NELSON LUIZ PASSOS
Professor and Graduate Coordinator
Department of Computer Science
Midwestern State University
nelson.passos@msutexas.edu

EDUCATION AND PROFESSIONAL CERTIFICATION:

<u>EDUCATION:</u>

- Ph.D. in Computer Science & Engineering - University of Notre Dame – 1996.
  <u>Dissertation:</u> "Improving Parallelism on Multi-Dimensional Applications: The Multi-Dimensional Retiming Framework."
- MS in Computer Science - University of North Dakota - 1992.
- BS in Electrical Engineering - University of Sao Paulo, Brazil – 1974.

<u>SPECIALIZATION COURSES (partial list):</u>

Management
- Control Data Corporation – Rio de Janeiro, Brazil
  - Employee Development: Performance Appraisal and Coaching   1983
  - The Process of Management   1982

- Control Data Corporation – Minneapolis/St. Paul, MN
  - Resource Management   1982
  - Managerial Process   1982
  - Control Data Manager   1979

- Mackenzie University – Sao Paulo, Brazil
  - Public and Private Law   1978
  - Sociology applied to Management   1978
  - Management Ethics   1978
  - General Accounting   1978
  - Social and Work Related Law   1978

- School of Business Administration Getulio Vargas – Rio de Janeiro, Brazil
  - Business Administration and Management   1982

Technical
- Midwestern State University – Wichita Falls, TX
  - Security Awareness   2015-2022
  - Preparing Online Instructors   2016
  - Advanced Topics in Molecular Biology (audit)   2003

- CISCO Academy:
    - Cybersecurity Essentials   2022
    - Introduction to IoT and Digital Transformation   2022
    - Introduction to Cybersecurity   2022
    - Python Essentials   2022
    - Networking Essentials   2022
    - Data Analytics Essentials   2023

- National Computational Science Institute – Oklahoma University
    - Introductory Workshop on Parallel/Cluster Computing   2005

- Control Data Corporation – Minneapolis/St. Paul, MN
    - Unix Internals   1990
    - Unix System V – Administration   1988
    - NOS, NOS/VE System Analysis   1981
    - CP Compass   1979
    - PP Compass   1979

- University of Sao Paulo – Sao Paulo, Brazil
    - Compiler Building   1986
    - Programming Engineering: Methodologies   1986
    - Computer Architecture   1986
    - Computational Logic   1986
    - Automata and Sequential Machines   1977
    - Introduction to Systems Theory   1976

- US Trade Center – Sao Paulo, Brazil
    - Information Systems   1979

- SCI – Sao Paulo, Brazil
    - Database Concepts, Programming and Design   1977

- IBM Brazil
    - Computer System Fundamentals   1974
    - Introduction to IBM /360 model 20   1974
    - RPG Programming Language   1974

Other
- Brazilian Association for Accident Prevention
    - Accident Prevention   1983

PROFESSIONAL EXPERIENCE:

ACADEMIC:

Midwestern State University Wichita Falls, TX

August 2009 - present
Full Professor and Graduate Coordinator
Responsible for teaching several classes focused on Computer Architecture and Design, Computer Networking, Security, Simulation and Operating Systems for computer science majors. Responsible for academic advising undergraduate and graduate students. Academic advisor for up to 105 graduate students. Supervisor of 30 graduate assistants. Coordinator of the Computer Science Graduate Program, Faculty Mentor, Chair and member of the College Council, Graduate Council and several other committees.

August 2004 - 2009
Full Professor
Responsible for teaching several classes focused on Computer Architecture and Design, Computer Networking, Network and Computer Security, Database Management, Theoretical Foundations, and Basic Concepts for non-majors. Responsible for advising undergraduate students and sponsoring several graduate students' research. Coordinator of the Computer Science Scholarship Committee, Faculty Mentor, Chair and member of the College Rank and Tenure, and several other committees.

August 1999 - 2004
Associate Professor
Responsible for teaching several classes focused on Computer Architecture and Design, Computer Networking, Network Security, Database Management, and Theoretical Foundations. Responsible for advising undergraduate students and sponsoring several graduate students' research. Work in research funded by the Texas Higher Education Coordination Board and National Science Foundation, involving more than 14 graduate and 27 undergraduate students. Chair of the Faculty Forum Committee. Coordinator of the Computer Science Scholarship Committee. Member of the MSU Faculty Senate 2001-2003 and other committees.

August 1996- July 1999
Assistant Professor
Responsible for teaching several classes including Computer Organization, Introduction to Computing, Microprocessors, Software Engineering, Assembly Language Programming, Computer Science II, Microcomputers and Operating Systems. Responsible for advising undergraduate students and sponsoring graduate students' research. Work in research funded by the National Science Foundation and MSU College of Science and Mathematics. Chair of the International Awareness Dimension Committee and member of several other committees.

University of Notre Dame, Notre Dame, IN

August 1992 - August 1996
Research Assistant
Research in instruction level parallelism for nested loops, under the direction of Dr. Edwin Sha. Development of a new optimization methodology named Multi-Dimensional Retiming.

University of North Dakota, Grand Forks, ND

August 1991 - May 1992
Teaching Assistant
Responsible for teaching Introduction to Programming Languages to Computer Science majors and students majoring in other scientific areas of study. Worked also as Lab monitor in the department of Computer Science and computer scanned textbook editor for the Disability office.

Catholic University of Rio de Janeiro Brazil

January 1983 - December 1983
Assistant Professor
Responsible for teaching Assembly language to Computer Science majors.

University of Mogi das Cruzes Brazil

July 1977 - December 1978
Assistant Professor
Responsible for teaching Introduction to Computers to Engineering majors.

INDUSTRY:

Sysnet Corporation

March 1990 – December 1990
Consultant
Provided system technical consultancy to Control Data Brasil upon closing of Control Data Corporation branch business.

Control Data Corporation, Brazil subsidiary

January 1974 - March 1990
Systems Technical Consultant & Support Manager
Began as a Trainee in System Analysis, moving to the position of Junior System Analyst in the Cybernet Systems Division, responsible for software developed in Assembly, Cobol, Fortran and C, as well as several packaged applications, including CAD/CAE, Project Planning, Database Systems, and Meteorology. Promoted to

Analyst, Senior System Analyst, Services Support Manager, Technical Consultant, and to Application, Products and Services Branch Manager. Among the duties of those functions were: user training, system debug, installation and maintenance, application development, pre-sales support, proposal preparation, technical presentations, benchmark optimizations, and systems and network configurations. As a manager, supervised 12 system analysts, 2 secretaries and one librarian, responsible for budget preparation and strategic planning.

TEACHING RESPONSIBILITIES:

- CMPS 1013 Computer Concepts and Applications
- CMPS 1023 Introduction to Computing
- CMPS 1043 Computer Science I - Honors Program
- CMPS 2013 Assembly Language Programming
- CMPS 2083 Computer Organization
- CMPS 2084 Introduction to Computer Architecture
- CMPS 2153 Microcomputer Applications for Business
- CMPS 3023 Logic Design
- CMPS 3233 Theory of Computation
- CMPS 4103 Introduction to Operating Systems
- CMPS 4113 Software Engineering
- CMPS 4123 Data Base Management Systems
- CMPS 4433 Computer Communications and Networks
- CMPS 4453 Computer Architecture
- CMPS 4663/5363 Adv. Topics: Network Security
- CMPS 4663/5363 Adv. Topics: Computer Forensics
- CMPS 4663/5363 Adv. Topics: Computer Security
- CMPS 4663/5363 Adv. Topics: Web Applications Security
- CMPS 4883/5333 Adv. Topics: Modeling Simulation
- CMPS 5133 Advanced Computer Architecture
- CMPS 5143 Advanced Operating Systems
- CMPS 5203 Embedded Systems
- CMPS 5213 Wireless Computer and Data Communication
- CMPS 5303 Advanced Data Base Management Systems
- CMPS 5443 Modern Processor Design
- MWSU 1433 Honors Introduction Seminar

RESEARCH AND SCHOLARLY ACTIVITY:

STATISTICS ON PUBLISHED WORK (Source: researchgate.com August 18, 2023)

- Articles readings: 3,907
- Citations: 631.

REFEREED JOURNAL PUBLICATIONS:

1. "Code Performance Measurement as an Educational Tool," (with K. Schoby and S. Carpenter), in the *Proceedings of the 18th Annual CCSC South Central Conference, in the Journal of Computing in Small Colleges*, April 2007, Wichita Falls, TX, pp. 184-190.

