel Implementation of the Inversion of Polynomial Matrices,” MS Computer Science, Department of Computer Science, University of Nevada, Reno, May 2003.
- **Mukesh Motwani**
 “Robust 3D Head Pose Classification using Wavelets,” MS Computer Engineering, Department of Computer Science, University of Nevada, Reno, May 2003.
- **Benjamin J. Lucchesi**
 “A Parallel Linear Octree Collision Detection Algorithm,” MS Computer Science, Department of Computer Science, University of Nevada, Reno, May 2002.
- **E. Courtenay Wilson**
 “Parallel Implementation of a Biologically Correct Neo-Cortical Neural Network Simulator,” MS Computer Engineering, Department of Computer Science, University of Nevada, Reno, August 2001.
- **Mohammed Islam**
 “Implementation of Interactive Course Web Site,”
 Department of Computer Science, University of Nevada, Reno, August 2000.
- **Lu-Chun Liao**
 “Large Scale Software Transitions: A Case Study of the Second Half of MFIRE,” MS Computer Science, Department of Computer Science, University of Nevada, Reno, August 2000.
- **Lingjiang Cheng**
 “Large Scale Software Transitions: A Case Study of the First Half of MFIRE,” MS Computer Science, Department of Computer Science, University of Nevada, Reno, May 2000.
- **Damien Ennis**
 “A Computer Analysis of Hit Frequency for a Complex Video Gaming Machine,” MS Computer Science, Department of Computer Science, University of Nevada, Reno, May 2000.
- **Ulvi Cetin**
 “A Foundation for On-Line Course Ware,” MS Computer Science, Department of Computer Science, University of Nevada, Reno, May 2000.
- **Umid Tadjiev**
 “Parallel computation and graphical visualization of the minimum crossing number of a graph,” MS Computer Science, Department of Computer Science, University of Nevada, Reno, August 1998.
- **Guo-Liang Sun**
 “Image Maker,” MS Computer Science, Department of Computer Science, University of Nevada, Reno, May 1998.

- **Jane A. Niehues-Brooks**
“Automated Digital Image Analysis of Video Ice Crystal Data,” MS Computer Science, Department of Computer Science, University of Nevada, Reno, December 1997.
- **Marat Zhaksilikov**
“Parallel Genetic Algorithms: A Survey and Comparative Study,” MS Computer Science, Department of Computer Science, University of Nevada, Reno, May 1997.
- **Pingyan Tan**
“A Lowcost Algorithm for Dynamic Multicast Routing in Computer Networks,” MS Computer Science, Department of Computer Science, University of Nevada, Reno, December 1995.

AWARDS:

Teaching Awards:

- May 2007 Honors Program Cording Ceremony, Graduate Mentor, University of Nevada, Reno
- May 2006 Honors Program Cording Ceremony, Graduate Mentor, University of Nevada, Reno
- Nominee, Nevada Regents Distinguished Teaching Award, 2005
- Fall 2005 Honors Program Cording Ceremony, Graduate Mentor, University of Nevada, Reno
- F. Donald Tibbitts University Distinguished Teacher Award, University of Nevada, Reno, May 11, 2005
- Who’s Who Among America’s Teachers, 9th edition, 2005.
- Runner-up, F. Donald Tibbitts University Distinguished Teacher Award, University of Nevada, Reno, May 12, 2004
- Fall 2003 Senior Scholar Mentor, College of Engineering, University of Nevada, Reno,
- Who’s Who Among America’s Teachers, 7th edition, 2002.
- Who’s Who Among America’s Teachers, 6th edition, 2000.
- Runner-up, F. Donald Tibbitts University Distinguished Teacher Award, University of Nevada, Reno, May 12, 1999
- Nominee, Nevada Regents Academic Advising Award, 1999.
- Who’s Who Among America’s Teachers, 5th edition, 1998.
- Who’s Who Among America’s Teachers, 4th edition, 1996.
- Outstanding Graduate Teaching Assistant, College of Sciences, Clemson University, April 3, 1993
- Outstanding Graduate Teaching Assistant, Department of Computer Science, Clemson University, April 3, 1993

Research Awards:

