SRIDHAR NARAYAN

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I. Education

- Ph.D., Computer Science, Clemson University, 1993
- M.S., Computer Science, Clemson University, 1990
- M.S., Mechanical Engineering, Clemson University, 1985
- B.Tech., Mechanical Engineering, Indian Institute of Technology, Madras, 1983

II. Technical Interests

- Computer Science Education
- Neural networks, genetic algorithms, and their applications

III. Professional Experience

August 2008 - present: Department of Computer Science. *Professor*

July 2005 - June 2013: Department of Computer Science. *Department Chair*

July 2000 - July 2008: Department of Computer Science. *Associate Professor*

July 1995 - June 2000: Department of Computer Science, University of North Carolina-Wilmington. *Assistant Professor*

August 1994 - June 1995: Department of Mathematical Sciences, University of North Carolina-Wilmington. *Visiting Assistant Professor of Computer Science*

January 1994 - August 1994: Department of Computer Science, Clemson University, Clemson, South Carolina. *Visiting Instructor*

1990 - 1993: Department of Computer Science, Clemson University, Clemson, South Carolina. *Graduate Teaching Assistant*

1988 - 1990: Computer Center, Clemson University, Clemson, South Carolina. *Graduate Assistant*

1986 - 1988: Computer Sciences Corporation, Research Triangle Park, North Carolina. *Programmer Analyst*

1985 - 1986: CRS Sirrine, Inc., Research Triangle Park, North Carolina. *Staff Engineer*

1983 - 1985: Department of Mechanical Engineering, Clemson University, Clemson, South Carolina. *Research/Teaching Assistant*

IV. Courses Taught

1. **CSC 495** Seminar in Computer Science
2. **CSC 455** Database Systems

3. **CSC 453** Object-oriented Analysis and Design

4. **CSC 450** Software Engineering

5. **CSC 442** Computer Architecture

6. **CSC 434** Programming Languages

7. **CSC 415/515** Artificial Intelligence

8. **CSC 385** Professional and Ethical Issues in Computer Science

9. **CSC 360** Theory of Computation

10. **CSC 344** Computer Networks

11. **CSC 342** Operating Systems

12. **CSC 331** Object-Oriented Programming and Design

13. **CSC 241** Computer Systems and Assembly Language

14. **CSC 231** Introduction to Data Structures

15. **CSC 221** Introduction to Computer Science II

16. **CSC 131** Introduction to Computer Science

17. **CSC 121** Introduction to Computer Science I

18. **CSC 112** Programming in FORTRAN/PASCAL

19. **CSC 105** Introduction to Computer Applications

V. Publications

1. Narayan, S., Tagliarini, G. A., Morge, S. P. Nada Dabbagh, Mahnaz Moallem, Hung Woei (Ed.), "Project-Based Learning and Computer-Based Modeling and Simulation", in *Wiley Handbook of Problem-based Learning*, April 2019.

2. Moallem, M., Narayan, S., Lugo, G. G., *SITE 2016, Society of Information Technology Educators, Savannah, Georgia*, "Integrated STEM Teacher Education Programs: An Innovative Approach to Preparing 21st Century Workforce", Academic, International, peer-reviewed/refereed, published in proceedings, Accepted. (March 24, 2016).

3. Moallem, M., Morge, S. P., Narayan, S., Tagliarini, G. A. (October 2015). In Michael J. Urban (Bemidji State University, USA) and David A. Falvo (Walden University, USA) (Ed.), "The Power of Computational Modeling and Simulation for Learning STEM Content in Middle and High Schools (pp. 135-171)". *Improving K-12 STEM Education Outcomes through Technological Integration.*

4. Narayan, S., Tompkins, J. A., & Tagliarini, G. A., "Algoritharium: Facilitating an Early Focus on Algorithms in an Objects-Early CS1 Course," *Proceedings (CD-ROM) of the 2010 International Conference on Frontiers in Education: Computer Science and Computer Engineering* (FECS'10: July 12-15, 2010, USA).