2. "Communication Scheduling with Re-routing based on Static and Hybrid Techniques," (with D. Surma and E. H.-M. Sha) in the Journal on Circuits, Systems and Computers, October 2004, Volume 13, Number 5, pp. 1039-1064.

3. "Instruction Level Parallelism of Non-Uniform Acyclic Loops," (with P. Xue and H. Bui), in the *Proceedings of the 15th Annual CCSC South Central Conference, in the Journal of Computing in Small Colleges*, April 2004, Austin, TX, pp. 279-286.

4. "On-Line Instructional Testing in a Mobile Environment," (with C. Wuthrich, G. Kalbfleisch, and T. Griffin), in the *Proceedings of the Fourteenth Annual CCSC South Central Conference, in the Journal of Computing in Small Colleges*, April 2003, Jackson, MS, pp. 23-29.

5. "Improving Cache Hit Ratio by Extended Referencing Cache Lines," (with C.-T. Wang), in the *Proceedings of the Fourteenth Annual CCSC South Central Conference, in the Journal of Computing in Small Colleges*, April 2003, Jackson, MS, pp. 118-123.

6. "Efficient Polynomial-Time Nested Loop Fusion with Full Parallelism," (with T. W. O'Neil and E. H.-M. Sha) in the International Journal of Computers and Their Applications, March 2003, vol. 10, n. 1, pp. 9-24.

7. "An Experiment with Hardware Implementation of Edge Enhancement Filters," (with T. Griffin), in the *Proceedings of the Thirteenth Annual CCSC South Central Conference, in the Journal of Computing in Small Colleges*, April, 2002, Seguin, TX, pp. 24-31.

8. "The Real Problem of Virtual Reality or Designing Faster Computers," in the *Faculty Papers of Midwestern State University*, edited by Lansing Smith, Series 3, Vol. XIV, 2001, pp 171-183.

9. "Efficient Loop Scheduling and Pipelining for Applications with Non-uniform Loops," (with S. Tongsima, C. Chantrapornchai and E. H.-M. Sha) in the *IASTED International Journal of Parallel and Distributed Systems and Networks*, vol. 1, n. 4, pp. 204-211.

10. "Probabilistic Loop Scheduling for Applications with Uncertain Execution Time," (with S. Tongsima, C. Chantrapornchai, D. Surma and E. H.-M. Sha) in the *IEEE Transactions on Computers*, January 2000, vol. 49, n. 1, pp. 65-80.

11. "Reducing Data Hazards on Multi-pipelined DSP Architecture with Loop Scheduling," (with S. Tongsima, C. Chantrapornchai and E. H.-M. Sha) in the *Journal of VLSI Signal Processing*, vol. 18, pp. 111-123.

12. "A Brief Survey of Techniques of Loop Transformation," (with L. Plummer and R. Halverson), in the *Proceedings of the Tenth Annual South Central Conference, in the Journal of Computing in Small Colleges*, April 1999, Austin, TX, pp. 86-94.

13. "Implementing a True Undergraduate Research Experiment," in the *Proceedings of the Tenth Annual South Central Conference*, in the Journal of Computing in Small Colleges, April 1999, Austin, TX, pp. 86-94.

14. "Scheduling of Uniform Multi-Dimensional Systems under Resource Constraints," (with E. H.-M. Sha) in the *IEEE Transactions on VLSI Systems*, December 1998, vol. 6, n. 4, pp. 719-730.

15. "An Efficient Implementation of Nested Loop Control Instructions for Fine Grain Parallelism",(with V. Andronache and R. Simpson) in the *Proceedings of the Ninth Annual South Central Conference*, in the Journal of Computing in Small Colleges, April 1998, Jackson, MS, pp. 67-76.

16. "SILENCE: An Educational Tool for Teaching Instruction-Level Parallelism," (with L. Plummer, J. Hua, S. Brunet and R. Halverson) in the *Proceedings of the Ninth Annual South Central Conference*, in the Journal of Computing in Small Colleges, April 1998, Jackson, MS, pp. 185-192.

17. "Minimization of Memory Access Overhead for Multi-Dimensional DSP Applications via Multi-Level Partitioning and Scheduling," (with E. H.-M. Sha and J. Q. Wang) in the *IEEE Transactions on Circuits and Systems vol. II - Analog and Signal Processing*, September 1997, vol. 44, n. 9, pp. 741-753.

18. "Communication Sensitive Loop Scheduling for DSP Applications," (with E. H.-M. Sha and S. Tongsima) in the *IEEE Transactions on Signal Processing*, May 1997, vol. 45, n. 5, pp. 1309-1322.

19. "Multi-Dimensional Interleaving for Synchronous Circuit Design Optimization," (with E. H.-M. Sha and L.-F. Chao) in the *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, February 1997, vol. 16, n. 2, pp. 146-159.

20. "Decisions! Decisions! or Avoiding Computer Speculation," in the *Faculty Papers of Midwestern State University*, edited by Lansing Smith, Series 3, Vol. XIV, 2003, pp 77-86.

21. "Optimal Data Scheduling for Uniform Multi-Dimensional Applications," (with E. H.-M. Sha and J. Q. Wang) in the *IEEE Transactions on Computers*, vol. 45, n. 12, December 1996, pp. 1439-1444.

22. "Achieving Full Parallelism using Multi-Dimensional Retiming," (with E. H.-M. Sha) in the *IEEE Transactions on Parallel and Distributed Systems*, vol. 7, n. 11, November 1996, pp. 1150-1163.

23. "Synchronous Circuit Optimization via Multi-Dimensional Retiming," (with E. H.-M. Sha) in the *IEEE Transactions on Circuits and Systems vol. II - Analog and Signal Processing*, vol. 43, n. 7, July 1996, pp. 507-519.

24. "Optimizing DSP Flow Graphs via Schedule-Based Multi-Dimensional Retiming," (with E. H.-M. Sha and S. C. Bass) in the *IEEE Transactions on Signal Processing*, January 1996, pp. 150-155.

REFEREED CONFERENCE PUBLICATIONS:

1. "Accountability for Quality in Higher Education" (with Patti Hamilton) in the Proceedings of the 2011 International Conference on Frontiers in Education: Computer Science and Computer Engineering, Las Vegas, NV, July, 2011, pp162-166.

2. "Computer Cluster Scheduling through Genetic Algorithms" (with Ainsley Joseph), in the Proceedings of the 2009 International Conference on Parallel and Distributed Processing Techniques and Applications, Las Vegas, NV, July 2009, pp. 393-397.

3. "Scheduling Multi-Dimensional Loops in a Computer Cluster", (with K. P. Mayfield, A. Joseph, S. Black and H. Bui), in the *Proceedings of the 19th International Conference on Computer Applications in Industry and Engineering*, November, 2006, Las Vegas, NV, pp. 78-82.

4. "Scheduling Multi-Dimensional Loops in a Computer Cluster", (with K. P. Mayfield, A. Joseph, S. Black and H. Bui), in the *Proceedings of the 19th International Conference on Computer Applications in Industry and Engineering*, November, 2006, Las Vegas, NV, pp. 78-82.

5. "Reducing Inter Iteration Dependency Delays in Multiprocessor Systems for Large Graphs", (with M. Sheliga and E. Sha), in the *Proceedings of the 3rd International Conference on Cybernetics and Information Technologies, Systems and Applications, CITSA 2006*, July 2006 Orlando, Florida, paper I237GG (selected as the best paper in the session: Interdisciplinary Research, Analogy based Modeling and Problem Solving).

6. "Computerized Analysis of Flowing Conditions for Use of Chemical Sticks in Natural Gas Wells", (with J. Rhoads and R. Halverson), in the *Proceedings of the 3rd*

International Conference on Cybernetics and Information Technologies, Systems and Applications, CITSA 2006, July 2006 Orlando, Florida, pp. 58-63.

7. "A Computerized Ecological Assessment of Families of Beetles from the Chihuahuan Desert of West Texas" (with M. Shipley), in the *Proceedings of the 18th ISCA International Conference on Computer Applications in Industry and Engineering*, November, 2005, Honolulu, Hawaii, pp. 21-25.

8. "Computational Model of Temperatures in a Covered Water Body Responding to Solar Insolation" (with J. Rhoads and J. Faulk), in the *Proceedings of the 18th ISCA International Conference on Computer Applications in Industry and Engineering*, November, 2005, Honolulu, Hawaii, pp. 15-20.

