

"Limiting Uncertainty in Intrusion Response," Co-authored with Carver, C., Hill, J., *Proceedings of the 2nd Annual IEEE Systems, Man, and Cybernetics (SMC) Information Assurance Workshop (IAW'2001)*, pp. 142-147, West Point, New York, June 5-6 2001.

"Agent Cooperation and Simulation in Dynamic Plan Building," Co-authored with Hill, J, Surdu, J., *The 5th World Multi-Conference on Systemics, Cybernetics and Informatics (SCI 2001)*, Orlando, Florida, July 22-25, 2001, Volume XVI, pp. 46-51.

"Cooperative Security-Enforcement Routing in Mobile Ad Hoc Networks," Co-authored with Lu, B., *The 4th IEEE Conference on Mobile and Wireless Communications Networks (MWCN 2002)*, Stockholm, Sweden, pp. 157 – 161, September 9 – 11, 2002.

"Quality of Service Security in Mobile Ad Hoc Networks," Co-authored with Lu, B., *Wireless Network Workshop*, 2002.

"Analysis of a New Type of Attack in Mobile Ad Hoc Networks," Co-authored with Cai, J., Guan, Y., *Networks*, Atlanta, Georgia, 26 – 29 August, 2002.

"Secure Routing Against Black-hole Attack in Mobile Ad Hoc Networks," Co-authored with Sun, B., Wu, K., *IATED International Conference on Communications and Computer Networks (CCN,2002)*, Cambridge, Massachusetts, pp. 170-175, November 4 – 6, 2002.

"Detecting Black Hole Attack in Mobile Ad-Hoc Networks," Co-authored with B. Sun, Y. Guan and J Chen, *5th European Personal Mobile Communications Conference (EPMCC '03)*, Scotland, pp. 490-495, April 22-25, 2003.

"Security in QoS Models and Signaling Systems for Mobile Ad-Hoc Networks," Co-authored with Bin Lu, *International Conference on Wireless Networks (ICWN '03)*, Las Vegas, Nevada, pp563-569, June 23-26, 2003.

"An Energy-Efficient Mechanism for Data-Centric Storage in Sensors Networks," Co-authored with J. Chen, Y. Guan and B. Sun, *7th World Multiconference on Systemics, Cybernetics and Informatics (SCI '03)*, Orlando, Fla.,pp 271-276, July 27-30, 2003.

"Alert Aggregation in Mobile Ad-Hoc Networks," Co-authored with B. Sun and K. Wu, *ACM Workshop Wireless Security (WiSe 2003)*, San Diego, Calif., Sept. 19, 2003.

"Routing Anomaly Detection in Mobile Ad-Hoc Networks," Co-authored with B. Sun and K. Wu, *IEEE International Conference on Computer Communications Networks (ICCCN '03)*, Dallas, Texas, Oct. 20-22, 2003.

"An On-Demand Data-driven Geographical Routing Protocol for Large-Scale Wireless Sensor Networks," Co-authored with J. Chen, *2nd Workshop on Hot Topics in Networks (HotNets-2)*, Cambridge, MA, November 20-21, 2003.

"Reward the Contribution: A Power Conservation Routing Protocol in Wireless Ad-Hoc Networks Using Shapley Value," Co-authored with J. Cai, *Proceedings of Communication Networks and Distributed Systems Modeling and Simulation Conference (CNDS)*, San Diego, CA, Jan. 2004.

"An Application-aware Multi-resolution Data Dissemination Scheme for Wireless Sensor Networks," Co-authored with J. Chen, *24th International Conference on Distributed Computing Systems (ICDCS 2004)*, Tokyo, Japan, March 24-26, 2004.

“Reward the Contribution: A Power Conservation Routing Protocol in Wireless Ad-Hoc Networks Using Shapley Value,” Co-authored with J. Cai, International Workshop on Wireless, Mobile, and Ad-Hoc Networks (WMAN '04 and IPDPS '04 Workshops), Santa Fee, NM, April 30, 2004.

“A game theoretic framework for bandwidth reservation in mobile ad-hoc networks,” Co-authored with J. Cai and Bin Lu, Proceedings of the IEEE International Conference on Quality of Service in Heterogeneous Wired/Wireless Networks (QShine 2004), Dallas, Texas, pp 234-241, October 18-20, 2004.

“Play alone or together – truthful and efficient routing in wireless ad hoc networks with selfish nodes,” Co-authored with Jianfeng Cai, Proceedings of the 1st IEEE International Conference on Mobile Ad-hoc and Sensor Systems, MASS 2004, Fort Lauderdale, Fl., pp 457-465, Oct. 25-27, 2004.

“Customizing GPSR for Wireless Sensor Networks,” Co-authored with Jian Chen and Y. Guan, 1st IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS 2004), Fort Lauderdale, FL, pp 549-551, October 25-27, 2004.

“An Efficient Data Dissemination Method in Wireless Sensor Networks,” Co-authored with J. Chen and Y. Guan, IEEE Global Telecommunications Conference (GlobeCom 2004), Dallas, TX, November 29-December 3, 2004.

“Customizing a Geographical Protocol GPSR for Wireless Sensor Networks,” Co-authored with Jian Chen, International Conference on Information Technology, ITCC 2005, Las Vegas, NV, April 4-6, 2005.

“A Lightweight Authentication Protocol for Mobile Ad-Hoc Networks,” Co-authored with Bin Lu, International Conference on Information Technology, ITCC 2005, Las Vegas, NV, pp 546-551, April 4-6, 2005.

“A Spatial-based Multi-resolution Data Dissemination Scheme for Wireless Sensors Networks,” Co-authored with J. Chen and Y. Guan. 5th International Workshop on Algorithms for Wireless, Mobile, Ad Hoc and Sensor Networks (IEEE WMAN 05) ITCC 2005, Denver, Colorado, April 4-8, 2005.

“Whisper – A Lightweight Anonymous Communication Mechanism in Wireless Ad-Hoc Networks,” Co-authored with Jiangfeng Cai, Haiyun You, Bin Lu, and Mi Lu, International Conference on Wireless Networks (ICWM '05), Las Vegas, NV, June 27-30, 2005.

“Security in QoS Signaling Systems for Mobile Ad-Hoc Networks,” Co-authored with Bin Lu, Jianfeng Cai, Haiyun You, and Mi Lu, IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob '05), Montreal, Canada, August 22-24, 2005

“A Dynamic i-key Encryption Protocol for wireless networks,” 2007 IEEE International Conference on Signal Processing and Communication (ICSPC07), co-authored with Peter H. Yu, November 24-27, 2007, Dubai, United Arab Emirates (UAE).

“Secure Dynamic Cryptographic and Encryption Protocol for Wireless Network,” co-authored with Peter H. Yu, Proceeding of IEEE International Conference EUROCON 09', May 2009, Saint-Petersburg, Russia.

"d-key Dynamic Encryption – A Security Enhancement Protocol for Mobile Ad Hoc Network," co-authored with Peter H. Yu, Proceedings of the first international conference on Ubiquitous and future networks, p.183-188, June 07-09, 2009, Hong Kong, China.

"Truthful Topology Control in wireless Ad-hoc Networks with Selfish Nodes," co-authored with Peter H. Yu,

E. Submitted Papers

Reward the Contribution to a Power Conservation Routing Protocol in Wireless Ad-Hoc Networks using Shapley Value," Co-authored with J. Cai, submitted to Communications Networks and Distributed Systems Modeling and Simulation Conference, San Diego, Ca.

"Allocate Fair Payoff for Co-operation in Wireless Ad-Hoc Networks Using Shapley Value," Co-authored with J. Cai.

"Zone-based Intrusion Detection System for Mobile Ad-Hoc Networks," Co-authored with B. Sun and K. Wu, submitted to IEEE Infocom .

"Towards Adaptive Intrusion Detection for Mobile Ad-Hoc Mobile Networks," Co-authored with B. Sun and K. Wu, submitted to IEEE Global Telecommunications Conference

"A Lightweight Authentication Protocol for Mobile Ad-Hoc Networks," Co-authored with Bin Lu, International Journal on Information Technology, 2005

"Dynamic Re-keying Security Protocol for Hybrid Wireless Network," co-authored with Peter H. Yu, submitted to Journal of Wireless Sensor Network, April 2010.

Project Reports

"An Item Response Generator," Technical Bulletin, with Dr. William J. Moonan, U.S. Naval Personnel Research Activity, 1964.

"A Computerized Item Selection Procedure," Research Memorandum, SRM 67-8, with Dr. William J. Moonan, U.S. Naval Personnel Research Activity, 1966.

"Vehicle Exteriors & Pedestrian Injury Prevention," Vol. II (Analysis of Pedestrian Accident Information), U.S. Department of Transportation, Report DOT-HS-065-1-217, A.M. Mayyasi, August, 1972.

"MNR - A Fast New Boolean Function Minimization Algorithm - A User's Guide," *Technical Bulletin 75-1*, January 1975, Texas Engineering Experiment Station, TAMU, College Station, Texas, Co-authored with P.S. Noe, V.T. Rhyne, and M.H. McKinney.

"A Computer Simulation of the Two-Dimensional Flow of Heat and Moisture in Soils with Irregular Surfaces, Sources, and Sinks," *Technical Bulletin 75-2*, April 1975, Texas Engineering Experiment Station, TAMU, College Station, Texas, Co-authored with C. Schroeder and D. DeMichele.

"Phase I Development of an Intelligent Control System for an Autonomous Underwater Vehicle (AUV)," Final Report, June 1987, SEA GRANT and NSWC.

"Software Engineering Activity Areas and Tools: A Correspondence," Co-authored with M. Tanik, Technical Report 87-CSE-24, Dept. of Computer Science and Engineering, SMU, Dallas, TX, October 1987.

"An Ada Courseware," Co-authored with M. Tanik, Technical Report 88-CSE-16, Dept. of Computer Science and Engineering, SMU, Dallas, TX, March 1988.