5. Moallem, M., Morge, S. P., Tagliarini, G. A., & Narayan, S., "Using Squeak Etoys and Problem- Based Learning Pedagogy to Infuse Information Technology skills into the Core STEM Curriculum," *In Z. Abas et al. (Eds.)*, *Proceedings of Global Learn Asia Pacific 2010* (pp. 592-601). *AACE.*, pp 592-601

6. Ouyang, Y., Yang, S., Franklin, T., Michaelson, K., Morge, S. P., Sheybani, E., Hayden, K., Narayan, S., Tagliarini, G. A., & Talaiver, M., "Games, Sims and Virtual Worlds in K-20 STEM education," *AACE*, pp 2024-2028

7. Moallem, M., Morge, S. P., Narayan, S., Tagliarini, G. A., & Daniels, K., "Integrating Computational and Modeling Technology with Problem-based Learning to Improve Teaching and Learning in the Core STEM Curriculum," *AACE*, pp 3319-3326

8. Morge, S. P., Moallem, M., Narayan, S., & Tagliarini, G. A., "Using an Open-Source Modeling and Simulation Tool to Transform Learning and Instruction," *AACE*, pp 2791-2794

9. Williams, W., Snead, E., Morge, S. P., Narayan, S., Tagliarini, G. A., Moallem, M., & Hill, K. M., "Using Squeak Etoys to Integrate Science, Technology, Engineering and Mathematics," *AACE*, pp 3650-3656

10. Morge, S. P., Hill, K. M., Narayan, S., & Tagliarini, G. A., "Creating Virtual Laboratories Using Squeak Etoys," *AACE/SITE*, pp 3813-3815

11. Heywood, D. F., Williams, W., Snead, E., Morge, S. P., Narayan, S., Hill, K. M., & Tagliarini, G. A. (2009), "Integrating the Vernier LabProTM with Squeak Etoys," *AACE/SITE*, pp 3762-3764

12. K. Hill, S. Morge, S. Narayan, G.A. Tagliarini, "*USeIT* and the Logic Model," *Proceedings of the Society for Information Technology and Teacher Education International Conference (SITE 2008)*, (Las Vegas, NV), March 2008.

13. S. Narayan and G.A. Tagliarini, "Hopfield Networks to Solve Sudoku Puzzles," *Proceedings (CD-ROM) of the International Conference on Machine Learning: Models, Technologies, and Applications (MLMTA '07)*, June 25-28, 2007.

14. P.J. Hanson, D.S. Vaughan, S. Narayan, "Forecasting annual harvests of Atlantic and Gulf menhaden," *North American Journal of Fisheries Management, 26:753-764, 2006.*

15. S. Narayan and G.A. Tagliarini, "An analysis of overfitting in MLP networks," *Proceedings (CD-ROM) of the International Joint Conference on Neural Networks (IJCNN 2005)*, (Montreal, Canada), August 2005.

16. A. Abdelbar, D. Hassan, G. A. Tagliarini, S. Narayan, "Experimental Evaluation of a Hybrid Method for Configuring Ensemble Encoding Receptors," *Proceedings (CD-ROM) of the International Joint Conference on Neural Networks (IJCNN 2005)*, (Montreal, Canada), July 2005.

17. A. Abdelbar, D. Hassan, G. A. Tagliarini, S. Narayan, "Receptive Field Optimization for Ensemble Encoding," *Neural Computing and Applications,* vol. 15, no. 1, pp. 1-8, September 2005, Springer London.White, C. E., Tagliarini, G. A. and Narayan, S., "An Algorithm for Swarm-based Color Image Segmentation," Proc. IEEE Southeastcon, pp. 84-89, Greensboro, NC, March 2004.

18. A. Abdelbar, D. Hassan, G. A. Tagliarini, S. Narayan, "Three heuristics for receptive field optimization for ensemble encoding," Proceedings (CD-ROM) of the International Joint Conference on Neural Networks (IJCNN 2003), (Portland, OR), July 2003.

19. S. Narayan and J. Tompkins, "Using Robotics to Enhance Learning in Introductory Computer Science Courses," Proceedings of the 41st ACM Southeast Regional Conference (ACMSE'03), (Savannah, GA), pp. 412-415, March 2003.

20. S. Narayan, "Using Genetic Algorithms to Adapt Neuron Functional Forms," *Proceedings of the IASTED International Conference on Artificial Intelligence and Soft Computing*, Banff, Canada, July 2002.

21. S. Narayan and G.A. Tagliarini, "Java RMI-based Approach for Web-enabling the ArcView GIS RPC Server," *Proceedings of the 21st Annual ESRI International User Conference*, San Diego, CA, July 2001.