9. "Multi-Dimensional Retiming applied to Cluster Computing" (with K. P. Mayfield and H. H. Tsai), in the *Proceedings of the 11th International Conference on Information System Analysis and Synthesis*, July, 2005, Orlando, Florida, pp. 124-129.

10. "Network Centric Improvements to Resource Caching" (with R. Zuck, A. Williams, B. Kair, H. Bui, and C. Stringfellow), in the *Proceedings of the IEEE Consumer Communications and Networking Conference*, January, 2005, Las Vegas, Nevada **(nominated for the best paper award)**.

11. "Adjusting Web Caching Computers to Reduce Communication Channel Allocation" (with R. Zuck, A. Williams, B. Kair, H. Bui, and C. Stringfellow), in the *Proceedings of the ISCA 17th International Conference on Computer Applications in Industry and Engineering*, November, 2004, Orlando, Florida.

12. "Message Hiding in Images," (with C. Crenshaw), in the *Proceedings of the 16th International Conference on Computer Applications in Industry and Engineering*, November, 2003, Las Vegas, NV, pp. 28-31.

13. "A Brief Study of Cooperative Web Caching Protocols in Cellular Networks," (with A. K. Gelli, J. Nalluru, and E. Freeman), in the *Proceedings of the 16th International Conference on Computer Applications in Industry and Engineering*, November, 2003, Las Vegas, NV, pp. 36-39.

14. "Adaptive Virtual Web Caches," (with J. Nalluru, S. Movva, and A. Gelli), in the *Proceedings of the IASTED International Conference on Communications, Internet and Information Technology (CIIT 2003)*, November, 2003, Scottsdale, AZ, pp. 209-213.

15. "Modeling and Retiming Non-Uniform Acyclic Loops," (with P. Xue, H. Bui, and A. Joseph), in the *Proceedings of the IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS 2003)*, November, 2003, Marina Del Rey, CA, pp. 328-332.

16. "Instructional Testing through Wireless Handheld Devices," (with C. Wuthrich, R. Halverson, and T. Griffin), in the *Proceedings of the Frontiers in Education Conference (FIE '03),* November, 2003, Boulder, CO, pp. S4E-7 - S4E-12.

17. "Improving Cacheability and Responsiveness of an Interactive Wireless Web Application," (with A. Gelli, E. Freeman, and C. Wuthrich), in the *Proceedings of the International Conference on Computer, Communication and Control Technologies (CCCT '03)* July, 2003, Orlando, FL, pp. 158-163 **(selected for best paper award)**.

18. "Mobile Web Caching in a Hostile Environment," (with S. Movva, T. Griffin, and G. Kalbfleisch), in the *Proceedings of the 17th AeroSense-Battlespace Digitization and Network-Centric Systems III*, April, 2003, Orlando, FL, pp. 102-110.

19. "Adjusting Web Cache Replacement Algorithms According to User Connectivity," (with S. Movva, A. Gelli, and G. Kalbfleisch), in the *Proceedings of the International Signal Processing Conference*, April 2003, Dallas, TX, paper number 269.

20. "A Brief Study on Web Caching Applied to Mobile Web Applications," (with G. Kalbfleisch, W. Deckert and R. Halverson), in the *Proceedings of the 18th International Conference on Computers and their Applications*, 2003, Honolulu, HI, pp. 442-445.

21. "Predicting Conditional Branch Outcomes on a Sobel Edge Detecting Filter," (with Z. Jin), in the *Proceedings of the International Conference on Acoustics, Sound and Signal Processing*, Orlando, FL, May, 2002, vol. III, pp. 3192-3195.

22. "A Study on the FPGA Implementation of Edge Detection Algorithms," (with T. Griffin), in the *Proceedings of the 14th International Conference on Computer Applications in Industry and Engineering*, Las Vegas, NV, November, 2001.

23. "Branch Prediction of Conditional Nested Loops Trough an Address Queue," (with Z. Jin and V. Andronache), in the *Proceedings of the 14th International Conference on Parallel and Distributed Computing Systems*, Dallas, TX, August, 2001, pp. 97-102.

24. "Theoretical Constraints on Multi-Dimensional Retiming Design Techniques," (with R. J. Bailey, D. C. Defoe, R. H. Halverson, and R. P. Simpson), in the *Proceedings of the AeroSense-Aerospace/Defense Sensing, Simulation and Controls*, Orlando, FL, April, 2001, Vol. 4388, pp. 238-245.

25. "Design and Analysis of Efficient Application-Specific On-Line Page Replacement Techniques for Distributed Memory Systems," (with V. Andronache and E. H.-M. Sha), in the *Proceedings of the 12th IASTED International Conference on Parallel and Distributed Computing and Systems*, Las Vegas, NV, November, 2000, pp. 551-556.

26. "Improving Nested Loops' ILP on a Parallel ASIC Design," (with R. P. Light, W. Maxfield, B. Reed, and E. Sha), in the *Proceedings of the 13th International Conference on Parallel and Distributed Computing Systems*, Las Vegas, NV, 2000, pp. 105-110.

27. "A Study of Software Pipelining for Multi-dimensional Problems," (with R. J. Bailey, D. C. Defoe, R. H. Halverson, and R. P. Simpson), in the *Proceedings of the 13th International Conference on Parallel and Distributed Computing Systems*, Las Vegas, NV, August, 2000, pp. 426-431.

28. "Design and Analysis of Efficient Application-Specific On-line Page Replacement Techniques," (with E. Sha, and V. Andronache), in the *Proceedings of the 10th Great Lakes Symposium on VLSI*, Evanston, IL, March, 2000, pp. 123-128.

29. "A VHDL Design Optimization for Two-Dimensional Filters," (with R. Light, J. Song, R. Halverson and R. P. Simpson), in the *Proceedings of the IS&T/SPIE's 12th International Symposium on Electronic Imaging*, San Jose, CA, January, 2000, vol. 3970, pp. 59-69.

30. "True Undergraduate Research: Foundation for Graduate Studies and Critical Thinking," (with S. B. Carpenter), in the *Proceedings of the 1999 Frontiers in Education Conference*, November 1999, San Juan, Puerto Rico, session 13c5, pp. 7-12.

31. "A Study on Multimedia over IP and Multicast Routing Protocols," (with D. Ruetsch, and S. B. Carpenter), in the *Proceedings of the Third IASTED International Conference on Internet and Multimedia Systems and Applications*, Nassau, Grand Bahamas, October, 1999, pp.378-382.

32. "ASIC Design for Conditional Nested Loops with Predicate Registers," (with B. Sinclair, and R. Light), in the *Proceedings of the 1999 Midwest Symposium on Circuits and Systems*, Las Cruces, NM, August, 1999, pp. WA1.3.

33. "Design of 2-D Filters using a Parallel Processor Architecture," (with R. Light, V. Andronache, and E. H.-M. Sha), in the *Proceedings of the ISCA 12th International Conference on Parallel and Distributed Computing Systems*, Fort Lauderdale, FL, August, 1999, pp. 528-533.

34. "Fine Tuning the GALE Edge Detection Method," (with T. P. Donovan), in the *Proceedings of the 1999 IEEE International Symposium on Circuits and Systems*, Orlando, FL, May, 1999, paper 70.5.

35. "A Genetic Algorithm Approach to Edge Detection on Image Processing Applications," (with T. P. Donovan), in the *Proceedings of the 11th International Conference on Computer Applications in Industry and Engineering*, Las Vegas, NV, November, 1998, pp. 71-74.

36. "Performance Evaluation of Parallel Implementation of Nested Loop Control Structure," (with S. Brunet, V. Andronache, and R. Halverson), in the *Proceedings of the 11th International Conference on Computer Applications in Industry and Engineering*, Las Vegas, NV, November, 1998, pp. 215-218.

37. "Z Specification for an Internet Movie Screening," (with C. E. Lieberman, A. E. Newsom, and S. B. Carpenter), in the *Proceedings of the 11th International Conference on Computer Applications in Industry and Engineering*, Las Vegas, NV, November, 1998, pp. 67-70.

38. "Edge Detection through the Use of a Combined Genetic Algorithm-Linear Technique approach," (with T. P. Donovan), in the *Proceedings of the 1998 Midwest Symposium on Circuits and Systems*, Notre Dame, IN, August, 1998, pp. 310-313.