"A Laboratory-Oriented Basic Programming Course for Engineering Students," Co-authored with M. Tanik, Technical Report 88-CSC-25, Dept. of Computer Science and Engineering, SMU, Dallas, TX, April 1988.

"Software Requirements Specifications," Co-authored with D.K. Friesen, M. McDermott, G.N. Williams, D.M. Barnett, E.L. Nelson, D.R. Safford, Technical Report A021, U.S. Navy, Naval Surface Warfare Center Contract No., N60921-88-C-0208, February 1991.

"A Fault Tolerant Controller Architecture," Co-authored with D.K. Friesen, M. McDermott, G.N. Williams, D.M. Barnett, E.L. Nelson, and D.R. Safford, Technical Report A015-2.0, U.S. Navy, Naval Surface Warfare Center Contract No., N60921-88-C-0208, April 1991.

"Advanced Programming Techniques in Turbo Pascal: Object Oriented Programming," Co-authored with M. Tanik and K. Townsend, Technical Report SMU-LTR-91-CSE-15A, May 1991.

"Advanced Programming Techniques in Turbo Pascal: Programs and Sample Executions," Co-authored with M. Tanik and K. Townsend, Technical Report SMU-TR-91-CSE-15B, May 1991.

"Hardware Specifications," Co-authored with D.K. Friesen, M. McDermott, G.N. Williams, D.M. Barnett, E.L. Nelson, D.R. Safford, Technical Report A010, U.S. Navy, Naval Surface Warfare Center Contract No., N60921-88-C0208, November 1991.

"Software Design Document," Co-authored with D.K. Friesen, M. McDermott, G.N. Williams, D.M. Barnett, E.L. Nelson, D.R. Safford, Technical Report A022, U.S. Navy, Naval Surface Warfare Center Contract N60921-88-C-0208, November/December 1991

"Detailed Software Design (Se. 4 of SDD)," Co-authored with D.K. Friesen, M. McDermott, G.N. Williams, D.M. Barnett, E.L. Nelson, D.R. Safford, Technical Report A023, U.S. Navy Naval Surface Warfare Center Contract No., N60921-88-C-0208, November/December 91.

"AUVIC Systems Design Rationale," Co-authored with D.K. Friesen, M. McDermott, G.N. Williams, D.M. Barnett, E.L. Nelson, D.R. Safford, Technical Report A015-4.0, U.S. Navy, Naval Surface Warfare Center Contract No., N60921-88-C-0208, January 1992.

"Computer Systems Operations Manual," Co-authored with D.K. Friesen, M. McDermott, G.N. Williams, D.M. Barnett, E.L. Nelson, D.R. Safford, Technical Report A018, U.S. Navy, Naval Surface Warfare Center Contract No., N60921-88-C-0208, January 1992.

"Software Programmer's Manual," Co-authored with D.K. Friesen, M. McDermott, G.N. Williams, D.M. Barnett, E.L. Nelson, D.R. Safford, Technical Report A019, U.S. Navy, Naval Surface Warfare Center Contract No., N60921-88-C-0208, January 1992.

"Final Report (Draft)," Co-authored with D.K. Friesen, M. McDermott, G.N. Williams, D.M. Barnett, E.L. Nelson, D.R. Safford, Technical Report A016, U.S. Navy, Naval Surface Warfare Center Contract No., N60921-88-C-0208, January 1992.

"Final Report," Co-authored with D.K. Friesen, M. McDermott, G.N. Williams, D.M. Barnett, E.L. Nelson, D.R. Safford, Technical Report A017, U.S. Navy, Naval Surface Warfare Center Contract No., N60921-88-C-0208, February 1992.

"Hardware/Software Integration Plan to Incorporate the TAMU AUV Controller into the NUWC 21 ATV," Co-authored with D.K. Friesen, McDermott, M., Williams, G.N., Barnett, D.M., and E.L. Nelson, Technical Report 12-92, U.S. Navy, Naval Surface Warfare Center, Contract no. N60921-88-C-0108, December 1992.

"Audit Trail Information Sanitization Project: Final Report", Co-authored with E. Fisch and G. B. White. (Contract #32525-43750) March 1994.

"Measurements in Distributed Computing." Co-authored with S. Santha and W. Marti. TR-8-94, IBM, Contract No. C-MS-92145, August 1994.

"Test Plan Document for DCE-SMT," Co-authored with A. Gurijala, A. Muppidi, P. Brutch and W. Marti. TR-8-94, IBM, Contract No. C-MS-92145, August 1994.

"System Design Document for DCE-SMT Version 1.0." Co-authored with K. Walzel, A. Gurijala, P. Brutch, V. Swaggerty and W. Marti. TR-10-94, IBM, Contract No. C-MS-92145, Oct. 1994.

"System Design Document for DCE-SMT (Multi-Threaded) Version 2.0," Co-authored with G. Beedubail, S. Muppidi, A. Gurijala and W. Marti. TR-12-94, IBM, Contract No. C-MS-92145, December 1994.

"SMT User Document," Co-authored with P. Brutch and W. Marti. TR-12-94, IBM, Contract No. C-MS-92145, December, 1994.

"RMON Agent for OS/2." Co-authored with N. Krawetz and W. Marti. TR-12-94, IBM, Contract No. C-MS-92145, December 1994.

"Progress Report on Quality of Service (QoS) Aware ATM Applications for Broadband Networks," Co-authored with Leland, E., ARP/ATP-97 award, TEES-32191-72350, September 1998.

F. Technical Reports

Technical Report 95-009 (Department of Computer Science, Texas A&M University) DCE (Distributed Computing Environment) Porting Tool

Technical Report 95-012 (Department of Computer Science, Texas A&M University) RMON Agent for OS/2

Technical Report 95-013 (Department of Computer Science, Texas A&M University) SMT: A System Monitoring Tool for DCE

Technical Report 95-019 (Department of Computer Science, Texas A&M University) An Algorithm for Supporting Fault Tolerant Objects in Distributed Object Oriented Operating Systems

Technical Report 95-023 (Department of Computer Science, Texas A&M University) Fault Tolerant Objects in Distributed Systems using Hot Replication

Technical Report 95-026 (Department of Computer Science, Texas A&M University) Netman V1.2: A Network Manager's Workbench Application

Technical Report 95-027 (Department of Computer Science, Texas A&M University) Etherman V1.2: A Network Manager's Workbench Application

Technical Report 95-028 (Department of Computer Science, Texas A&M University) Interman V1.2: A Network Manager's Workbench Application

Technical Report 95-029 (Department of Computer Science, Texas A&M University) Packetman V1.2: A Network Manager's Workbench Application

Technical Report 95-041 (Department of Computer Science, Texas A&M University) Object Replication in Spring Using Subcontracts

Technical Report 95-042 (Department of Computer Science, Texas A&M University) Fault Tolerant Object Replication Algorithm

Technical Report 95-048 (Department of Computer Science, Texas A&M University) Replicated Naming Service in Spring

Technical Report 96-019 (Department of Computer Science, Texas A&M University) Propagating Updates in Asymmetric Communication Environment

Technical Report 97-004 (Department of Computer Science, Texas A&M University) The Basic Network Security Tool

Technical Report 97-007 (Department of Computer Science, Texas A&M University) Software Design Document for the NETWORK Security Evaluation and Configuration Tool (NET-SECT).

Technical Report 98-021 (Department of Computer Science, Texas A&M University) A Survey of UNIX Penetration Tests Performed During a Graduate Computer Security Class at Texas A&M University

Technical Report 99-020 (Department of Computer Science, Texas A&M University) Progress Report on Quality of Service (QoS) Aware ATM Application for Broadband Networks.

IX. ACADEMIC SERVICE

A. Guest Editor

Computer Magazine of IEEE-CS, August Issue on Computer Graphics and Man Machine Interaction, 1976.

Communications of the ACM, November issue on Interactive Computer Graphics and Interaction, 1976.

Computer Magazine of IEEE-CS, Special issue on "Computer Networks", November 1977.

Proceedings Editor for SIGGRAPH 76, Third Annual Conference on Computer Graphics, Interactive Techniques, and Pattern Recognition.

Co-editor with Dr. Rahul Chattergy of a Book Series in Computer Information System (7 volumes) to be published by Western Periodicals Company.

Editor, Modelling, Technical Committee on Simulation, IEEE-CS, 1978-1979.

Editor, Proceedings of the 12th Hawaii International Conference on System Sciences, 1979.

Editor, Proceedings of the 13th Hawaii International Conference on System Sciences, 1980.

Co-editor Proceedings of the 1984 Winter Simulation Conference.

Series Editor for ABLEX Publishing Corporation, 1980.

- Advances In Simulation And Modelling
- Advances In Computer Networks

Series Editor for ABLEX Publishing Corporation Series, 1980, Advanced Computer Concepts, Systems and Languages

Series Editor for CRC Press Inc., 1989, Computer Engineering

B. External Examiner

"Multi-Vendor System Network Management: A Roadmap for Coexistence," J. A. Gutierrez, Ph.D. in Management Science and Information Systems, The University of Auckland, Auckland, New Zealand (96-97).

C. Conference, Program, and Session Chairman

SIGGRAPH-75, General Applications (Session Chairman), Bowling Green, June 25-27, 1975.

9TH HICSS, Modelling, Simulating, and Validating Computer Systems (Panel Session Chairman), Hawaii, January 6-8, 1976.

9th HICSS, Computer Systems (Session Chairman), Hawaii, January 6-8, 1976.

ORSA TIMS, Computer Applications (Session Chairman), Orlando, Florida, February 4-6, 1976.

SIGGRAPH-76, General Session I (Program Chairman, Session Chairman), Philadelphia, July 14-16, 1976.

10th HICSS, Microprocessors, (Session Chairman), Hawaii, January 5-7, 1977.

10th HICSS, Computer Networks (Session Chairman), Hawaii, January 5-7, 1977.

10th HICSS, Conference (Co-chairman), Hawaii, January 5-7, 1977.