22. J. E. Perry, T. Miller, J. Brown, S. Narayan, G. A. Tagliarini, J.C. Kelly Jr., W. F. Moss, and E. W. Page, "Relative Merits of Courseware Management Tools," *http://www.succeed.vt.edu/info/RelativeMerits.htm*, January 2000.

23. S. Narayan, "Enhancing incremental learning in MLP networks using ensemble encoding of network inputs," *Proceedings of the International Joint Conference on Neural Networks (IJCNN'99)*, (Washington D.C), July 1999.

24. S. Narayan, B. Wray, R. Mathieu, "Artificial neural networks for predicting the optimal number of kanbans in a JIT manufacturing environment," *Proceedings of the International Joint Conference on Neural Networks (IJCNN'99)*, (Washington D.C), July 1999.

25. A. Abdelbar and S. Narayan, "Using Simulated Annealing to optimize receptive fields for MLP networks with ensemble encoding," *Proceedings of the International Joint Conference on Neural Networks (IJCNN'99)*, (Washington D.C), July 1999.

26. S. Narayan, "On signal classification, wavelets, and neural networks," *Proceedings of the Third International Conference on Computational Intelligence and Neurosciences*, (Research Triangle Park, NC), Vol. II, pp. 241-244, October 1998.

27. S. Narayan, "Identification of dolphin signature whistles using artificial neural networks," Proc. Science and Applications of Artificial Neural Networks, SPIE's 11th Annual International Symposium on Aerospace/Sensing, Simulation, and Controls, Orlando, FL, pp. 319-322, April 1997.

28. S. Narayan, "The Generalized Sigmoid Activation Function: Competitive Supervised Learning," *Information Sciences*, Vol. 99, Issue 1-2, pp. 69-82, June 1997.

29. S. Narayan, "On the behavior of K-out-of-N Hopfield networks," *Intelligent Systems*, Vol. 96, Issue 3-4, pp. 183-191, February 1997.

30. S. Narayan, G. A. Tagliarini, and E. W. Page, "Enhancing MLP networks using a distributed data representation," *IEEE Transactions on Systems, Man and Cybernetics*, vol. 26, no. 1, pp. 143-149, February 1996.

31. S. Narayan, "MLP networks and the generalized sigmoid activation function," in *Joint Conference on Information Sciences*, (Wrightsville Beach, NC), pp. 374-377, September 1995.

32. S. Narayan, "Generating nonlinear class boundaries using distributed encodings," in *ACM Southeast Conference*, (Clemson, SC), pp. 249-253, March 1995. March 17-18, 1995.

33. S. Narayan and E. W. Page, "Optimizing locality of representation in MLP networks," in *IEEE World Congress on Computational Intelligence*, vol. 1, (Orlando, FL), pp. 50–54, June 1994.

34. S. Narayan, *Nonlinear Transformation of Neuronal Inputs in Multi-layer Perceptron Networks*. PhD thesis, Department of Computer Science, Clemson University, 1993.

35. S. Narayan, "ExpoNet: A generalization of the multi-layer perceptron model," in *World Congress on Neural Networks*, vol. 3, (Portland, OR), pp. 494–497, July 1993.

36. S. Narayan, G. A. Tagliarini, and E. W. Page, "Accelerating learning in a neural network for sonar signal classification," in *OE/Aerospace Sensing and Science '93*, vol. 1966 - Science of Artificial Neural Networks, (Orlando, FL), pp. 236–240, April 1993.

37. S. Narayan, G. A. Tagliarini, and E. W. Page, "Enhancing neural network functionality with ensemble encoding," in *IEEE Southeastcon '93*, (Charlotte, NC), April 1993.

38. S. Narayan, G. A. Tagliarini, and E. W. Page, "Ensemble encoding for artificial neural networks," Tech. Rep. 92-120, Department of Computer Science, Clemson University, September 1992.

39. S. Narayan, E. W. Page, and G. A. Tagliarini, "Radiographic image compression: A neural approach," in *Analysis of Neural Network Applications Conference*, (Fairfax, VA), May 1991.

40. S. Narayan, "Radiographic image compression: A neural approach," Master's paper, Department of Computer Science, Clemson University, 1990.

41. S. Narayan, "Thermo-economic optimization of heat exchangers," Master's thesis, Department of Mechanical Engineering, Clemson University, 1985.