- Best Paper Award, 21st International Conference on Computers and Their Applications, (CATA-2006), Seattle, WA, March 2006
- Best Paper Award, Information Systems Development Session, (SCI 2003) July 27-30, 2003, Orlando, FL.
- Second Place, Paper Competition, *CCCS 4th Annual Conference*, Clemson University, Clemson, SC, Nov 11-12, 1993
- CCCS Research Assistantship, Clemson University, August 1993
- Highest rated paper, ACM 30th Southeast Conference, North Carolina State University, Raleigh, NC April 8–10, 1992
- NASA Research Assistantship, Clemson University, August 1989
- Dept. of Defense Research Assistantship, Clemson University, May 1989

Other Awards:

- Sabbatical, University of Nevada, July 2007 - June 2008.
- Academic Keys Who's Who in Engineering Education, 2006.
- Nevada Honor Court Inductee University of Nevada, Reno, June 23, 2005
- The Contemporary Who's Who of Professionals, 2004/2005 edition.
- Academic Keys Who's Who in Sciences Higher Education, 2004 edition.
- Strathmore's Who's Who 2002-2003 edition.
- International Directory of Distinguished Leadership 2002 edition.
- Who's Who in Engineering Education 2002 edition.
- Who's Who in America, 56th edition, 2002.
- Who's Who in Science and Engineering, 6th edition, 2002-2003.
- International Who's Who of Professionals, 2001/2002 edition.
- 2000 Outstanding Scholars of the 21st Century, First Edition, 2001.
- International Directory of Distinguished Leadership, Tenth Edition, 2001.
- Who's Who in America, 55th edition, 2001.
- 2000 Outstanding Scientists of the 20th Century, Second Edition.
- Who's Who in Science and Engineering, 5th edition, 2000-2001.
- International Who's Who of Information Technology, 1999
- Outstanding Young Men of America, 1998
- Upsilon Pi Epsilon membership, Computer Science Honor Society, Clemson University, November 1990
- Graduate Assistant Excellence Award, Bob Jones University, April 1988
- Bank of America Achievement Award in Science and Mathematics, August 1982
- Who's Who Among American High School Students, 1982
- Who's Who Among American High School Students, 1981

OTHER PROFESSIONAL ACTIVITIES:

Referee for journals:

- Discrete Mathematics
- IBM Journal of Research and Development
- IEEE Computer
- IEEE Transactions on Education
- IEEE Transactions on Evolutionary Computation
- IEEE Transactions on Reliability
- IEEE Transactions on Software Engineering and Methodology
- Networks
- Science of Computer Programming
- Supercomputing

Program Committee member for annual conferences:

- 17th International Conference on Software Engineering and Data Engineering (SEDE 2008), June 30 - July 2, 2008, Omni Hotel, Los Angeles.
- The First International Conference on Advances in Computer-Human Interaction, (ACHI 2008), February 10-15, 2008 - St. Luce, Martinique
- The Third International Conference on Internet and Web Applications and Services (ICIW 2008), June 8-13, 2008 - Athens, Greece
- 23rd International Conference on Computers and Their Applications (CATA-2008), April 9-11, 2008, Hyatt Regency Cancun, Cancun, Mexico.
- IEEE Virtual Reality (IEEE VR 2008), March 8-14, 2008, Reno, NV. Local Arrangements Co-Chair.
- 6th International Workshop on System/Software Architectures (IWSSA 2007)
- 17th International Conference on Software Engineering and Data Engineering (SEDE 2007), Las Vegas, July 2007
- Workshop on Software Specification and Modeling (ITNG-2007), Las Vegas, NV, April 2-4, 2007
- ISCA's 19th Computer Applications in Industry and Engineering (CAINE '06)
- 5th International Workshop on System/Software Architectures (IWSSA 2006)
- International Conference on Entertainment Systems and Applications (ENSYS-2006)
- ISCA's 18th Computer Applications in Industry and Engineering (CAINE '05) November 9-11, 2005.
- 4th International Workshop on System/Software Architectures (IWSSA '05)
- Software Engineering Research and Practice (SERP '05)
- Software Engineering Research and Practice (SERP '04)
- Golden West International Conference on Intelligent Systems (GWIC IV) June 12 - 14, 1995. Sir Francis Drake Hotel, San Francisco, CA

Special Session Chair:

- High Performance Information Retrieval and Visualization: Algorithms and Applications, part of The 2007 High Performance Computing & Simulation (HPCS'07) Conference, June 4 - 6, 2007, Prague, Czech Republic

Program Chair and Proceedings Editor:

- ISCA's 21st International Conference on Computer Applications in Industry and Engineering, (CAINE '08) November, 2008, Honolulu, Hawaii.
- ISCA's 5th International Conference on Intelligent Systems (IS '96), June 19-21, 1996. Flamingo Hilton Hotel, Reno, Nevada.