11th HICSS, Conference (Co-chairman), Hawaii, January 5-7, 1978.

11th HICSS, Mini- and Micro-Systems, (Track Chairman), January 5-7, 1978.

Problems of the 80's, Education/Training (Session Chairman), Portland, Oregon, March, 1978.

11th Annual Simulation Symposium (Leader/Monitor), Tampa, Florida, March, 1978.

12th HICSS, Conference (Co-chairman), Hawaii, January 1979

12th HICSS, Mini- and Micro-Systems (Track Chairman), Hawaii, January 1980

13th HICSS, Hardware Sessions (Track Chairman), Hawaii, January 1980.
13th Annual Simulation Symposium, Simulation Workshop (Chairman), Tampa, Florida, March 1980
10th IMACS, Simulation (Session Chairman), Montreal, August 1982
WSC 1982 Simulation of Computer Systems: Looking Back (Panel Session), San Diego, December 1982
WSC 1982 Teaching Simulation to Undergraduates (Panel Session), San Diego, December 1982
AMSE Winter Symposium (Keynote Speaker), Bermuda, March 1983
WSC 1983 Conference (Associate General Chairman), Washington, DC, December, 1983.
WSC 1984 Conference (General Chairman), Dallas, December 1984.
1st AI-Satellite Symposium by TI (Local Coordinator), College Station, November 1985
WSC 1985 Simulation of Computer Networks (Session Chairman), San Francisco, December 1985.
WSC 1985 Performance Evaluation of Network Simulators (Session Chairman), San Francisco, December 1985.
2nd AI-Satellite Symposium by TI (Local Coordinator), College Station, July 1986.
1987 Eastern Simulation Conferences, Simulation and Artificial Intelligence (Session Chairman), Orlando, Florida, April 1987.
WSC 1987 General Applications: Telecommunications Systems, Design and Analysis (Session Chairman), Atlanta, Georgia, December 1987.
SCSC 1988 Simulation of Discrete Systems (Group Chairman), Seattle, Washington, July 1988
Summer Computer Simulation Conference (Session Chairman – "Network and Distributed Systems Simulations"), Baltimore, Maryland, July 1991.
European Joint conference Engineering Systems, Design and Analysis (ESDA-ASME), (Advisory Committee), Istanbul, Turkey, June 1992.
Workshop on Fault-Tolerant Parallel and Distributed Systems (Program Committee), Amherst, Massachusetts, July 6-7, 1992.
IEEE Workshop on Fault-Tolerant Parallel and Distributed Systems (Program Committee, Session Chair – "Real Time System"), College Station, Texas, June 13-14, 1994.

D. Reviewer

Reviewer of "Simulation," February, 1973-Present.
Reviewer of "Communications of ACM," March, 1973-Present.
Reviewer of "Journal of ACM," March, 1973-Present.
Reviewer of "Computing Surveys," March, 1973-Present.

Reviewer of "IEEE Transactions on Computers," April, 1973-Present.
Reviewer of "SIAM Journal of Computing," April, 1973-Present.
Reviewer of "Computing Reviews," 1971-Present.
Reviewer of "SIGGRAPH," June, 1974-1978.
Reviewer for West Publishing Company; Wadsworth Publishing Co.,
Referee for "SIGGRAPH 75," June 25, 1975.
Referee for 5th Symposium on Operating Systems.
Referee for 4th Texas Conference.
Reviewer of "Computer Magazine," Computer Society, IEEE, April, 1973-Present.
Referee for Proceedings of the Third Annual Symposium on Computer Architecture.
Referee for MRI International Symposium XXIV (Computer Software Engineering).
Reviewer for McGraw-Hill Book Company.
Referee for MICRO - 9.
Referee for 4th Annual Symposium on the Simulation of Computer Systems.
Referee for SIGGRAPH - 76.
Referee for Fifth Texas Conference on Computing Systems.
Reviewer for Matrix Publishing Co.
Referee for HICSS - 10, HICSS - 11, HICSS - 12, HICSS - 13.
Referee for NCC, 1977.
Reviewer for NSF (Directorate for Science Education).
Reviewer for NSF (Division of Mathematical and Computer Science) Computer Systems Design.
Referee for 1977 Winter Simulation Symposium.
Referee for ACM 1977.
Referee for Acta Informatica.
Referee for SIGGRAPH, 1978.

- Problems of the 80's: Oregon Conference.
- 11th Annual Simulation Symposium.

Reviewer for Wm. C. Brown Publishing Co.
Reviewer for Hayden Book Co.
Reviewer for Winthrop Publishers.
Reviewer for Allyn and Bacon, Inc.
Reviewer for Reston Book Co.

Reviewer for Holt, Rinehart and Winston.

Reviewer for Benjamin/Cummings.

Reviewer for Brooks/Cole.

Reviewer for John Wiley and Co.

Reviewer for Prentice Hall.

Referee for Winter Simulation Conferences.

Referee for Compcon, IEEE/CS.

Reviewer for Academic Press.

Reviewer for ABLEX Publishing Corporation.

Reviewer for University of Missouri, VP for Academic Affairs, (University of Missouri's Research Assistance Act program), Oct. 1988.

Reviewer for "IEEE/CS Expert", 1987-present.

Reviewer for "IEEE/CS Software", 1987-present.

Reviewer for "IEEE/CS Micro", 1987-present.

Reviewer for "IEEE/CS Design and Test", 1987-present.

Reviewer for CRC Press Inc , 1989-present.

Reviewer for HICSS-22 (1988); HICSS-23 (1989).

Reviewer for ASME Dynamic Systems and Control Division, 1989.

Reviewer for First Annual IEEE Symposium on Parallel and Distributed Processing, 1989.

Reviews of Journal Papers/Research Proposals (1991-92)

- 2, CACM Referred Papers
- 3, Computer Magazine, IEEE/CS, papers
- 6, Winter Simulation Conference, papers
- 2, IEEE Software, papers
- 6, CRC Press Inc., (Manuscripts)
- 5, IEEE Trans. on Computers, papers
- 1, Parallel Computing Journal, papers
- 6, Workshop on FT Parallel & Distributed Systems, papers
- 1, Journal on Parallel and Distributed Computing, papers
- 1, 12th Int. Conf. on Distributed Computing Systems, papers

Reviews of Journal Papers/Research Proposal (1992-93)

- 1, CACM Refereed Paper
- 3, Computer Magazine, IEEE/CS, papers
- 3, Winter Simulation Conference, papers
- 2, CRC Press Inc., (Manuscripts)
- 2, IEEE Transactions on Computers, papers

- 2, IEEE Press, (Manuscripts)
- 2, NSF Proposals

Reviews of Journal Papers/Research Proposals (1993-94)

- 2, CACM, ACM, papers
- 2, Computer Magazine, IEEE/CS, papers
- 3, CRC Press, Inc., (Manuscripts)
- 2, IEEE Press, (Manuscripts)
- 5, FTPDS, papers
- 2, IEEE Transactions on Computers, papers
- 1, Parallel and Distributed Computing, papers

Reviews of Journal Papers/Research Proposals (1994-95)

- 2, CACM, papers
- 2, Computer Magazine, papers
- 6, CRC Press, Inc., (Manuscripts)
- 4, IEEE Press, (Manuscripts)
- 4, IEEE Press, (Book Proposals)
- 2, NSF Proposals

Reviews of Journal Papers/Research Proposals (1995-96)

- 1, CACM, papers
- 3, Computer Magazine, papers
- 2, CRC Press, Inc., manuscripts
- 1, NSF, proposal
- 2, IEEE Press, book proposals
- 2, IPH, book proposals.

Reviews of Journal Papers/Research Proposals (1996-97)

- 1, CACM, papers
- 2, Computer Magazine, IEEE/CS, papers
- 2, CRC Press, Inc., manuscripts
- 2, IEEE Transactions on Computers, papers
- 1, AW Book proposal
- 2, PH Book proposals
- 3, Winter Simulations Conference, papers

Reviews of Journal Papers / Research Proposals (1997-98)

- 1, CACM, papers
- 4, CRC Press Inc., (Manuscripts)
- 2, IEEE Transactions on Computers, papers
- 2, Winter Simulation Conference, papers
- 2, SCS, papers

Reviews of Journal Papers/Research Proposals/Book Proposals/Conference Papers (1999-2000)

- 3, CRC Press, Inc. (Manuscripts)
- 2, IEEE Computer Magazine, papers
- 2, SCS Simulation, papers
- 2, NSF proposals
- 1, ASEE, papers

Reviews of Journal Papers/Research Proposals/Book Proposals/Conference Papers (2000-2001)

- 2, SCS Simulation, papers
- 2, IEEE Transactions, Computer, papers
- 1, IEEE Computer Magazine, paper

Reviews of Journal Papers/Research Proposals/Book Proposals/Conference Papers (2000-2001)

- 2, PH Book proposals
- 2, AW Book proposals
- 1, SCS Simulation, paper
- 1, NSF proposal

X. RESEARCH PROJECTS

A. External

Co-Principal Investigator, Development of an Autonomous Underwater Vehicle Controller, US Navy, Naval Surface Warfare Center, \$4,168,000, September 1988-1995.

Co-Principal Investigator, Research in Parallel & Distributed Computing, CISE Institutional Infrastructure Program (Small Scale), NSF, \$700,000, December 1991.

Co-Principal Investigator, IBM Equipment Grant, Simulation of Large Scale Packet Switched Computer Networks, February 1991.

Co-Principal Investigator, DoD-Department of Navy/NSWC, Integration Plan to Incorporate the TAMU AUV controller into the NUWC 21 ATV, \$42,900, July 20, 1992.

Co-Principal Investigator, IBM, DCE Analysis, Porting, and Monitoring, \$99,000, February 1993.

Co-Principal Investigator, Integration of the TAMU AUV Controller and the NUWC 21 UUV, "USN, Naval Undersea Warfare Center, Newport, RI., \$25,000, June 1993.