VI. Grants Awarded

1. Narayan, S., UNCW CAS Summer 2022 Professional Development Grant, **$1250** (2022 Summer).

2. Song, Y. (Principal), Ferner, C. S. (Co-Principal), Pence, T. B. (Co-Principal), Ebrahimi, E. (Co-Principal), Layman, L. M. (Co-Principal), Morago, B. A. (Co-Principal), Narayan, S. (Co-Principal), Tompkins, J. A. (Co-Principal), Stoker, G. M. (Co-Principal), "Leveraging Applied Learning in CSC 131: A Department-wide Initiative Impacting 400 Students Per Year", Applied Learning Strategic Initiatives, University of North Carolina Wilmington, $30,000.00, Funded. (sub: March 15, 2019).

3. Moallem, M. (Principal), Lugo, G. G. (Co-Principal), Narayan, S. (Co-Principal), Reamer, A. C. (Co-Principal), Tagliarini, G. A. (Co-Principal), Gordon, C. R. (Co-Principal), McNulty, C. P. (Co-Principal), Grant, "*Integrated Certificate in STEM Education*", National Science Foundation, Federal, **$299,974**, Funded. (sub: March 5, 2014, start: January 1, 2015, end: December 31, 2016).

4. Moallem, M. (Principal), Morge, S. P. (Co-Principal), Tagliarini, G. A. (Co-Principal), Narayan, S. (Co-Principal), Gordon, C. (Co-Principal), Smith, M. N. (Supporting), Grant, "*INCOME Cycle XI – INCOME – Integrating Computing and Mathematics Education*", NC QUEST / Quality Educators through Staff Development and Training across North Carolina-Cycle XI, Federal, **$149,953**, Funded. (sub: November 2012, start: April 2013, end: September 2014).

5. Narayan, S., *"SIMPLE – Simplified Image Processing for Learning Enhancement"*, CAS Summer Curriculum Development Initiative, **$3000** (2014 Summer).

6. Moallem, M. (Principal), Morge, S. P. (Co-Principal), Tagliarini, G. A. (Co-Principal), Narayan, S. (Co-Principal), Gordon, C. (Co-Principal), Grant, "*INCOME (Cycle X): Integrating Computing and Mathematics Education*", NC QUEST / Quality Educators through Staff Development and Training across North Carolina -Cycle X, Federal, **$199,901**, Funded. (sub: November 15, 2011, start: April 1, 2012, end: September 30, 2013).

7. Moallem, M. (Principal), Narayan, S. (Co-Principal), Tagliarini, G. A. (Co-Principal), Gordon, C. (Co-Principal), Hill, K. (Co-Principal), Smith, M. N. (Supporting), Grant, "*Preparing Teachers to Integrate Computing with STEM Curriculum (PTICS)*", Google-Computer Science for High School, University of North Carolina Wilmington, **$13,500**, Funded. (sub: February 2013, start: June 2013, end: August 2013).

8. Principal Investigator, sub-award from Clemson University on NSF Proposal CCF-0722313, "*CPATH EAE:TEXXNH - Evaluation, Adoption, and Extension,*" August 1, 2007 - July 31, 2010, **($39,114)**.

9. Co-Principal Investigator (with G.A. Tagliarini and S. Morge [Watson School of Education]), NSF Proposal ESI-0624615, *"Using Squeak to Infuse Information Technology Experiences into the STEM Curriculum in Grades 7-12,"* February 1, 2007 - January 31, 2010, **($1,180,847)**.

10. Co-Principal Investigator (with C. Heinrich and R. Kuiper [School of Nursing]), "*Using PDA Technology to Improve Adherence to Medical Regimens: A Study with Well Adults in Southeastern North Carolina,*" UNCW ITSD Innovations Award, 2007, **($5000)**.

11. Co-Principal Investigator (with G.A. Tagliarini and J. Tompkins), "*Robotics in Programming and Summer Robotics Camp,*" UNCW ITSD IT Innovations Award, 2006, **($4700)**.

12. Co-Principal Investigator (with C. Heinrich and R. Kuiper [School of Nursing]), "*Using PDA Technology to Improve Adherence to Medical Regimens: A Pilot Study with Well Adults in Southeastern North Carolina,*" J. Richard Corbett Scholars Award, 2006, **($7000)**.