39. "An Efficient Implementation of Nested Loop Control Instructions for Super Scalar Processors," (with V. Andronache and R. P. Simpson), in the *Proceedings of the 1998 Midwest Symposium on Circuits and Systems*, Notre Dame, IN, August, 1998, pp. 82-85.

40. "Nested Loops Optimization for Multiprocessor Architecture Design,"(with A. Leonardi and E. H.-M. Sha), in the *Proceedings of the 1998 Midwest Symposium on Circuits and Systems*, Notre Dame, IN, August, 1998, pp. 415-418.

41. "A Perfect Branch Prediction Technique for Conditional Loops,"(with V. Andronache and R. Simpson), in the *Proceedings of the World Multiconference on Systemics, Cybernetics and Informatics (SCI'98) and the 4th International Conference on Informatics Systems Analysis and Synthesis (ISAS'98)*, Orlando, FL, July, 1998, vol. 2, pp. 651-657.

42. "Optimizing Circuits with Confidence Probability using Probabilistic Retiming,"(with E. H.-M. Sha, C. Chantrapornchai and S. Tongsima), in the *Proceedings of the 1998 IEEE International Symposium on Circuits and Systems*, Monterey, CA, May, 1998, pp. WAA11-8.

43. "Precise-MD: A Software Tool for Resources Constrained Scheduling of Multi-Dimensional Applications," (with J. Hua, O. Rashid, R. Halverson and R. Simpson), in the *Proceedings of the 1998 IEEE International Symposium on Circuits and Systems*, Monterey, CA, May, 1998, pp. TAA15-4.

44. "GALE: a Combined Genetic Algorithm-Linear Technique Approach to Edge Detection," (with T. Donovan), in the *Proceedings of the SPIE Aerospace/Defense Sensing and Controls*, Orlando, FL, April, 1998, vol. 3387, pp. 156-164.

45. "An Object-Oriented Hardware/Software Co-Design Paradigm," (with O. Rashid and R. Halverson), in the *Proceedings of the 13th International Conference on Computers and their Applications*, Honolulu, Hawaii, March, 1998, pp. 440-443.

46. "A Parallel Implementation of Robotic Path Planning with the Framed-Quadtree Data Structure," (with H. Guo and R. Szczerba), in the *Proceedings of the 10th International Conference on Computer Applications in Industry and Engineering and Systems*, San Antonio, TX, December, 1997, pp. 9-12.

47. "Efficient Loop Scheduling and Pipelining for Applications with Non-uniform Loops," (with E. H.-M. Sha, C. Chantrapornchai and S. Tongsima), in the *Proceedings of the 9th International Conference on Parallel and Distributed Computing and Systems*, Washington, D.C., October, 1997, pp. 363-368.

48. "Probabilistic Rotation: Scheduling Graphs with Uncertain Execution Time" (with E. H.-M. Sha, C. Chantrapornchai and S. Tongsima), in the *Proceedings of the International Conference on Parallel Processing 1997*, Chicago, IL, August 1997, pp. 292-295.

49. "Scheduling with Confidence for Probabilistic Data Flow Graphs," (with E. H.-M. Sha, C. Chantrapornchai and S. Tongsima), in the *Proceedings of the 1997 Great Lakes Symposium on VLSI*, Urbana-Champaign, IL, March 1997, pp. 150-155.

50. "Software Engineering Requirements Analysis in the Classroom", in the *Proceedings of the Eighth Annual South Central Conference*, in the Journal of Computing in Small Colleges, vol. 12, n. 4, March 1997, pp. 48-57.

51. "Algorithm and Hardware Support for Branch Anticipation," (with E. H.-M. Sha, R. D. Ju and T. Z. Yu), in the *Proceedings of the 1997 Great Lakes Symposium on VLSI*, Urbana-Champaign, IL, March 1997, pp. 163-168.

52. "Synthesis of Multi-Dimensional Applications in VHDL,"(with E. H.-M. Sha) in the *Proceedings of the 1996 International Conference on Computer Design*, Austin, TX, October, 1996, pp. 530-535.

53. "SHARP: Efficient Loop Scheduling with Data Hazard Reduction on Multiple Pipeline DSP Systems," (with E. H.-M. Sha, S. Tongsima, and C. Chantrapornchai) in the *Proceedings of the 1996 IEEE Workshop on VLSI Signal Processing*, VLSI Signal Processing, IX, editors: Wayne Burleson, Konstantinos Konstantinides, and Teresa Meng, San Francisco, CA, November 1996, pp. 253-262.

54. "Polynomial-time Nested Loop Fusion with Full Parallelism,"(with E. H.-M. Sha and C. Lang) in the *Proceedings of the 1996 International Conference on Parallel Processing*, Bloomingdale, IL, August, 1996, vol. 3, pp. 9-16.

55. "Fully Parallel Hardware/Software Codesign for Multi-Dimensional DSP Applications," (with E. H.-M. Sha and M. Sheliga) in the *Proceedings of the 4th International Workshop on Hardware/ Software Co-design*, Pittsburgh, PA, March 1996, pp. 18-25.

56. "A Parameterized Index-Generator for the Multi-Dimensional Interleaving Optimization," (with E. H.-M. Sha) in the *Proceedings of the 6th Great Lakes Symposium on VLSI*, Ames, IA, March 1996, pp. 66-71.

57. "Multi-Level Partitioning and Scheduling under Local Memory Constraint," (with E. H.-M. Sha and J. Q. Wang) in the *Proceedings of the Seventh IEEE Symposium on Parallel and Distributed Processing*, San Antonio, TX, October, 1995, pp. 612-619.

58. "Push-up Scheduling: Optimal Polynomial-time Resource Constrained Scheduling for Multi-Dimensional Applications," (with E. H.-M. Sha) in the *Proceedings of the IEEE/ACM International Conference on Computer Aided Design*, San Jose, CA, November, 1995, pp. 588-591.

59. "Multi-Dimensional Interleaving for Time-and-Memory Design Optimization," (with E. H.-M. Sha and L.-F. Chao) in the *Proceedings of the IEEE International Conference on Computer Design*, Austin, TX, October, 1995, pp. 440-445.

60. "Memory Efficient Fully Parallel Nested Loop Pipelining," (with E. H.-M. Sha and L.-F. Chao) in the *Proceedings of the 24th International Conference on Parallel Processing*, Oconomowoc, WI, August, 1995, vol. II, pp. 182-185.

61. "Architecture-Dependent Loop Scheduling via Communication-Sensitive Re-mapping," (with E. H.-M. Sha and S. Tongsima) in the *Proceedings of the 24th International Conference on Parallel Processing*, Oconomowoc, WI, August, 1995, vol. II, pp. 97-104.

62. "Memory/Time Optimization of 2-D Filters," (with E. H.-M. Sha) in the *Proceedings of the 1995 IEEE International Conference on Acoustics, Speech & Signal Processing*, Detroit, MI, May 1995, vol. 5, pp. 3223-3226.

63. "Optimizing Synchronous Systems for Multi-Dimensional Applications," (with E. H.-M. Sha and L.-F. Chao) in the *Proceedings of the 1995 IEEE European Design and Test Conference*, Paris, France, March, 1995, pp. 54-58.

64. "Communication Sensitive Rotation Scheduling," (with E. H.-M. Sha and S. Tongsima) in the *Proceedings of the IEEE International Conference on Computer Design*, Cambridge, MA, October, 1994, pp. 150-153.

65. "Full Parallelism in Uniform Nested Loops using Multi-Dimensional Retiming," (with E. H.-M. Sha) in the *Proceedings of the 23rd International Conference on Parallel Processing*, Saint Charles, IL, August, 1994, vol. II, pp. 130-133.

66. "Loop Pipelining for Scheduling Multi-Dimensional Systems via Rotation," (with E. H.-M. Sha and S. C. Bass) in the *Proceedings of the 31st Design Automation Conference*, San Diego, CA, June, 1994, pp. 485-490 **(nominated for the best paper award).**

67. "Partitioning and Retiming of Multi-Dimensional Systems," (with E. H.-M. Sha and S. C. Bass) in the *Proceedings of the IEEE International Symposium on Circuits and Systems*, London, England, May, 1994, vol. 4, pp. 227-230.

68. "Schedule-Based Multi-Dimensional Retiming," (with E. H.-M. Sha and S. C. Bass) in the *Proceedings of the 8th International Parallel Processing Symposium*, Cancun, Mexico, April, 1994, pp. 195-199.