Co-Principal Investigator, IBM "DCE Analysis, Porting, and Monitoring," Contract No.C-MS-92145.

- Initial Contract : \$99,000, February 1993
- Add-On 1 : \$41,000, September 93 (PO#966CH8Y)
- Add-On 2 : \$99,000, January 1994 (PO#966CY38)

- Add-On 3 : \$200,000, July 1994 (CSS070794)

Co-Principal Investigator, Trident Data Systems Inc. (USAF Subcontract), Contract No. TDS-93-123, "Audit Trail Information Sanitization Project", \$50,000, September 1993.

Project Manager, TEES – Rockwell Space Systems, Project 48390 Support Service Agreement J6X4XWH-450017M, "Dual Use Academic Liaison Program: System Design of a Firewall Decision Support Tool," January 20 – September 27, 1996.

Principal Investigator (10%), TTI – Department of Transportation (Texas) Project No. 7-3913, "Paperless Title of Ownership," \$100,000, September 1, 1996 – August 31 1997.

Co-Principal Investigator, ARP/ATP-1997, "Quality of Service (QoS) Aware ATM Applications for Broadband Networks," \$208,327, January 1, 1998 – December 31, 1999.

Co-Principal Investigator (25%), TEES C99-00498, "Digitization Research in Support of Force XXI," in response to BAA-NAWCTSC 97-02, Contract number N61339-99-K-0006 (Naval Surface Warfare Center) (\$864,349), 7/15/1999-6/30/2001.

(\$561,699), 7/01/2001-9/30/2002.

University XXI Research and Support to the US Army, Contract N61339-02-C-16, NAVAIR-Orlando TSD, (\$818,607), 9/17/2002-9/30/2003.

B. Internal

A Software Development Environment for Self-Propagating Reliable Software, 1987-89, 91-92.

Model Execution in a Goal-oriented Discrete Event Simulation, 1986-present.

Simulation of Large Scale Packet Switched Networks, 1978-present.

A Multilanguage Metric Analyzer System, 1990-present.

Self-Adaptive, Self-Repairing, Knowledge Based Software Development Systems, 1990-present.

Adaptive Topological Configuration Methodology Applied to Large Scale Voice/Data Computer Networks, 1990-present.

Cache Structures in Data Flow Architectures, 1990-present.

Distributed Systems Research in the following areas:

- Heterogeneous Operating Systems
- Simulation
- Network Management
- Security

C. Research Proposals

Shuttle Project Management Information System, Principal Investigator, NASA Contract 9-35083, Marshall Space Flight Center, October 1982. (Awarded)

Decision Support System for NASA-SPO, Co-principal Investigator, NASA proposal, November, 1983.

Space Station Data Management System: Recommendations for Applying RAS Design Techniques, Co-principal Investigator, IBM Federal Systems Division, IBM-NASA, 1984. (Awarded)

Operational Benefit/Cost Evaluation Systems for Advanced Technologies, (\$548,780 proposal), Co-principal Investigator, Texas Advanced Technology Research Program, September 1985.

Artificial Intelligence Based Modeling and Simulation, (\$737,737 proposal), Co-principal Investigator, Texas Advanced Technology Research Programs, September 1985.

Center for Knowledge-Based Modeling and Simulation, (\$5,208,781 proposal), Co-principal Investigator, AFOSR/URI Mathematical Analysis, Modeling, and Simulation, September 1986.

A Pre-Proposal For The Development of An Automated Self-Propagating Reliable Software Development System, SDI, Principal Investigator, August 1986.

Knowledge Based Simulation Environment (SES), Principal Investigator, August 1986, NSF, ONR, AOR, AFOSR.

Development of An Automated Self-Propagating Reliable Software Development System (PHOENIX), Principal Investigator, August 1986, DARPA, AFOSR, ONR.

Automatic Analysis and Characterization of Interactive Workloads (HUSAR), Principal Investigator, August 1986, NSF.

Express, A Solicited Proposal For An Experiment in Electronic Submission, Co-Principal Investigator, August 1986, NSF.

Knowledge-Based Systems for Naval Autonomous Submersible Vehicles, NOAA, Co-Principal Investigator, January 1987 (\$125,000; Funded).

Knowledge Based Systems for Naval Autonomous Submersible Vehicles, NOAA, September 1987, Co-Principal Investigator (\$700,000; Funded).

Adaptive Learning to Control the Feedback Loop in a Symbolic Simulation Environment, October 1987, Co-principal Investigator, to JSC Regional Universities Program (\$73,024; Funded).

An AI/ES Based Decision Support System for Project Management, October 1987, Co-principal Investigator, to JSC Regional Universities Program (\$200,000; Funded).

Simulation of Large Scale Packet Switched Computer Networks, 1987, Principal Investigator, to IBM (Academic Information Systems, Research Support Program).

Intelligent Control Systems for Autonomous Underwater Vehicle, Naval Surface Warfare Center, September 1988, Co-Principal Investigator (\$4,182,303; Funded)

Simulation of Large Scale Packet Switched Computer Networks, February/March 1991, Co-Principal Investigator, IBM Equipment Grant, (Awarded).

Cost Effective Low-Earth-Orbit (LED) Satellite Communication for Distributed Applications, July 1991, Principal Investigator, to Advanced Research Program/Advance Technology Program (Texas), (\$205,941; Submitted)

An Ultra Reliable Fault Tolerant Computing Environment, July 1991, Co-Principal Investigator, to Advanced Research Program/Advanced Technology Program (Texas), (\$239,555; Submitted)

Parallel Discrete Event Simulator For Strategic Defense Initiative, December 13, 1991, Co-Principal Investigator, to DARPA (\$190,000; Submitted)

Research in Parallel and Distributed Computing, December 1991, Co-Principal Investigator, to NSF, CISE Institutional Infrastructure Program, (\$1,000,000; Funded)

Intelligent Control Systems for Autonomous Underwater Vehicles, Naval Surface Warfare Center, February 1992, Co-Principal Investigator (\$350,000; Funded)

"A Proposal for the Development of a Hardware/Software Integration Plan to Incorporate the TAMU AUV controller into the NUWC 21 ATV," July 20, 1992, Co-Principal Investigator, DOD-Department of Navy/NSWC, \$42,904.

"DCE Analysis, Porting and Monitoring," April 1992, Co-Principal Investigator, IBM, \$99,078.

"Research in Parallel and Distributed Computing," May 1992, Graduate Research Traineeship Program, Co-Principal Investigator, NSF, \$888,000.

"Anomaly Detection Based on a Moving Window Weighted Composite Session Profile," Co-Principal Investigator, December 1992, USAF Security Command, Kelly, San Antonio, TX, \$114,000.

"Communications Manager Associate," Co-Principal Investigator, December 1992, USAF Security Command, Kelly, San Antonio, TX, \$98,000.

"Access Controlled Personal Computer Networks," Co-Principal Investigator, December 1992, USAF Security Command, Kelly, San Antonio, TX, \$100,000.

"Programming for Tested PC DOS," Co-Principal Investigator, December 1992, USAF Security Command, Kelly, San Antonio, TX, \$75,000.

"Documentation of Recent Network Security Events," Co-Principal Investigator, December 1992, USAF Security Command, Kelly, San Antonio, TX, \$60,000.

"A Simple Public Key System for Telnet and FTP Security," Co-Principal Investigator, December 1992, USAF Security Command, Kelly, San Antonio, TX, \$80,000.

"Computer Intrusion Detection: A Statistically Based System," Co-Principal Investigator, December 1992, USAF Security Command, Kelly, San Antonio, TX, \$94,000.

"Development and Demonstration of an Integrated Ship Control and Combat Direction System for the DD-21 Program," Co-Principal Investigator, February 1993, DOD/DARPA, \$500,000.

"Distributed Intrusion Detection and Tracking through Cooperating Security Managers," Principal Investigator, NSA, January 1993, \$119,000.

Multilevel Secure Windowing Systems," Co-Principal Investigator, USAF Security Command, Kelly, San Antonio, February 1993, \$335,000.

"Cooperating Security Manager (CSM)," Co-Principal Investigator, USAF Security Command, Kelly, San Antonio, February 1993, \$380,000.

"Accelerated Distributed Simulation," Principal investigator, Texas Advanced Research Program/Advanced Technology Program, July 1993, \$117,500.

Equipment Proposal for PUFBF Funding, Co-Principal Investigator, October 1993, \$137,000.

"Prototyping Network Security Protocols," National Security Agency, principal investigator, January 1994, \$196,500.

"Cooperating Security Managers: Intrusion Detection in a Distributed Environment," Principal Investigator, January 1994, \$196,500.

"Cooperating Security Managers: Intrusion Detection in a Distributed Environment," Principal Investigator, January 1994, \$119,900.

"Integration of the TAMU AUV Controller and the NUWC2/UUV," Co-Principal Investigator, USN, Naval Undersea Warfare Center, Newport, RI, June 1993, \$25,000 (Funded).

"System Architecture Research for War Breaker, Intelligence and Planning," Co-Principal Investigator - joint proposal with E-Systems (Greenville Division), ARPA, July 1993.

"Operational Demonstration in Multi-tiered Crisis Management," Co-Principal Investigator - joint proposal with E-Systems (Greenville Division), ARPA, October 1993.

Equipment Proposal (E-mass Storage devices) to E-mass, Co-Principal Investigator, November 1993.

"Object Model Visualization Toolkit," Co-Principal Investigator - joint proposal with MCC-Advanced Systems and Networks, ARPA, October 1993.

"Audit Trail Information Sanitization Project," Co-Principal Investigator, March 1994, \$240,000, USAF via Trident Data Systems.

"Security and Reliability Issues in Asynchronous Transfer Method (ATM) Switch Protocols" -- submitted for 1995 ATP, (\$120,000).

"Advanced Distributed Simulation" -- submitted to USARL, ARL-95 Fed. Lab BAA April 1995, (\$36 million).