13. Co-PI: UNCW Information Technology Innovative Research Award, "Investigating the Development of an Adaptive Visual Pattern Recognition System for Application in the Environmental Sciences," 2005. **($5000)**

14. OOPSLA 2004 Educator's Symposium Scholarship, Association for Computing Machinery and Special Interest Group on Programming Languages, 2004. **($2200)**

15. "Mitigating overfitting in MLP networks," UNCW College of Arts and Sciences Summer Research Initiatives Award, 2004. **($3000)**

16. Co-PI: CGS/Sloan Foundation grant for feasibility planning for professional science master's (PSM) degree programs in Computer and Information Systems, 2004. **($13,000)**

17. Co-PI: "Using PDAs to get prescriptions right," UNCW Charles L. Cahill Award for Faculty Research and Development, 2003. **($1060)**

18. "Introducing Software Development for Handheld Devices into the Computer Science Curriculum," UNCW College of Arts and Sciences Summer Curriculum Development Initiative, 2003. **($3000)**

19. "Using Robotics to Enhance Teaching in Introductory Computer Science Courses," UNCW Center for Teaching Excellence Summer Teaching Initiatives Award, 2002. **($3000)**

20. OOPSLA 2002 Educator's Symposium Scholarship, Association for Computing Machinery and Special Interest Group on Programming Languages, 2002. **($2200)**

21. UNCW Summer Research Initiatives Award, "Evolving neural networks using genetic algorithms" , 2001. **($3000)**

22. Co-Principal Investigator: Friends of UNCW Award for Robotics Equipment, 2001. **($1200)**

23. OOPSLA 2001 Educator's Symposium Scholarship, Association for Computing Machinery and Special Interest Group on Programming Languages, 2001. **($2100)**

24. Co-Principal Investigator: UNCW Information Technology Innovative Research Award, "Web-based travel route planning subject to transient road conditions,' 2000. **($16,205)**

25. Co-Principal Investigator: UNCW Cahill Research Award, "Determining Road Conditions and Alternate Routes using Digital Maps," 1999. **($2,400)**

26. Web course development award, UNCW Division of Information Technology Systems, "Professional and Ethical Issues in Computer Science," 1999. (**$5000**)

27. ACM/SIGPLAN Educator's Symposium Scholarship to OOPSLA'97, 1997. (**$2100**)

28. UNCW Cahill Research Award, "Identification of dolphin signature whistles using artificial neural networks," 1996. (**$2000**)

29. UNCW Summer Research Initiatives Award, "The Generalized Sigmoid Activation Function: Competitive Supervised Learning," , 1996. (**$3000**)

30. UNCW Center for Teaching Excellence Course Development Award, "Object Oriented Analysis and Design," 1996, (**$3000**)

VII. Presentations

1. Narayan, S., Tompkins, J. A., & Tagliarini, G. A., "Algoritharium: Facilitating an Early Focus on Algorithms in an Objects-Early CS1 Course," *2010 International Conference on Frontiers in Education: Computer Science and Computer Engineering,* July 13, 2010.

2. S. Morge, S. Narayan, K. Hill, G.A. Tagliarini, "Problem-based learning (PBL) and Squeak," roundtable discussion at the *Society for Information Technology and Teacher Education International Conference (SITE 2008)*, (Las Vegas, NV), March 2008.

3. S. Narayan, "Using Squeak Etoys with the Vernier LabPro," *Squeakfest 2009*, Los Angeles, CA, August 12, 2009.

4. S. Narayan and G.A. Tagliarini, "Hopfield Networks to Solve Sudoku Puzzles," *International Conference on Machine Learning: Models, Technologies, and Applications (MLMTA '07)*, June 25-28, 2007.

5. S. Narayan and G.A. Tagliarini, "An analysis of overfitting in MLP networks," *International Joint Conference on Neural Networks (IJCNN 2005)*, (Montreal, CA), August 2005.

6. Seminar on neural networks at the NOAA fisheries laboratory in Beaufort, NC, December 8, 2005.

7. "Using Genetic Algorithms to Adapt Neuron Functional Forms," presented at the *IASTED International Conference on Artificial Intelligence and Soft Computing*, Banff, Canada, July 19, 2002.

8. "Genetic Algorithms and Neural Networks," *UNCW Department of Computer Science Seminar*, April 2002.

9. "Web-based travel route planning subject to transient road conditions," *21st Annual ESRI International User Conference*, San Diego, CA, July 10, 2001.

10. Two half-day tutorials on Object Oriented Programming and Java on October 23 and 25, 2001 to the Application Services group at UNCW.