MSU PUBLICATIONS

1. "The Real Problem of Virtual Reality or Designing Faster Computers," in *Faculty Papers, Midwestern State University,* Series 3, Volume XV, 2000, pp. 77-86.

2. "Decisions! Decisions! or Avoiding Computer Speculation," in *Faculty Papers, Midwestern State University,* Series 3, Volume XIV, 2001, pp. 171-183.

3. "When Computer Security Fails," MSU Faculty Forum, November, 2015, to be published in *Faculty Papers, Midwestern State University*.

BOOK REVIEWS:

1. "Pipelined and Parallel Computer Architectures," (by Saijan G. Shiva) book review in *IEEE Concurrency*, Vol. 6, no. 2, April 1998, pp. 92.

2. "iWarp Anatomy of a Parallel Computing System," (by Thomas Gross and David R. Ohallaron) book review in *IEEE Concurrency*, vol. 7, n. 3, July 1999, pp. 92-93.

3. The Essentials of Computer Organization and Architecture, Fourth Edition, by Null and Lobur (fifth edition to be published).

4. Computer Systems. Fourth Edition, 2016, by J. Stanley Warford, (reviewers mentioned in page xxx of preface of the fifth edition).

5. Computer Organization and Architecture, 9/e, 2016, by William Stallings. Publisher: Pearson. , (reviewers mentioned in page XXII of preface of the tenth edition).

6. Internet Security; How to Defend Against Attackers on the Web by Mike Harwood, 2019, publisher: Jones & Bartlett Learning

7. Essentials of Computer Organization and Architecture, by Linda Null and Julia Lobur, 5th edition. 2021.

TECHNICAL REPORTS, ETC.:

1. "Schedule-Based Multi-Dimensional Retiming on Data-Flow Graphs," (with E. H.-M. Sha and S. C. Bass) in *Research Report CSE-TR-93-012b*, Department of Computer Science and Engineering, University of Notre Dame.

2. "Loop Pipelining for Scheduling Multi-Dimensional Systems via Rotation," (with E. H.-M. Sha and S. C. Bass) in *Research Report CSE-TR-93-013*, Department of Computer Science and Engineering, University of Notre Dame.

3. "Partitioning and Retiming of Multi-Dimensional Systems," (with E. H.-M. Sha and S. C. Bass) in *Research Report CSE-TR-93-014*, Department of Computer Science and Engineering, University of Notre Dame.

4. "Nested Loop Transformation for Full Parallelism," (with E. H.-M. Sha) in *Research Report CSE-TR-94-011*, Department of Computer Science and Engineering, University of Notre Dame.

5. "Communication Sensitive Rotation Scheduling," (with E. H.-M. Sha and S. Tongsima) in *Research Report CSE-TR-94-015*, Department of Computer Science and Engineering, University of Notre Dame.

6. "Architecture Dependent Loop Scheduling via Communication Sensitive Remapping," (with E. H.-M. Sha and S. Tongsima) in Research *Report CSE-TR-94-024*, Department of Computer Science and Engineering, University of Notre Dame.

7. "Multi-Dimensional Interleaving for Synchronous Circuit Design Optimization," (with E. H.-M. Sha and L.-F. Chao) in *Research Report CSE-TR-94-035*, Department of Computer Science and Engineering, University of Notre Dame.

8. "Carrot-Hole Data Scheduling and Adaptive Partitioning for Memory Traffic Minimization," (with E. H.-M. Sha and J. Q. Wang) in *Research Report CSE-TR-95-10*, Department of Computer Science and Engineering, University of Notre Dame.

9. "Multi-Level Partitioning and Scheduling under Local Memory Constraint," with E. H.-M. Sha and J. Q. Wang) in *Research Report CSE-TR-95-11*, Department of Computer Science and Engineering, University of Notre Dame.

10. "Reducing Pipeline Hazard via Rotation Scheduling," (with S. Tongsima, C. Chantrapornchai, E. H.-M. Sha and J. Q. Wang) in *Research Report CSE-TR-95-20*, Department of Computer Science and Engineering, University of Notre Dame.

11. "Loop Pipelining Algorithm for Non-Uniform Increasing Dependency Loops," (with S. Tongsima, and E. H.-M. Sha) in *Research Report CSE-TR-96-07*, Department of Computer Science and Engineering, University of Notre Dame.

12. "Branch Anticipation Using Loop Pipelining for Resource Constrained Systems," (with T. Z. Yu, and E. H.-M. Sha) in *Research Report CSE-TR-96-11*, Department of Computer Science and Engineering, University of Notre Dame.

13. "Probabilistic Retiming: A Circuit Optimization Technique," (with S. Tongsima, C. Chantrapornchai, and E. H.-M. Sha) in *Research Report CSE-TR-96-15*, Department of Computer Science and Engineering, University of Notre Dame.

14. "Probabilistic List Scheduling: an Algorithm for Producing Initial Schedules for Probabilistic Rotation Scheduling," (with S. Tongsima, C. Chantrapornchai, and E. H.-M. Sha) in *Research Report CSE-TR-96-16*, Department of Computer Science and Engineering, University of Notre Dame.

15. "Algorithms and Architecture Support for Pipelining and Scheduling Nested Loops with Conditions," (with T. Z. Yu, E. H.-M. Sha and D.-C. Ju) in *Research Report CSE-TR-97-08*, Department of Computer Science and Engineering, University of Notre Dame.

16. "Collision Graph based Communication Reduction Techniques for Parallel Systems," (with D. Surma and E. H.-M. Sha) in *Research Report CSE-TR-97-14*, Department of Computer Science and Engineering, University of Notre Dame.

17. "Efficient Polynomial-Time Nested Loop Fusion with Full Parallelism," (with T. W. O'Neil and E. H.-M. Sha) in *Research Report CSE-TR-99-09*, Department of Computer Science and Engineering, University of Notre Dame.

18. "Skill Training for Customer Satisfaction" in the *Proceedings of the 8th Annual Quality Management and Applied Statistics Symposium*, Minneapolis, MN, Oct., 1990, pp.63-70.

19. "O Metodo de Analise de Informacoes atraves de Relacoes Binarias" (The Method of Information Analysis through Binary Relations) in the *Proceedings of the 18th Congresso Nacional de Informatica*, Sao Paulo, Brazil, September 1985, pp.927-932.

20. "Disponibilidades Presentes e Futuras de Centros Computacionais para Simulacao Numerica," (Current and Future Availability of Computer Centers for Numerical

Simulation) in the *Proceedings of the I Seminario de Modelagem Numerica do Mar*, Sao Jose dos Campos, Brazil, December, 1984, pp. 361-365.

21. "Status do Setor Operacional do Centro de Satelites Ambientais" (Current Status of the Operational Division of Environmental Satellites", in the *Proceedings of the II Encontro de Usuarios de Produtos de Satelites Ambientais*, Sao Jose dos Campos, Brazil, September, 1989, pp. 31-34.

PRESENTATIONS:

- MSU Honors Program Red Talk 2020 – A Brief Introduction To Cyber Security And Electronic Voting Threats
- When Computer Security Fails, MSU Faculty Forum, November 19, 2015
- 2009 International Conference on Parallel and Distributed Processing Techniques and Applications, Las Vegas, NV, July 2009.
- Region 9 ESC/Area 9 TCEA Technology/Media Conference, Wichita Falls, TX, 2007.
- Computer Security Tutorial, Seminar of Information Technology (STI'02), Airspace Technical Center, Sao Jose dos Campos, Brazil, September 2004.
- High Performance Computers, Seminar of Information Technology (STI'02), Airspace Technical Center, Sao Jose dos Campos, Brazil, September 2004.
- International Conference on Computer, Comm. and Control Technologies, FL, 2003
- 14th Annual CCSC South Central Conference, MS, April 2003
- International Conference on Acoustics, Sound and Signal Processing, Orlando, FL, 2002
- 12th International Conference on Parallel and Distributed Computing Systems, Fort Lauderdale, FL, August, 1999
- Tenth Annual South Central Conference, Austin, TX, April 1999
- Midwest Symposium on Circuits and Systems, Notre Dame, IN, August, 1998
- 1997 Great Lakes Symposium on VLSI, Urbana-Champaign, IL, 1997.
- Eighth Annual South Central Conference, San Antonio, TX, 1997.
- 1996 International Conference on Computer Design, Austin, TX.
- 6th Great Lakes Symposium on VLSI, Ames, IA, 1996.
- IEEE/ACM International Conference on Computer Aided Design, San Jose, CA, 1995.
- IEEE International Conference on Computer Design, Austin, TX, 1995.
- 24th International Conference on Parallel Processing, Oconomowoc, WI, 1995.
- International Conference on Acoustics, Speech \& Signal Processing, Detroit, MI, 1995.
- 23rd International Conference on Parallel Processing, Saint Charles, IL, 1994.
- 31st Design Automation Conference, San Diego, CA, 1994.
- 8th International Parallel Processing Symposium, Cancun, Mexico, 1994.
- 4th Great Lakes Symposium on VLSI, Notre Dame, IN, 1994.