"Dynamically Adaptive Network Simulator (DANS)" -- A95-062 SBIR subcontractor to SPEC (Austin), June, 1995, (\$180,000).

"Network Manager's Workbench" -- submitted to E-Systems, Sept., 1995, (\$178,000).

"Semi-generalized Validation for Computer Simulation Methods" -- submitted to E-Systems, Sept., 1995, (\$140,000).

"Cooperating Security Managers" -- submitted to E-Systems, Sept., 1995, (\$140,000).

"Multilevel Multiresolution Simulation of Discrete Network Models" -- submitted to E-Systems, Sept., 1995, (\$178,000).

"Security and Reliability Issues in Interfacing ATM to Wideband Systems" -- submitted to E-Systems, Sept., 1995, (\$260,000).

"Multilevel Multiresolution Simulation of Discrete Network Models" -- submitted to Dept of the Army, Simulation, Training and Instrumentation Command, December 1995, (\$200,000).

"Testing, Performance Measurements and Intrusion Detection of Computer and Networked Systems" -- submitted to EG&G, Nov. 1995, (\$100,000).

"Systems Description Methodology for Design of Survivable Distributed Systems" -- submitted for ARPA BA 96-03, February 1996, (\$1.4 million).

"Systems Description Methodology for Design of Survivable High Confidence Networks," Co-principal Investigator, submitted for ARPA BA 97-04 (Management for Survivability), December 1996, (\$1,366,000).

"Quality of Service (Qos) Aware ATM Applications for Broadband Networks," -- submitted to Texas Higher Education ARP/ATP-1997, (\$142,546; awarded) Jan. 1, 1998 – December 31, 1999.

"System Description Methodology for Design of Survivable High confidence Networks," – submitted to DARPA BAA 97-04, Jan. 16, 1997.

"A Prototype UCAV Mission-level Controllers," – submitted to Strike Technology Division (ONR 351), Office of Naval Research, BAA 96-017, Jan. 1997.

"Internet Security Protocol Development and Analysis," submitted to NSA (Security Management and Infrastructure) Principle Investigator, Spring 1998 (\$179,181).

"Analysis of Complexity Trends in Compute Products," submitted to Compaq Computer Corporation, Principle Investigator, Oct. 14, 1998 (\$37,218).

"Engineering and Technical Services Support (ETSS)," member of TAMU Consortium with BTG (San Antonio) in response to US Air Force Information Warfare Center (AFIWC) BAA, 5 year SETA contract (Awarded).

"Support to CSAP and TASP Programming for Planning, Statistical Analysis, Reporting and Implementation of Information Protection Systems," to BTG (in response to BTG/AFWIC task orders) Co-Principal Investigator, December 9, 1998 (\$300,000).

"Security Characterization of Processes and Programs in a Unix-based Environment," submitted via SecureLogix Corp., San Antonio, TX, to DARPA-SBIR, TEES Proposal # 99-432, Apr. 12, 1999 (\$59,400).

"Active Host-based Defense Using Autonomous Agents," submitted via SecureLogix Corp., San Antonio, TX, to DoD/STTR, TEES Proposal # 99-436, Apr. 14, 1999.

"Secure Operations in Web-based Videoconferencing," via TEES Proposal # 0332-1999 to ARP (\$129, 800).

XI. LECTURES AND SEMINARS

A. Lectures

"Development, Implementation and Evaluation of a Management Information System," North Carolina State University, Raleigh, March, 1969.

"S-Matrix Theory in High Energy Physics," Auburn University, Auburn, April, 1969.

"Development, Implementation and Evaluation of a Management Information System," Georgia Tech, Atlanta, May, 1969.

"Broken Symmetry Mass Formula for the Baryon Octet from S-Matrix Theories," Texas A&M University, February, 1970.

"A Storage Re-utilization Technique," 3rd Ann. Houston Conf. on Computer and System Science, Houston, April, 1971.

"Future Developments in Data Processing," Data Processing Management Association, Division III Conf., San Antonio, October, 1971.

"Future Development of Data Processing in the Late 1970's," Nuplex Workgroup of Agricultural Economics, Texas A&M University, November, 1971.

"The Design of a Computer Throughput and Output Processing Simulation System," Computer Science Conference, Columbus, Ohio, February 20, 1973.

"A General Purpose Microprogrammable Emulator," 1973 SWIEECO, Houston, April 6, 1973.

"Interactive Computer Graphics and Minicomputers," invited lectures, The Technical University, Berlin, Germany, March 1, 1974.

"Some Aspects of Parallel Processing," 1974 College and University Machine Record Equipment Conference, Waco, Texas, May 5-8, 1974.

"Pedestrian Injury Model," Third International Congress on Automobile Safety, San Francisco, California, July 15-17, 1974.

"Telecommunication," DPMA Student Chapter, TAMU, November 12, 1974.

"A Performance Optimization Model of Processor Scheduling," 8th Hawaii International Conference on System Science, Honolulu, Hawaii, January 8, 1975.

"Self -Adaptive Teleprocessing Network Design," Trends and Applications 1975: Computer Networks, Gaithersburg, Maryland, June 18, 1975.

"Axiomatic Theory for Graphics Operators," Fourth Texas Conference on Computing Systems, Austin, Texas, November 17-18, 1975.

"Minicomputer System Selection and Evaluation - Part I: Theory," Fourth Texas Conference on Computing System, Austin, Texas, November 17-18, 1975.

"A Tutorial - Modelling, Simulating and Validating Computer Systems," 9th Hawaii International Conference on System Science, Honolulu, Hawaii, January 6-8, 1976.

"An Application of a General Purpose Microprogrammable Emulator," 9th Hawaii International Conference on System Science, Honolulu, Hawaii, January 6-8, 1976.

"Optimization Techniques Applied to the Simulation of Heat and Moisture in Soils," 9th Hawaii International Conference on System Science, Honolulu, Hawaii, January 6-8, 1976.

"Time-Sharing Analysis Combining Processor Scheduling and Memory Resources," ORSA/TIMS Special Interest Conference on Scheduling, Orlando, Florida, February 4-6, 1976.

"A Generalized Optimization Search Procedure," Ninth Annual Simulation Symposium, Tampa, Florida, March 17-19, 1976.

"Economic Implications of Microcomputer Design," Trends & Applications 1976: Micro & Minisystems, Gaithersburg, Maryland, May 27, 1976.

"A Communications Computer Simulation Systems (C2S2)," 1976 Summer Computer Simulation Conference, Washington, D.C., July 12-14, 1976.

"A User-Oriented Computer Graphics Systems," Third Annual Computer Graphics Conference, Philadelphia, Pennsylvania, July 14-16, 1976.

"A Heuristic Teleprocessing Network Design Technique," 4th Annual Symposium on the Simulation of Computer Systems, Boulder, Colorado, August 10-12, 1976.

"Dynamic Clustering Strategy in a Demand Paging Environment," 4th Annual Symposium on the Simulation of Computer Systems, Boulder, Colorado, August 10-12, 1976.

"Modified Locality Matrix Model (MLMM) - Dynamic Clustering Strategy in a Demand Paging Environment," Proc. National ACM Conference, Houston, Texas, October 20-22, 1976.

"An Analytical Page Fault Model Combining Processor Scheduling and Memory Resources," Fifth Texas Conference on Computing Systems, Austin, Texas, October 18-19, 1976.

"Implications of a Programmable Bus Architecture on Microprogramming," 10th Hawaii International Conference on System Sciences, Honolulu, Hawaii, January 5-7, 1977.

"A Simulation Study of the IBM 370/168 and AMDAHL 470v/6," Tenth Annual Simulation Symposium, Tampa, Florida, March 16-18, 1977.

"Performance Measuring for Online Data Base Systems," First Annual Army Software Symposium, Ft. Belvoir, Va., May 23-24, 1977.

"Dynamic Cluster Model," ACM National Conference, Seattle, Washington, October 17-19, 1977.

"Evaluation of Virtual Memory Paging Systems," 6th Texas Conference on Computer Systems, Austin, Texas, November 14-15, 1977.

"An Extension of the Central Server Model," 1977 Winter Simulation Conference, Gaithersburg, Maryland, December 5-7, 1977.

"Minicomputers-Microcomputers: A Role in Data Communications," HICSS-11, Honolulu, Hawaii, January, 1978.

"Education/Training: An Outlook for the Middle 1980's" Problems of the 80's: The Oregon Report on Computing, March 20-22, 1978, Portland, Oregon.

"Bus Architecture - Implications to Programming" Naval Postgraduate School Monterey, California, March 23, 1978.

"Telecommunications Networks" Capstone Address at the Third Biennial Conference on Computing in Indiana, Bloomington, Indiana, April 8, 1978.

"Chess and Artificial Intelligence" Third Biennial Conference on Computing in Indiana, Bloomington, Indiana, April 8, 1978.

"A Computer Page-Fault Analysis Using Analytical, Simulation, and Real Systems Data" ORSA, New York, May, 1978.

"A Simulation Model for Arbitrarily Connected Communications Networks," ORSA, New York, May, 1978.

"Problem Applications and Selection Criteria for Microprocessors - A Survey," Invited Seminar Speaker, Memorial University of Newfoundland, St. John's, Newfoundland, Canada, March 14, 1979.

"Need and Development of Microsoftwares (e.g., Micro-operating systems or Micro-compiler) for Microprocessors," Invited Seminar Speaker, Memorial University of Newfoundland, St. John's, Newfoundland, Canada, March 15, 1979.

"Minicomputers: Hardware, Software and Selection - A State of the Art Survey," Invited Seminar Speaker, Memorial University of Newfoundland, St. John's, Newfoundland, Canada, March 15, 1979.

"Loop - Free Distributed Adaptive Routing" 4th International Computer Communications Conference, Kyoto, Japan, September 26-29, 1978.

"Validation and Verification of Simulation Models" Workshop, IEEE/CS, 23rd Annual Simulation Symposia, Tampa, Florida, March 17, 1980.