11. Seminar on neural networks to the Honors 210 course on "Models of the Mind in the Information Age", UNCW, April 17, 2001.

12. Seminar on Artificial Intelligence to the MIT 541 Graduate Colloquium in Instructional Technology, Watson School of Education, UNCW, April 23, 2001.

13. "Web-based travel route planning subject to transient road conditions," at the *Information Technology Innovative Research Symposium*, Wrightsville Beach, NC, September 7, 2000.

14. "Enhancing incremental learning in MLP networks using ensemble encoding of network inputs," at the *International Joint Conference on Neural Networks (IJCNN'99)*, (Washington D.C), July 1999.

15. "Artificial neural networks for predicting the optimal number of kanbans in a JIT manufacturing environment," at the *International Joint Conference on Neural Networks (IJCNN'99)*, (Washington D.C), July 1999.

16. "On signal classification, wavelets, and neural networks," at the *Third International Conference on Computational Intelligence and Neurosciences*, (Research Triangle Park, NC), Vol. II, October 1998.

17. "Identification of dolphin signature whistles using artificial neural networks," at the *SPIE's 11th Annual International Symposium on Aerospace/Sensing, Simulation, and Controls*, Orlando, FL, April 1997.

18. "MLP networks and the generalized sigmoid activation function," at the *Joint Conference on Information Sciences*, Wrightsville Beach, NC, September 1995.

19. "Generating nonlinear class boundaries using distributed encodings," at the *ACM Southeast Conference*, Clemson, SC, March 17-18, 1995.

20. "Optimizing locality of representation in MLP networks," at the *IEEE World Congress on Computational Intelligence*, June 1994.

21. "ExpoNet: A generalization of the multi-layer perceptron model," at the *World Congress on Neural Networks*, July 1993.

22. "Accelerating learning in a neural network for sonar signal classification," at *OE/Aerospace Sensing and Science '93*, Orlando, FL, April 1993.

23. "Enhancing neural network functionality with ensemble encoding," at *IEEE Southeastcon '93*, Charlotte, NC, April 1993.

24. "Radiographic image compression: A neural approach," at the *Analysis of Neural Network Applications Conference*, Fairfax, VA, May 1991.

VIII. Conferences, Workshops, and Tutorials Attended

1. *SIGCSE 2019*, Minneapolis, MN, March 2019
2. *SIGCSE 2018*, Baltimore, MD, February 2018
3. *SIGCSE 2017*, Seattle, WA, March 2017
4. *SIGCSE 2016*, Memphis, TN, March 2016
5. *SIGCSE 2015*, Kansas City, MO, March 2015
6. *SIGCSE 2014*, Atlanta, GA, March 2014
7. *SIGCSE 2012*, Raleigh, NC, March 2012
8. *SIGCSE 2011*, Dallas, TX, March 2011.
9. *Squeakfest 2010*, Wilmington, NC, July 2010.
10. *WorldComp 2010*, The 2010 World Congress in Computer Science, Computer Engineering, and Applied Computing, July 2010.
11. *Squeakfest 2009*, Los Angeles, CA, August 10-13, 2009.
12. *Society for Information Technology and Teacher Education International Conference (SITE 2008)*, (Las Vegas, NV), March 2008.

13. *WORLDCOMP'07* - The 2007 World Congress in Computer Science, Computer Engineering, and Applied Computing, June 2007.

14. NSF-sponsored ITEST Summit, Arlington, VA, February 2007.

15. IEEE World Congress on Computational Intelligence, Vancouver, CA, July 2006.

16. International Joint Conference on Neural Networks, Montreal, Canada, July 2005.

17. Educator's Symposium at OOPSLA 2004.

18. Tutorial on "*Using Java to create Wireless Applications*," at OOPSLA 2004.

19. Tutorial on "*Teaching Java: An Eventful Approach,*" at OOPSLA 2004.

20. Eclipse Technology Exchange Workshop, October 2004.

21. OOPSLA 2004, *Conference on Object Oriented Programming Systems and Languages*, Vancouver, CA, October 2004.

22. IJCNN 2003, *International Joint Conference on Neural Networks,* Portland, OR, July 2003.

23. *IASTED International Conference on Artificial Intelligence and Soft Computing*, Banff, Canada, July 17-19, 2002.