- 8th Quality Management and Applied Statistics Symposium, Minneapolis, MN, 1990.
- 18th Congresso Nacional de Informatica, Sao Paulo, Brazil, 1985.
- 17th Congresso Nacional de Informatica, Rio de Janeiro, Brazil, September, 1984.

RESEARCH GRANTS:

- CAESAR - Compilers and Evolutionary System Architecture Research.
    Architecture Support and Code Generation for General Nested Loops

    -- NSF Award #9704276, total budget: $240,000.00 from July, 1997 to June, 2001

- Software donation from Altera Corporation
    -- Total value: $ 57,135.00

- Equipment donation from Altera Corporation (July 2010)
    -- Total value: $ 2,690.00

- Software donation from Standard Performance Evaluation Corporation
    -- Total value: $ 600.00

- Flexible Integrated Caching Approach (FICA) for Efficient Content Delivery in Wireless Internet

    -- THECB (Texas Higher Education Coordination Board) Award #003656-0108-2001, MSU budget: $66,000, from January 2, 2002 to December 30, 2003. Consortium with UT Arlington, total budget: $ 197,222.00.

    -- THECB Supplemental Grants for High School Science and Math Teachers, Summer 2002, total value: $ 8,100.00

    -- THECB Supplemental Grants for High School Science and Math Teachers, Summer 2003, total value: $ 8,100.00

- An Intelligent Entertainment Center

    -- College of Science and Mathematics Faculty Research Fund, total budget: US$ 600.00 from September 2004 to August 2005.

- HORNER: A micro-parallel system for experimental research

    -- MSU Faculty Grants Fund, total budget: US$ 4,728.47 from September 2005 to August 2006.

- Applying data mining to predict ecological information on families of beetles from the Chihuahuan desert of West Texas.

  -- MSU Faculty Grants Fund, total budget: US$ 4,607.00 from January 2006 to August 2006

- Optimization algorithms for micro-parallel cluster systems
  -- MSU Faculty Grants Fund, total budget: US$ 1,854.00 from January 2007 to August 2007.

- Hierarchical Scheduling of Multi-Dimensional Applications in Clusters of Multicore Processors

  -- MSU Faculty Grants Fund, total budget: US$ 4,460.00 from January 2009 to August 2010.

PROFESSIONAL ACTIVITIES:

Participation:
- Member of the Program Committee – 2022 World Congress on Information Technology Applications and Services, February 2022.
- Member of the Program Committee – 2021 World Congress on Information Technology Applications and Services, February 2021.
- Member of the Program Committee – ICSEC 2020 Conference (International Conference on Computer Science and Engineering), December 2020
- Member of the Program Committee – The 2020 World Congress on Information Technology Applications and Services (World IT Congress 2020)
- Member of the Program Committee – International Conference on Big data, IoT, and Cloud Computing (BIC 2019)
- Member of the Program Committee – 10th International Conference on Computer Science and its Applications (CSA 2018)
- Member of the Program Committee – The 2018 World Congress on Information Technology Applications and Services (World IT Congress 2018)
- Member of the International Program Committee - IASTED International Conference on Parallel and Distributed Computing and Networks (PDCN 2014)
- Member of the International and Advisory Program Committee - 2013 International Computer Science and Engineering Conference (ICSEC 2013)
- Member of the Program Committee – The 11th International Conference on Computing, Communications and Control Technologies (CCCT 2013)
- Member of the Program Committee – 3rd International Symposium on Integrating Research, Education, and Problem Solving (IREPS 2013)
- Member of the Program Committee – 19th International Conference on Information Systems Analysis and Synthesis (ISAS 2013)
- Member of the Program Committee – 2nd International Symposium on Interdisciplinary Research, Education, and Communication (IDREC 2013)

- Member of the Program Committee – 17th World Multi-Conference on Systemics, Cybernetics And Informatics (WMSCI 2013)
- Member of the Technical Program Committee - 2013 International Computer Science and Engineering Conference (ICSEC 2013)
- Member of the Program Committee - The 4th International Multi-Conference on   Complexity, Informatics and Cybernetics (IMCIC 2013)
- Member of the Program Committee - The 10th International Conference on   Cybernetics and Information Technologies, Systems and Applications (CITSA 2013)
- Member of the International Program Committee - The 11th IASTED International Conference on Parallel and Distributed Computing and Networks (PDCN 2013)
- Member of the International Program Committee - The 8th IASTED International Conference on Advances in Computer Science (ACS 2013)
- Member of the Program Committee - The SPRING 10th International Conference on Computing, Communications and Control Technologies (CCCT 2012)
- Member of the Program Committee - International Symposium on Integrating Research, Education, and Problem Solving (IREPS 2011)
- Member of the Program Committee - IASTED International Conference on Advances in Computer Science and Engineering (ACSE 2012)
- Member of the Program Committee - The 3rd International Multi-Conference on   Complexity, Informatics and Cybernetics (IMCIC 2012)
- Member of the Program Committee - 9th International Symposium on Embedded Computing (EmbeddedCom 2011)
- Member of the Program Committee - The 9th International Conference on   Cybernetics and Information Technologies, Systems and Applications (CITSA 2012)
- Member of the Program Committee - Parallel and Distributed Computing and Networks (PDCN 2013)
- Member of the Program Committee - The International Conference on Computer Convergence Technology (ICCCT 2011)
- Member of the Program Committee - The 23rd IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS 2011)
- Member of the Program Committee - The 2nd International Multi-Conference on   Complexity, Informatics and Cybernetics (IMCIC 2011)
- Member of the Program Committee - 9th International Symposium on Embedded Computing
- Member of the Program Committee - The 8th International Conference on   Cybernetics and Information Technologies, Systems and Applications (CITSA 2011)
- Member of the International Program Committee for the IASTED International Conference on Advances in Computer Science and Engineering (ACSE 2010).
- Member of the Program Committee - The 4th International Conference on Embedded and Multimedia Computing (EM-Com 2009).
- Member of the Program Committee - The International Multi-Conference on   Complexity, Informatics and Cybernetics IMCIC 2010.

- Member of the Program Committee - 7th International Conference on Cybernetics and Information Technologies, Systems and Applications: CITSA 2010.
- Member of the Program Committee - 8th International Conference on Computing, Communications and Control Technologies: CCCT 2010.
- Member of the Program Committee - The 4th International Conference on Embedded and Multimedia Computing (EM-Com 2009).
- Member of the Program Committee - 6th International Conference on Cybernetics and Information Technologies, Systems and Applications: CITSA 2009
- Member of the Program Committee - 7th International Conference on Computing, Communications and Control Technologies: CCCT 2009
- Publicity Chair for the 20th South Central Conference of the Consortium for Computing Sciences in Colleges
- Member of the International Program Committee for The IASTED International Symposium on Computational Biology and Bioinformatics 2008
- Publicity Chair for the 2008 South Central Conference of the Consortium for Computing in Small Colleges
- Member of the program committee for the Fifth IEEE International Symposium on Embedded Computing (SEC 2008)
- Member of the Program Committee at International Conference on Computing, Communications and Control Technologies: CCCT'08
- Member of the Program Committee at International Conference on Cybernetics and Information Technologies, Systems and Applications: CITSA'08
- Publicity Chair for the 2007 South Central Conference of the Consortium for Computing in Small Colleges
- Member of the Steering Committee for the South Central Conference of the Consortium for Computing in Small Colleges 2007-2008
- Member of the Program Committee at International Conference on Computing, Communications and Control Technologies: CCCT'07
- Member of the Program Committee at International Conference on Cybernetics and Information Technologies, Systems and Applications: CITSA'07
- Member of the Program Committee at International Conference on Computing, Communications and Control Technologies: CCCT'04
- Panelist at Texas Higher Education Coordination Board meeting on the Supplemental Grants for High School Science and Math Teachers Program
- Member of the Technical Committee at the ISCA 15th International Conference on Parallel and Distributed Computing Systems
- Session chair at the ISCA 14th International Conference on Parallel and Distributed Computing Systems
- Member of the Technical Committee at the ISCA 14th International Conference on Parallel and Distributed Computing Systems
- Session chair at the ISCA 13th International Conference on Parallel and Distributed Computing Systems
- Member of the Technical Committee at the ISCA 13th International Conference on Parallel and Distributed Computing Systems
- Session Chair at the Midwestern Symposium on Circuits and Systems