"A Simulation Models for Network Routing", 13th Hawaii International Conference on System Science, January 4, 1980, Honolulu, Hawaii.

"Distributed Computing: Hardware in the mid 80's," 1980 DPMA Region 7 Conference, Tampa, Florida, May 7-9, 1980.

"The Design and Impact of Bus Architecture on Micro's and Mini's," IEEE/CS lecture, Sam Houston State, Huntsville, Texas, October, 1982.

"Simulation of Computer Systems: Looking Back," 1982 Winter Simulation Conference, San Diego, December 1982.

"Teaching Simulation to Undergraduates," 1982 Winter Simulation Conference, San Diego, December 1982.

"Statistical Methodology II," 1982 Winter Simulation Conference, San Diego, December 1982.

"A Simulation Model for Evaluating Integrated Packet/Circuit Switched Networks," 1983 Winter Simulation Conference, Arlington, VA., December, 1983.

"Sensitivity Analysis of an Integrated Computer Network Simulation Model," Workshop on Network Simulation and Analysis, 17th Annual Simulation Symposium, Tampa, Florida, March 1984.

"Networking: The Real World," 1984 Computer Awareness Week, Baylor University, March 28, 1984, Waco, Texas.

"Networking - The LAN Phenomena," ACM Student Chapter, Baylor University, March 18, 1984, Waco, Texas.

"Future Trends in Data Processing," Invited talk to Chain Store Systems Ltd User Group, Chicago, June 20th, 1984.

"Topological Optimization of an Integrated Circuit/Packet-Switched Computer Network," Winter Simulation Conference 1984, Dallas, Texas.

"A Sizing and Timing Analysis of an Integrated Computer Network Simulator," WSC 1985, San Francisco, CA., December 1985.

"A Sensitivity Analysis of an Integrated Computer Network Simulator," WSC 1985, San Francisco, CA., December 1985.

"Routing as a Flow Control Strategy in an Integrated Circuit/Packet Switched Communications Network," WSC'86 Winter Simulation Conference, Washington, D.C., December 8, 1986.

"A Prototype Implementation of a Goal-Oriented Simulation Environment System," 4th International Symposium on Modelling and Simulation Methodology: Intelligent Environments and Goal-Directed Models, Tucson, Arizona, January 1987

"A Goal-Oriented Approach to Simulation," 1987 Eastern Simulation Conference, Orlando, Florida, April 6, 1987

"5-th Generation Simulation Environment," Computer Science and Engineering Seminar, SMU University, Dallas, Texas, February 1987.

"Reliability Design of a Distributed Control System for an Autonomous Underwater Vehicle," 5th International Symposium on Unmanned Untethered Submersible Technology, Merrimack, N.H., June 22-24, 1987.

"Are Computer Languages Obsolete?" IEEE 1988 International Conference on Computer Languages (ICCL), October 1988, Miami Beach, FLA.

"The Event Jumping Algorithm," Summer Computer Simulation Conference (SCSC 1991), July 1991, Baltimore, MD.

"Research at Texas A&M University in Distributed Systems," E-Systems, Garland Division, 6-28-93, Dallas, Texas.

"Research at Texas A&M University in Distributed Systems," E-Systems, Greenville Division, 6-28-93, Greenville, Texas.

"Network Intrusion and Security," E-Systems Technology Exchange Seminar (TES), July 28, 1993, Dallas, Texas.

"Challenges and Opportunities on the Information Superhighway," Key Note Address, E-Systems, February 8, 1994, St. Petersburg, Fla.

"Information Superhighways, Networks and Global Grid," Business and Technology Exchange Meeting (BTEM), 2-8-94, St. Petersburg, Fla.

"Research at Texas A&M University: Security and Simulation," E-Systems, ECI Division, 2-9-94, St. Petersburg, Fla.

B. Invited Lectures:

Computer Science State of the Art Seminar, "Large Scale Systems, Minis, and Micros", Randolph AFB, May 12, 1980.

Computer Science State of the Art Seminar, "Communications and Networking", Randolph AFB, May 13, 1980

Computer Science State of the Art Seminar, "Distributed Processing", Randolph AFB, May 13, 1980

Computer Science State of the Art Seminar, "Communications and Networking", Randolph AFB, May 14, 1980

Computer Science State of the Art Seminar, "Distributed Processing", Randolph AFB, May 14, 1980

Computer Science State of the Art Seminar, "Data Base Systems and Distributed Data Base Computers", Randolph AFB, May 15, 1980.

Computer Science State of the Art Seminar, "Programming Languages," Randolph AFB, May 16, 1980.

Computer Science State of the Art Seminar, "Performance, Measurement and Evaluations", Randolph AFB, May 16, 1980.

C. Seminars

Data Processing Institute, Canadian Federal Institute of Management, Ottawa, Ontario, Canada, December 1985.

- "Automation Tools: The State of the Art".
- "The New Role of Automators".

D. Lectures as ACM National Lecturer

Microprogramming and Microprocessors, Montgomery, Alabama, April 6, 1975

Microprogramming and Microprocessors, Omaha, Nebraska, April 9, 1975

Computer System, Kansas University, April 10, 1975

Telecommunications Network, Lawrence, Kansas, April 10, 1975

Minicomputers: Hardware, Software and Selection, Cal State of SD, SD, California, April 14, 1975

Microprogramming: Design, Modeling Programming and Uses, Louisiana Tech, Ruston, Louisiana, May 15, 1975

Minicomputers versus Microprocessors, Louisiana Tech Ruston, Louisiana, May 15, 1975

Minicomputers: Hardware, Software and Selection, University of Pittsburgh, Pittsburgh, Pennsylvania, May 20, 1975

Microprogramming and Microprocessors, University of Pittsburgh, Pittsburgh, Pennsylvania, May 20, 1975

Minicomputers and Computer Networks, Michigan State University Lansing, Michigan, May 21, 1975

Microprogramming: Application and Design, ADS, Pentagon, Washington, D.C., May 22, 1975

Telecommunication Networks, ADS, Pentagon, Washington, D.C., May 22, 1975

Computer System Modeling, Professional Chapter, Dallas, Texas, May 27, 1975

Microprogramming and Microprocessors, University of Wisconsin, Madison, Wisconsin, September 23, 1975

Minicomputers: Hardware, Software and Selection, Professional Chapter Bloomington, Illinois, September 25, 1975

Computer System Modeling Memory Management, University of California, Santa Barbara, California, October 13, 1975

Computer System Modeling, Professional Chapter, Vandenberg, California, October 13, 1975

Minicomputers, Microprogramming and Microcomputers, University of S. Mississippi Hattiesburg, Mississippi, October 13, 1975

Computer System Modeling and Performance Measurement, Univ. of Southwest Louisiana Lafayette, Louisiana, October 17, 1975

Microprogramming and Minicomputers, Rensselaer Polytechnic, November 10, 1975

Microcomputers and their Applications, Worcester Polytechnic, Worcester, Massachusetts, November 11, 1975

Minicomputer Networks, Kalamazoo Professional Chapter, Kalamazoo, Michigan, November 13, 1975

Computer System Modeling, Kansas State University, Manhattan, Kansas, November 14, 1975

Telecommunication Networks, University of Texas, Austin, Texas, November 18, 1975

Telecommunication Networks, NASA, Clear Lake, Austin, Texas, December 18, 1975

Microprogramming: Advantages/ Disadvantages, University Of Houston, January 29, 1976

Impact of Computer Architecture on Microprogramming, University of Connecticut, Storrs, Connecticut, February 16, 1976

Microprocessor Systems, Rochester, New York, February 17, 1976

Minicomputers - What Are They?, VA Polytechnic Inst., Blacksburg, Virginia, February 18, 1976

Microprogramming - Architectural Implications, William & Mary Williamsburg, Virginia, February 19, 1976

The Role of Microprocessors, Stevens Inst. of Tech., Hoboken, New Jersey, February 19, 1976

Microprogramming and Microprocessors, Baltimore, Maryland, February 24, 1976

Minicomputers: Hardware and Software, Florida Inst. of Tech. Melbourne, Florida, April 1, 1976

An Overview of Microprogramming, University of Florida, Gainesville, Florida, April 5, 1976

Minicomputers, University of Florida, Gainesville, Florida, April 5, 1976

Microprocessors and Microcomputers, University of Utah, Salt Lake City, Utah, May 4, 1976

Microprogramming - Hardware and Software Implications, Rocky Mountain Chapter, Denver, Colorado, May 6, 1976

Minicomputers and Microcomputers, USAF Academy, Colorado Springs, Co., May 7, 1976

Minicomputers: Hardware and Software, University of Nebraska, Omaha, Nebraska, November 17, 1976

Minicomputers and Microprocessors, North Dakota State, Fargo, North Dakota, November 18, 1976

Minicomputers: Software and Selection of Data Processors, Red River Valley Assoc., Fargo, North Dakota, November 18, 1976

Minicomputers and Microprogramming, Orange County Prof. Chapter of ACM, Anaheim, California, January 18, 1976

Minicomputers and their Relationship to Computing, Lake Arrowhead ACM, Harvey Mudd College, Claremont, California, January 19, 1977

Minicomputers in Teleprocessing and Communication, California University, San Diego, California, January 20, 1977

Minicomputers: What they are and what you can do with them., Calif. State University, Sacramento, California, January 24, 1977

Implications of a Computer Bus Architecture on Microprogramming, Colorado State University, Fort Collins, Colorado, January 25, 1977

An Overview of Minis, Colorado State University ACM Chapter, Fort Collins, Colorado, January 25, 1977

Microprogramming, Boulder Professional ACM Chapter, Boulder, Colorado, January 26, 1977

The Evolution of Minis, Wichita State University, Wichita, Kansas, January 27, 1977

Microprogramming: A Tutorial, Wichita State University, Wichita, Kansas, January 28, 1977

Minicomputers and the World around us, North Carolina State Chapter, Raleigh, North Carolina, March 3, 1977