24. Conference on *Object Oriented Programming Systems and Languages* (OOPSLA 2002), Seattle, WA, November 4-8, 2002.

25. Educator's Symposium at OOPSLA 2004.

26. Tutorial on "*Efficient Implementation of Object-Oriented Programming Languages*" at OOPSLA 2002.

27. Tutorial on "*Developing Java Applications for Mobile Devices*" at OOPSLA 2002.

28. Conference on *Object Oriented Programming Systems and Languages* (OOPSLA 2001), Tampa, FL, October 14-17, 2001.

29. *21st Annual ESRI International User Conference*, San Diego, CA, July 7-11, 2001.

30. Educator's Symposium at OOPSLA 2001.

31. Tutorial on "*Building Parsers with Java*'' at OOPSLA 2001.

32. Tutorial on "*Introduction to Design Patterns*" at OOPSLA 2001.

33. *International Joint Conference on Neural Networks*, Washington D.C., July 1999.

34. *Joint Conference on Information Sciences,*Research Triangle Park, NC, October 1998.

35. Object Oriented Programming Systems and Languages (OOPSLA), Atlanta, GA, October 1997.

36. SPIE's 11th Annual International Symposium on Aerospace/Sensing, Simulation, and Controls, Orlando,FL, April 1997.

37. Educator's Symposium at OOPSLA'97.

38. Tutorial on "Interactive Programming in Java: A Non-Standard Introduction" at OOPSLA'97.

39. Tutorial on "LearningWorks: A System for Teaching about building systems or Learning in a Social Virtual Reality" at OOPSLA'97.

40. NSF-sponsored workshop on *Interactive and Visual Tools for teaching Computer Science*, Duke University, March 1996.

41. *Joint Conference on Information Sciences,*Wrightsville Beach, NC, September 1995.

42. *ACM Southeast Conference*, Clemson, SC, April 1995.

43. *Joint Conference on Information Sciences*, Pinehurst, NC, November 1994.

44. *World Congress on Computational Intelligence*, Orlando, FL, June 1994.

45. *World Congress on Neural Networks*, Portland, OR, July 1993.

46. *Spring Symposium of the Triangle Area Neural Network Society*, Research Triangle Park, NC, April 1993.

47. *IEEE Southeastcon '93*, Charlotte, NC, April 1993.

48. *International Joint Conference on Neural Networks*, Baltimore, MD, June 1992.

49. *Analysis of Neural Network Applications Conference*, Fairfax, VA, May 1991.

IX. Panels

- Session Chair for session on *Hybrid Systems* at the *IASTED International Conference on Artificial Intelligence and Soft Computing*, Banff, Canada, July 2002.

- Session chair, "Industrial Applications of Neural Networks", JCIS '95, Wrightsville Beach, NC, 1995.

- Local chair for the Joint Conference on Information Sciences to be held at Wrightsville Beach, NC in September 1995.

- Program committee, First Annual International Conference on Computational Intelligence and Neuroscience.

- Program committee, Second Annual International Conference on Computer Theory and Informatics.

X. Departmental Service

- Chair, Department of Computer Science, 2005-2013

- Chair, Department of Computer Science Peer Observation Committee, 2004-2005

- Chair of committee for planning a joint (with Information Systems and Operations Management (ISOM) in the Cameron School of Business) Master's program in Computer Science and Information Systems, 2003-2005.

- Chair of the Chair Search Committee.

- Faculty Search Committee

- Member of the committee engaged in planning the new CSC/ISOM building (Attended numerous meetings, met with architects and representatives of the ISOM department and helped review building plans and budget).

- Student Development Officer (Point of contact for prospective students seeking information about the computer science program).

- Faculty advisor to Upsilon Pi Epsilon, the computer science honor society.

- Faculty Senate

XI. University Service

- University Committee for SACS 5.3 (Information Technology)

- Participated in the state visit for program authorization for the MIT program in the Watson School of Education.
- University Curriculum Committee.

XII. Community Service

- Advisor to Roland-Grise Middle School *Math Counts* team.
- Faculty mentor for *Senior Projects* for local high school students.
- Science Fair judge.

XIII. Certification

- Engineer in Training, North Carolina State Board of Registration for Professional Engineers and Land Surveyors, 1987.

XIV. Professional Activities

- IEEE Member
- Sigma Xi Scientific Honorary
- Upsilon Pi Upsilon Computer Science Honorary