- Session chair at the ISCA 12th International Conference on Parallel and Distributed Computing Systems
- Panelist at the NSF CRCD - Combined Research Curriculum Development
- Grand Judge at the Intel International Science and Engineering Fair
- Grand Judge at The Red River Regional Science and Engineering Fair
- Book reviewer for the IEEE Concurrency
- Referee for the International Conference on Parallel Processing
- Referee for the International Conference on Computing, Communications and Control Technologies (CCCT)
- Referee for the International Multi-Conference on Complexity, Informatics and Cybernetics (IMCIC)
- Referee for the IASTED International Conference on Advances in Computer Science and Engineering (ACSE)
- Referee for the International Conference on Computing, Communications and Control Technologies (CCCT)
- Referee for the International Conference on Cybernetics and Information Technologies, Systems and Applications (CITSA)
- Referee for the IASTED Parallel and Distributed Computing and Systems (PDCS)
- Referee for the IEEE International Symposium on Embedded Computing (EmbeddedCom)
- Referee for the International Conference on Computer Convergence Technology (ICCCT)
- Referee for the International Symposium on Academic Informing Science and Engineering (AISE)
- Referee for the Symposium on Integrating Research, Education, and Problem Solving
- Referee for the South Central Conference of the Consortium for Computing in Small Colleges
- Referee for the Design Automation Conference
- Referee for the Great Lakes Symposium on VLSI
- Referee for the IEEE Transactions on Parallel and Distributed Systems
- Referee for the IEEE Transactions on Computer Aided Design
- Referee for the IEEE Transactions on Very Large Scale Integration Systems
- Referee for the IEEE Transactions on Education
- Referee for the Journal of Signal Processing Systems
- Referee for the Journal of Supercomputing
- Referee for the Journal of Systems Architecture
- Referee for the Journal of Parallel Computing
- Referee for the Computers & Education Journal
- Referee for the Journal of Computer Science and Technology
- Referee for the ACM/SIGCSE
- Associate Editor for Computer Science of the Texas Journal of Science

Membership:

- ACM (Association for Computing Machinery)
- IEEE Computer Society
- Upsilon Pi Epsilon

SERVICE:

UNDERLINED: UNIVERSITY:

University committee work:

- Member of the Graduate Council, 2009-present
- UGROW Research Mentor 2019
- UGROW Research Mentor 2018
- Eureka Proposals Reviewer 2015-2016
- Faculty mentor for Dr. Scott Meddaugh, Department of Geosciences, 2013-2014.
- Member of the Graduate School Recruiter Search Committee
- Member of the McCoy School of Engineering Faculty Search Committee
- Member of the Graduate Council Resource Allocation Subcomittee
- Faculty mentor for Dr. Jesse Carlucci, Department of Geosciences, 2012-2013.
- Member of the Student Conduct Committee , 2008-2012
- Member of the Arbor Creek Scholarship Selection Committee, 2008-2011
- Member of the COSM College Rank and Tenure Committee, 2008-2010
- Member of the Graduate Merit Scholarship Committee, 2008-2009
- Faculty mentor for Dr. Rebecca Dodge, Department of Geosciences, 2008-2009.
- Member of the College of Science and Mathematics Faculty Research Committee, 2006-2008, 2002-2004.
- Member of the University Research Committee, 2007-2008.
- Faculty mentor for Dr. Salim Azzouz - School of Engineering, 2006-2007.
- Chair of the College of Science and Mathematics Tenure and Promotion Committee, 2005-2006.
- Member of the College of Science and Mathematics Dean's Search Committee, 2004-2005.
- Member of the College of Science and Mathematics Tenure and Promotion Committee, 2004-2005.
- Member of the University Admissions Committee, 2004-2005.
- Chair of the Traffic Appeals Committee, 2003-2004.
- Member of the Ad Hoc Perkins-Prothro Professor of Geology Evaluation Committee, 2003-2004.
- Member of the Ad Hoc Regents' Professor Committee, 2003-2004.
- Member of the Traffic Appeals Committee, 2002-2003.
- Chair of the Faculty Forum Committee, 2001-2002.
- Member of the Student Conduct Committee, 2001-2002.
- Elected member of the Faculty Senate, 2000-2003.
- Member of the Faculty Forum Committee, 2000-2001.
- Member of ad hoc faculty committee on Computer Misuse, 1999-2000.

- Chair of the SACS Graduate Programs Committee, 1999-2000.
- Member of the Rank and Tenure Policy Ad Hoc Committee, 1999-2000.
- Member of the Faculty Research Committee, 1998-2002.
- Chair of the International Dimension Awareness Committee, 1997-1998.

Departmental committees work:

- Coordination of Graduate program Self-Assessment report 2015
- Coordination of External Reviewer visit and assessment of the graduate program 2015
- Coordination of Response report to External Reviewer report 2015
- Chair of the Graduate Merit Scholarship Committee
- Chair of the Computer Science Graduate Admission Evaluation Committee
- Member of the Computer Science Department Majors Fair Committee 2012-2013
- Chair of the Louie Huffman Scholarship Award Selection Committee 2010-2011.
- Chair of the Computer Science Advisory Board Search Committee 2009-2010
- Member of the Computer Science Graduate Recruiting Committee, 2006-2007.
- Chair of the Louis Hoffman Paper Contest committee, 2006-2007.
- Chair of OU Supercomputer Field Trip Planning committee, 2005-2006.
- Member of the Department CD Committee, 2005-2007.
- Member of the Outstanding CS Student Selection Committee, 2004-2005.
- Chair of the CS System Administrator Selection Committee, 2004-2005.
- Chair of the Computer Science 25th Anniversary Celebration Committee, 2003-2005.
- Member of the Library Committee, 2003-2004.
- Member of the Rank & Tenure Handbook Review Committee, 2003-2004.
- Chair of the Graduate Curriculum Committee, 2002-2004.
- CMPS 1023 Textbook Selection Committee , 2001-2003.
- Member of the Year 2000 – Vision Strategic Plan Committee, 2000-2001.
- Chair of the Outstanding Students Selection Committee, 2000-2001.
- Chair of the Undergraduate Scholarship Committee, 1999-2008.
- Member of the Year 2000 - Vision Plan Committee, 1999-2000.
- Graduate File Paper Policies Committee, 1998-1999.
- CMPS 1023 Lab - moving Committee, 1998-1999.
- New Computer Science department brochure Committee, 1997-1999.
- Introduction to Computers Textbook Selection Committee, 1997-1998.
- Coach of ACM programming team, 1996-1998.

- Chair of Graduate Committees for
  - Alberry, Belinda
    - Paper: "A Study on the Performance of Wireless Communications"
  - Movva, Sridevi
    - Paper: "Adjusting Web Cache Replacement Algorithms According to User Connectivity"
  - Pitchuka, Balavenkata