Microprogramming and its relationship to Microprocessors, Central Carolina Professional, Raleigh, North Carolina, March 3, 1977

Minicomputer: Hardware, Software, and Selection, University of Tennessee, Chattanooga, Tennessee, March 4, 1977

Computer Networks, NYU-Courant Institute, New York City, New York, March 7, 1977

Performance, Measurement, and Evaluation, Brooklyn Polytechnic, Institute, March 8, 1977

Everything you always wanted to know about minis - but were afraid to ask, Joint meeting of ACM Chapter of Union College, SUNY at Albany, RPI, Schenectady, New York, March 9, 1977

Microcomputers Explained, Southwestern Oklahoma University, Weatherford, Oklahoma, March 10, 1977

The World of Microcomputers, New Mexico Inst. of Technology, Socorra, New Mexico, March 11, 1977

Microprogramming and its Relationship to Microcomputers , Lamar Univ. Student Chapter, Beaumont, Texas, March 14, 1977

Minicomputers: Hardware, Software, and Selection, Greater Mobile, Alabama, Professional Chapter, Mobile, Alabama, March 15, 1977

Minicomputers - what are they all about?, Florida Technical University, Orlando, Florida, March 17, 1977

Performance, Measurement and Evaluation, Mississippi State University, Columbus, Mississippi, March 8, 1978

Minis and Micros in the Real World, Northwest Florida ACM (Florida State University), Tallahassee, Florida, March 9, 1978

Telecommunications and Computer Networks, Miami Professional Chapter Miami, Florida, March 16, 1978

XII. COURSES & MATERIAL TAUGHT:

Computer Programming for Engineers

Compiler Construction

Programming for Digital Computers

Computer Languages

Logic of Information Processing

Information Processing Systems

Data Processing Management

Computer Software Systems

Time Sharing Computer System

Computer Language for Simulation

Information Storage and Retrieval

Advanced Assembly Language Techniques

Artificial Intelligence

Computer Language Design

Advanced Computer Structures

Computer Organization
Discrete Structures
Data Structures
Systems Programming
Programming Methodology
Computer Architecture
Database Systems
Software Engineering
Simulation
Computer Communications and Networks
Computing Science Seminar
Computer Graphics
Advanced Topics in

- Computer Graphics
- Operating Systems
- Measurement and Evaluation
- Networks
- Computer Performance, Measurement and Evaluation
- Resilient Computer Systems
- Advanced Simulation
- Artificial Intelligence
- Real Time Systems
- TCP/IP Network Security
- CPME of Advanced Networks
- Advanced Networking and Security
- Advanced Operating Systems
- Networks and Distributed Computing

XIII. SCHOOL SERVICES:

Honors Program Committee Member 1977 - 1980.

Member of Engineering Faculty Advisory Council, 1971 - 1975.

ACM Faculty Advisor to A&M Student Chapter 1969 - 1976.

Computing Science Major (graduate student) Advisor.

Student Faculty Advisor to Memorial Student Center, TAMU, 1970 - 1974.

Graduate Student Faculty, Computing Science Division, Industrial Engineering Department, TAMU, 1974 - Present.

Chairman - Graduate Student Admission Committee, Computing Science Division, Industrial Engineering Department, TAMU 1974 - 1976.

Chairman - Search Committee for Computing Science Division Head, Computing Science Division, Industrial Engineering Department, TAMU, 1975.

Member - Minority Assistance Committee, College of Engineering, TAMU, 1974 - 1975.

Member - EFAC Subcommittee on Minority Participation, College of Engineering, TAMU, 1974.

Chairman - Graduate Admissions Policy Committee, Industrial Engineering Department, TAMU, 1974.

Honors Program Committee, University, member, 1977 - 1980.

Member - Promotions committee, Industrial Engineering Department, TAMU, 1980 - 1981.

Member - Departmental Self-Study Committee, Industrial Engineering Department, TAMU, 1981 - 1982.

Promotions Committee, Industrial Engineering Department, member, 1980 - 1983.

Tenure Committee, Industrial Engineering Department, member, 1980 - 1983.

Graduate Instruction Committee, College of Engineering, member, 1980 - 1982.

Research Computer Committee, College of Engineering, member, 1982 - 1983.

Research and Academic Computing Science Advisory Committee, College of Engineering, member, 1982 - 1983.

Search Committee for CS Department Head, member, 1982 - 1983.

Computer Graphics Committee, College of Engineering, member, 1982 - 1983.

Computer Aided Engineering Committee, College of Engineering, member, 1982 - 1983.

Computer Engineering Committee, College of Engineering, member, 1982 - 1983.

Research Computing Users Committee, TEES, member, 1982 - 1983.

Computer Requirements for C.S., Industrial Engineering Department, member, 1982 - 1983.

Faculty Recruiting Committee, Department of CS, chairman, 1983 - 1988.

Graduate Program Committee, Department of CS, member, 1983 - 1986, 1988.

Search Advisory Committee for Chair in Microelectronics, College of Engineering, member, 1984 - 1988.

Research Program Committee, Department of CS, member, 1984 - 1987.

Instructional Program Committee, Department of CS, member, 1984 - 1986.

Promotion and Tenure Committee, Department of CS, chairman, 1984 - 1988.

Promotion and Tenure Committee, Department of CS, member, 1988-89.

Promotion and Tenure Committee, College of Engineering, member, 1985.

College of Engr. Search Committee for I.En. Department Head, member, 1985 - 1986.
Manufacturing Systems Initiative, College of Engineering, member, 1985 - 1986.
College of Engineering Manufacturing Committee, College of Engineering, member, 1985 - 1986.
Faculty Honors and Recognition Committee, College of Engineering, member, 1986 - 1987.
Laboratory Equipment Committee, Department of CS, member, 1986 - 1987.
Research Development Committee, Department of CS, Chairman, 1986 - 1988.
College of Engr., Search Committee for CS Department Head, member, 1987 - 1988.
Graduate Advisory Committee, Department of CS, member, 1986,1989.
Graduate Policy Review Committee, Department of CS, chairman, 1988 - 1989.
CS/EE Relations Committee, Department of CS, member, 1989-90.
Faculty Honors and Awards Committee, College of Engineering, member, 1988-89.
Chairman, FE Subcommittee, CS Department, Fall 90.
Promotion and Tenure Committee, Department of CS, chairman, 1989-91.
College of Engineering Graduate Instruction Committee, member, 1989-91.
Graduate Advisory Committee, Department of Computer Science, Chairman, 1989-91.
Faculty Advisor to the Graduate Student Committee, Department of CS, 1989-90.
Executive Advisory Committee, Department of CS, member, 1990-91.
Faculty Awards Committee, Department of CS, chairman, 1990-91.
Member, Advisory Committee, CS Department, 1991-92.
Member, Computing Advisory and Instructional Lab Committee, CS Department, 1991-92.
Promotion and Tenure Committee, Dept. of CS, Chairman, 1991-92.
Area Advisor, Computer Systems & Architecture Area, CS Department, 1992-93-94.
Chairman, Promotion & Tenure Committee, CS Department, 1993-94.
Member, College of Engineering Tenure and Promotion Advisory Committee, College of Engineering, 1992-94.
Member, Fault Tolerant Computer Laboratory, CS Department, 1992-93-94.
Member, Graduate Advisory Committee, CS Department, 1993-94.
Chairman, Graduate Advisory Committee, CS Department, 1994-95.
Member, Advisory Committee, CS Department, 1994-95.
Member, Graduate Instruction Committee, College of Engineering, 1994-95.
Member, Undergraduate Curriculum Committee, 1995-96.
Colloquium Committee, Department of CS, member, 1995 - 1998.

Graduate Student Recruiting Committee, Department of CS, member, 1996 – 1998.
Chairman, Graduate Advisory Committee, Department of CS, 1996-99.
Member, Faculty and Staff Awards Committee, Department of CS, 1998-2000.
Member, Graduate Admissions and Awards Committee, Department of CS, 1998-99, 2002
Co-Chair, New Academic Programs Committee, Department of CS, 1998-2003.
Member, Information Technological Development Advisory Committee, CS Department, 1999-2000.
Member, Graduate Advisory Committee, CS Department, 1999-2001.
Member, Computing Services Advisory Committee, CS Department, 2000-2003.
Member, Distance Education Committee, CS Department, 2003.

XIV. AWARDS:

Award for Outstanding Achievement in Teaching, College of Engineering Texas A&M University, February 1974.
1974 Texas A&M University Distinguished Teaching Award, April 1974.
Certificate of Appreciation for Service to IEEE/CS, 1983.
Certificate of Appreciation for Service to the Society for Computer Simulation, 1988.
Distinguished Service as General Chairman, 1984 Winter Simulation Conference.
E-Systems Professorship in Computer Science, January 1993.
Graduate Faculty Teaching Excellence Award, Computer Science Graduate Students Association, 2000.

XV. FACULTY ADVISOR ACTIVITIES

A. *Ph.D. Graduates (and date)*

Darrell Ward (August 1973) "Structured Programming in Computer Assisted Instruction"
Dennis Dance (August 1973) "Information Retrieval System Utilizing Data Compression in File and Directory Structures"
Ronnie Ward (August 1973) "Detection of Parallel Processable Code in Computer Programs"
Ted Cary (August 1973) "Interactive Optimization of a Mathematical Model for Performance of a Time-Shared Computer System"
Mary Ann Herndon (August 1973) "Redundancy Detection and Editing in Prose Using Heuristics Obtained from Verbal Learning Experiments"

James Boyle (December 1973) "Performance of the Working Set Model of Program Behavior Under Varying Job Mixes"

Robert Hedges (May 1974) "An Analysis of Locality in Paged Computer Memory Hierarchies"

Edmond McCarthy (May 1974) "Processor Scheduling Performance Using Explicit Priorities in a TS Experiment"

Charles Schroeder (August 1974) "A Computer Model of Heat and Water Movement in Soils"

Mac McKinney (August 1974) "A Directed Search Algorithm for the Canonical Minimization of a Boolean Function"

Owen Daniel (August 1974) "A Class of Finite Data Graphs that have Relocatable Realizations in a Finite Memory Space"

Harold Livings (May 1975) "Self-Adaptive Teleprocessing Network Design"

Fred Menkello (May 1975) "Axiomatic Theory for Graphics Operators"

Thomas Reeves (May 1975) "A Multiple Subsystem Simulator of Processor Scheduling"

Don Warner (December 1975) "Closed and Open Queuing Network Models of Programmed Computer Systems"

David Burris (May 1976) "Dynamic Memory Management Algorithms"

Philip Gehring (August 1976) "Estimation and Management of Software Development: A Quantitative Analysis". Philip Gehring was awarded the best IEEE Computer Society student paper award at the Second Software Engineering Conference held in San Francisco, California (October 13-15, 1976). The paper, abstracted from his dissertation, was entitled "Improvements to Software Engineering." The papers under consideration for this award were judged by Harlan Mills (IBM), C.B. Ramamoorthy (US-Berkley), and Davis Hsiao (Ohio State).