Proceedings Associate Editor:

- Software Engineering Research and Practice (SERP '05)
June 27-30, 2005. Monte Carlo Resort, Las Vegas, NV
- Software Engineering Research and Practice (SERP '04)
June 21-24, 2004. Monte Carlo Resort, Las Vegas, NV

Referee, annual conferences:

- International Conference on Internet and Web Applications and Services (ICIW'06)
- International Conference on Computational Intelligence for Modeling, Control and Automation (CIMCA 2005)
- International Conference on Computers and Their Applications (CATA '05)
- The Fifth International Conference on Computer Science and Informatics, February 27 - March 3, 2000.
- 1999 Annual Meeting of the ASEE Pacific Southwest Section.

Reviewer for book publishers:

- Addison Wesley Longman.
- Prentice Hall, Simon & Schuster Education Group.
- Computer Science Press, an imprint of W.H. Freeman and Company.
- DC Heath Publishing Co.
- Scott Jones, Inc. Publishers

Consultant to industry:

- IGT, Reno, NV, 1995-96
- Micro Pro International, Redwood City, CA, 1986-1992

Service, Current

- **Member, Distinguished Teaching Assistant Award Committee**
University of Nevada, 2005-
- **Member, INBRE Bioinformatics Steering Committee**
Nevada System of Higher Education, 2006-
Chair 2006-

Service, Past

- Departmental:
 - **Member, Department of Computer Science and Engineering Computer Science Curriculum Committee**
University of Nevada, 2006-2007
Chair 2006-2007
 - **Member, Department of Computer Science and Engineering Facilities Committee**
University of Nevada, 1995-1997, 2002-2007
 - **Member, Department of Computer Science and Engineering Faculty Evaluation/Merit Committee**
University of Nevada, 1996-1998, 1999-2001, 2005-2007
 - **Member, Department of Computer Science and Engineering Undergraduate Committee**
University of Nevada, 1996-2006
Chair 1997-2006
 - **Chair, Department of Computer Science and Engineering Faculty Search Committee**
University of Nevada, 1999, 2000, 2000, 2001, 2002, 2002, 2003, 2003, 2006,
 - **Coordinator, Computer Science Colloquium Series**
University of Nevada, 1994-95
- College:
 - **Member, College of Engineering Curriculum Committee**
University of Nevada, 1997-2004, 2006-2007
 - **Member, College of Engineering Personnel Committee**
University of Nevada, 2003-2006
 - **Member, College of Engineering Banquet Committee**
University of Nevada, 1994-2001
 - **Chair, College of Engineering Search Committee**
University of Nevada, 2000
 - **Member, Task Force on Work and Family**
University of Nevada, 1997
 - **Member, College of Engineering Committee for the Engineering Center for Secondary Learning**
University of Nevada, 1996-1997
 - **Member, College of Engineering Space Committee**
University of Nevada, 1995-1997
 - **Member, Faculty Library Committee**
University of Nevada, 1995-96
 - **Member of the College of Engineering Computer Systems Advisory Board**
University of Nevada, 1994-95
- University:
 - **Member, Morale Task Force**
University of Nevada, 2005-2006

- **Member, Excellence in Teaching Program Advisory Board**
University of Nevada, 1999-2003
- **Member, Faculty Senate**
University of Nevada, 2000-2003
- **Member, Faculty Senate Nominating Committee**
University of Nevada, 2001, 2002, 2003.
- Other:
 - **Member, Internal UCCSN Advisory Board for Advanced Computing in the Environmental Sciences**
2002-2006
 - **Member, Board of Trustees**
Northwest Baptist Seminary, Tacoma, WA, 1998-2002
Secretary of the Board 1999-2002

Member: ACM, IEEE-CS, ISCA