- Paper: "Comparing the Performances of the IEEE 802.11e and 802.11 Standards"
  o Clayton Crenshaw
    - Paper: "Message Hiding in Images "
  o Joseph Nalluru
    - Paper: "Adaptive Virtual Web Caches "
  o Adiseshu Gelli
    - Paper: "Comparing A Brief Study of Cooperative Web Caching Protocols in Cellular Networks"
  o Ranko Sevo
    - Paper: "Study of Cooperative Rijndael and Blowfish Encryption Algorithms"
  o Cerise Wuthrich
    - Paper: " Instructional Testing Through Wireless Handheld Devices"
  o Peng Xue
    - Paper: " Modeling and Retiming Non-Uniform Acyclic Loops"
  o Russell Zuck
    - Paper: " Network Centric Improvements to Resource Caching"
  o Keith Schoby
    - Paper: "Code Performance Measurement as an Educational Tool"
  o Hsu Tsai
    - Paper: "Parallel Shortest Path Using a Computer Cluster"
  o Katia Mayfield
    - Paper: "Scheduling Multidimensional Loops in a Computer Cluster"
  o James D. Holman
    - Paper: "A Study of Algorithms for Replicating the Human Shuffled Deck of Cards"
  o Ainsley Joseph
    - Paper: "Computer Cluster Scheduling through Genetic Algorithms"
  o Shinichi John Ozone
    - Paper: "A Study of Cache Memory Architecture for Embedded Systems"
  o Isaac T. Awolola
    - Paper: "Retiming and Partitioning Multidimensional Loops for Hyper-Cube Computers"
  o Fatima Y. Gimba
    - Paper: "Scheduling Clusters with Hierarchical Communication using Genetic Algorithms"
  o Sai Chowdary Amaraneni
    - Paper: "A study of sequence alignment of Zika virus genome in comparison with its closest neighbor: Yellow fever virus genome"
  o Kandyce M. Bohannon
  o Korenda, Manish Reddy
  o Patel, Ankur Rajesh
  o Dandu, Muni Bhupathi Reddy
  o Agumamidi, Avinash
  o Muddireddy, Yashwanth

- o Gangidi, Keerthireddy
- o Namala, Shashank
- o Soyinka, Olayinka
- o Kankanala, Aditya Reddy
- o Corbin Matamoros

- Member of the Graduate Committee for

  - o Srylasia Brundavanam
  - o Abhishek Reddy Yerragonda
  - o Matthew Farmer
  - o Divya Mule
  - o Chandra Sekhar Betha
  - o Kalpana Garigapolly
  - o Vishnu V. Sureddi
  - o York, Duane
  - o Achanta, Bharath
  - o Kurri, Malathy
  - o Ahmed, Haseeb
  - o Kankanala, Arjun
  - o Kurunthottical, Zenin
  - o Bharath Achanta
  - o Robert Moss
  - o Alan Moser
  - o Rejitha Anand
  - o Sapnah Aligeti
  - o Arvind Saini
  - o Rajya Tirumala
  - o Nirav Patel
  - o Rrezarta Krasniqi
  - o Sreya Yerragonda
  - o Shaktisinh Parmar
  - o Lalit Yawalkar
  - o Salomon Lompo
  - o Vupputuri, Naveen
  - o Beerelly, Srikanth
  - o Kranthi Paladugu
  - o Vijaya Devarapalli
  - o Mrudula Kosaraju
  - o Kalaru, Akhilesh
  - o Gobisetty, Sai Rahul
  - o Sriram, Vikas
  - o Badana, Kiran Tej
  - o Kalaru, Akhilesh
  - o Amarneni, Dinesh Babu
  - o Biradhavolu, Sai Avinash Reddy

- o Mengaraboina, Lavanya
- o Singh, Swati
- o Vangeti, Nikhil
- o Nareddy, Vahini
- o Yallapragada, Kartik
- o Thalla, Divya
- o Raj, Ritu
- o Kanegave, Srinivas
- o Mohammad, Azharuddin H
- o Hanaganahalli Boregowda, Divyashree
- o Kancharla, Kiran Reddy
- o Prakhya, Tejaswi
- o Mogalapu, Shaila
- o Sheema Rohi
- o Mandalapu, Vishnu
- o Azher, Waseem
- o Matthew Stanley

PROFESSIONAL:

- Acknowledged as reviewer for the book Computer Organization and Embedded Systems, Sixth Edition, by Carl Hamacher, Zvonko Vranesic, Safwat Zaky, and Naraig Manjikian
- External evaluator of the tenure and promotion to Associate Professor process of Dr. G, at TAMU-CC in the 2010-2011 academic year at the Computing Sciences Department at Texas A&M University-Corpus Christi.
- External evaluator of the tenure and promotion to Associate Professor process of Dr. K, at TAMU-CC in the 2009-2010 academic year at the Computing Sciences Department at Texas A&M University-Corpus Christi.
- Reviewer for the book Hamacher/Vranesic/Zaky's Computer Organization 5/e, to be published by The McGraw-Hill Companies 2008-2009
- Support to Biobras Software (a Brazilian company) on the study and evaluation of a Courseware Authoring tool (Authorware), 1997.
- Support to Lockheed Martin on the study and evaluation of new techniques for robot path planning, 1997.
- Support to Steps Technology (a Brazilian company) on the study and evaluation of WEB Courses, 1997-1998.
- Problem fix at Back and Neck Chiropractic (Wichita Falls Business), 1999-2000.
- Computer Support to Mr. Robert Avey on Video Capture (Wichita Falls Business).
- Computer Support to Engeware on File recovery (Brazilian Business).
- Computer Support to CTA on Website correctness (Brazilian Air Force Research Center).
- Computer use support to Lakeridge Place (Wichita Falls Business), 2000-2008
- Member of the MFT Computer Science Committee (ETS Exit Exam) , 2001-2002
- Author/reviewer for the Major Field Test in Computer Science, prepared by ETS (Educational Testing Services), 2005-2006

COMMUNITY:

- Volunteer work at Lakeridge Place (visiting and helping with decoration Wichita Falls Assisted Living Facility) , 2001-2012
- Judge at the 2019 TCEA Areas 9 & 14 Robotics Competition
- Judge at the 2018 TCEA Area 9 Robotics Competition at MSU
- Judge at the 2017 TCEA Area 9 Robotics Competition at MSU

PRESENTATIONS:

- WF George Middle School (Iowa Park Consolidated School District) (about 130 students) 2013-2014
- WF George Middle School (Iowa Park Consolidated School District) (about 120 students) 2012-2013
- WF George Middle School (Iowa Park Consolidated School District) (about 90 students) 2011-2012
- Handley Middle School in Fort Worth (about 32 students) 2010-2011
- Hardin Elementary (Burkburnett) (about 115 students) 2010- 2011
- Burkburnett Junior High (about 17 students) , April 2010
- Hardin Elementary 5th grade (Burkburnett) (about 115 students) , May 2010
- W. F. George Middle School, Iowa Park (about 140 students), April 2010
- Slidell Junior High (about 50 students), March 2010
- Petrolia Junior High, (about 25 students), March 2010
- "Internet Technology" at MCOM 2523 "The Internet and Society", Instructor Mitzi Lewis, September 2008.
- Zundy Junior Young Knights Program (about 100+ students), sponsored by Omega Delta Phi Fraternity, March 2009.
- High School Plus 2009 - 7th graders from Northside Middle School in Vernon, March 2009.
- Panelist in Immigration Issues and International Students at Resume Workshop sponsored by MSU Career Management Center, September 2008.
- High School Plus 2008 - Bowie Junior High, February 2008 (about 100+ students).
- High School Plus 2008 - Boyd Middle School, April 2008 (about 80 students).
- Burkburnett Middle School, April 2008 (about 15 students)
- Hardin Elementary, Burkburnett, May 2008 (about 100 students)
- Abilene High School, March 2008 (about 12 students, seniors).
- Honors Program Brown Bag Lecture, April 2008.
- The University Study Club, Burkburnett, TX, January 2008.
- Math Club meeting, 2006-2007
- AITP organization meeting, 2006-2007
- High School Plus program, 2002, 2005-2007
- LEAD program (Wichita Falls sixth graders), 2002, 2005-2006
- Panelist at "The Melting Pit Revisited: Ethnic Stereotyping" hosted by the International Students, 2001-2002

- TV Interview on Cyber crimes (Local CBS news), March 2010
- TV Interview on Microsoft judicial decision (Local CBS news), 1999-2000
- TV Interview on MSU TV channel (interviewed by Dr. Louis Rodriguez), 1999-2000

AWARDS AND HONORS:

- Faculty of the Year Award 2012, Caribbean Students Organization
- Faculty of the Year Award 2005,2006,2007, 2009-2011 Department of Computer Science
- Faculty Member of the Year Award 2004, MSU Student Government
- Faculty Award 2003
- Faculty of the Year Award 2003, Caribbean Students Organization
- Faculty of the Year Award 2001,2002, Department of Computer Science
- Midwestern State University Hardin Professor 2000
- Who is Who in America
- Who's Who in Science and Engineering
- International Who's Who of Professionals
- Member of UPE- Upsilon Pi Epsilon - Honor Society for the Computer Science
- Member of Bill Norris Shark Club (Control Data Corporation)
- Best Control Data Corporation System Analyst Panam/Pacific Region
- Best Control Data Corporation System Analyst Brazil
- Control Data Corporation Professional Excellence