Tom Nute (August 77) "Selection of the Working Set Window Size"

Charles Neblock (August 1977) "Loop-free Adaptive Routing Procedures for Distributed Computer Communications Networks"

Pedro Sanabria (August 1977) "Design and Verification of Computer Performance Measurement Evaluation Analysis Technique"

Larry Satterwhite (December 1977) "Dynamic Job Scheduling in a Distributed Computer Network with Functionally Similar Nodes"

Bill Greene (May 1978) "Optimal Routing Within Large Scale Distributed Communications Networks"

Gerald Adkins (December 1978) "Event Driven Sampling in Feedback Queuing Systems"

Murat Tanik (December 1978) "A Graph Model for Deadlock Prevention"

Carroll A. Clabaugh (May 1979) "Analysis of Flow Behavior Within an Integrated Computer-Communication Network"

Wayne T. Graybeal (May 1979) "A Statistical Methodology for Constructing Synthetic Test Workloads"

Camille C. Price (May 1979) "Dynamic Multiprocessor Scheduling Using Network Flow Algorithms"

Mark Kiemele (May 1984) "Adaptive Topological Configuration of an Integrated Circuit/Packet-Switched Computer Network"

Ken Hebert (May 1986) "Evaluation of Routing as a Flow Control Strategy within an Integrated Circuit/Packet Switched Communications Network"

David Umphress (May 1987)

Peter Schiavi (December 1990) "Horizontal Fault Tolerance in a Fully Distributed Loosely Coupled Environment."

David Safford (December 1990) "FTMP: A Protocol for Operating System Fault Tolerance in a Fully Distributed, Loosely Coupled Environment."

David Cook (August 1991) "Accelerated Time Discrete Event Simulation in a Distributed Environment."

Robert Diersing (December 1991) "An Analysis of the Low-Earth-Orbit Communication Environment."

Michael Vidlak (December 1993) "User-Object Interfaces in an Object-Oriented Discrete Event Simulation Environment."

James Wall (December 1993) "Multilevel Abstraction of Discrete Model in an Interactive Object-Oriented Simulation Environment."

Greg White (August 1995) "Cooperating Security Managers: Intrusion Detection in a Distributed Environment."

Eric Fisch (Apr. 1996) "Intrusive Damage Control and Assessment Techniques."

John Hamilton, Jr. (Jun. 1996) "Multilevel Simulation of Discrete Network Models."

Shridar Muppidi (December 1996) "Performance Instrumentation in Distributed Systems."

Ganesha Beedubail (May 1997) "An Architecture for Object Replication in Distributed Systems."

Anil Gurijala (August 1997) "Maintaining Consistency in Mobile Systems."

David Nash (August 1997) "Functional Continuity as a Predictor of Performance in Wavelet-based Image Compression Schemes"

Sunil Santha (December 1997) "A Technique for Distributed Systems Performance Evaluation and Control."

Anish Karmarkar (December 1997) "A Framework for Communication Support in Object-Oriented Distributed Systems."

Charles Dunn, III (May 1998) "A Fault-counting Software Reliability Model based on a Continuous-time Markov Chain."

Bernard Jansen (May 99) "A Software Agent for Performance Enhancement of an Information Retrieval Engine."

John R. Surdu (May 2000) "Connecting Simulation to the Mission Operational Environment"
Paul Brutch (May 2001) "Evaluation and Analysis System for Intranet Access Control."
Tasneem Gandapur Brutch (May 2001) "Mutual Authentication, Confidentiality, and Key Management in Mobile Wireless Systems."
Curtis A. Carver, Jr. (May 2001) "Adaptive Agent-Based Intrusion Response"
Jeffrey Humphries (May 2001) "Attack Resistant Mobile Agents for Intrusion Detection Systems"
John Hill (May 2001) "Anticipatory Planning"
Daniel J. Ragsdale (June 2002) "Adaptive Agent Based Intrusion Detection"
Michael Kouadio (December 2003) " Accounting Architecture and Asymmetric Cost Allocation in Differentiated Service Networks "
Talal Alkharobi (August 2004) "Secret Sharing using Neural Networks"
Bo Sun (June 2004) "Intrusion Detection on Mobile Ad-hoc Networks"
Bin Lu (August 2005) "Quality of Service Security in Ad-Hoc Mobile Networks"
Jian Chen (May 2005) "Efficient Multi-resolution Data Dissemination in Wireless Sensor Networks"
Jianfeng Cai (August 2005) "Truthful Resource Management in Wireless Ad Hoc Networks"

B. Ph.D. Candidates (and date admitted)

Willis Marti (1995) "Distributed Systems Performance Management and Measurement"
Jim Vaglia (2003) "Realistic Crowd Behaviors for Use in Simulation and Training"
Jeff Bourne (2003) "Strengthening Steganography and Addressing the Known Cover Attack"
Peter H. Yu (2005)

C. Masters Graduates (and date graduated) – Partial List

James Adams_(May 1971) "A General Purpose Micro-Programmable Emulator"
Alvin Nieder_(December 1971) "A Fast Indexing Algorithm for Sparse Matrices"
Byron Griffith_(August 1973) "A Program Evaluation of On-Line File Organization Methods"
Gary Page_(August 1972) "MOTION - An Interactive Graphics Program for Developing Frames of Motion"
Alan Wells_(August 1972) "Computer Solution of SU(3) Crossing Matrices for the Kroenecker Product 8×10 "

Iraj Vojdani_(December 1975) "Minicomputer Intercommunication to Facilitate X-ray Crystallographic Data Collection"

Thomas Beatty_(August 1975) "A Pipeline Scheduling Model"

John Noe_(December 1978) "An Adaptation of the MNR Algorithm for Canonical Minimization of Multiple Switching Functions"

... *Additional information about Masters graduates from 1978-1991 available on request ...*

Stephen J. Perkins_(December 1991) "Graph Representation Issues for Pure and Hybrid Dataflow Architectures."

Arun C. Madhwesh_(December 1991) "Development of Simulation Model for Local Area Networks."

Sanjay Deo_(December 1992) "A Secure Communication Protocol Based on Public-key Cryptography for Distributed Systems."

Garesh Jayadevan_(May 1994) "A Generic Monitoring Tool for DCE."

Mruthyunyana Navali_(May 1994) "Characterizing an ATM Low Switch under Bursty Traffic."

K. Perkins_(Aug 1995) "Scheduling on the MASPARD SIMD Parallel Computer"

P. Suravanapu_(Aug 1995) "Characterization of Network Traffic on a Local Area Network"

P. Wheatley_(May 1996) "Expanding the Current 32 Bit IP Addressing to 64+ Bits with `Minor' Disruption of Current Hardware and Software."

N. Abrol_(May 1996) "Security Vulnerabilities in the User Network Inference (UNI 3.1) Signaling Protocol."

H. Morsy_(December 1997) "A New generation of Load Sharing Algorithms: the Semiadaptive Load Sharing Algorithm."

S. Asif Mohammed_(Dec 1998) "Performance Comparison of Native ATM vs. IP over ATM."

Tamara Collins (August 2000) "An Efficient Public Key Infrastructure Revocation Mechanism"

Charles Cropper (August 2000) "Risk Assessment of Selected Commercial Firewall Software"

Gaurav Desai (December 2000) "Web Copy"

Ashar Khan (December 2000) "XML/ Security"

Sandra Sanchez (December 2000) "An Intelligent Filter for Educational Virtual Laboratory"

Timothy Thompson (December 2000) " An Efficient Secure Electronic Payment System "

Vinay Keerthy (August 2001) "Transport Cryptographic File System"

Neeraj Khandelwal (August 2001) "A Website Mirroring and Update Tool"

Prateek Jetly (August 2001) "Engineering Secure Software"

Raguram Kamakshisundaram (August 2001) "Distinguishing Congestion and Error Losses: An ECN/ELN Based Scheme"

Kavitha Rao Annamaneni (May 2002) "Secured Anycasting at Application Layer"

Lakshmi Priya Kothandaraman (May 2002) "A Public Key Infrastructure Implementation Mechanism"

Vipin Kumar (May 2002) "Internet Routing Infrastructures"

Ananda Sankaran (May 2002) "Fault Tolerant Total Order Multicast to Multiple Groups"

Nithin Sujir (May 2002) "Compression Techniques: A Comparison Based Study"

Sheetal Reddy Kunta (August 2002) "Pricing the Internet"

Samer El-Haj-Mahmoud (August 2002) "A Unix Centralized Log Analyzer Based on To / From Access Matrix"

Mitrabhanu Mohanty (August 2002) "Power Management for Laptops Running Linux: Using Linear Regression to Predict Battery Usage"

Parth Pandya (August 2002) "Web Proxy Cache Simulator"

Bharath Rajagopalan (August 2002) "NSCompare: A Graphical Utility to Compare Ad-Hoc Routing Protocols From NS Simulations"

Dharshan Rangewidha (August 2002) "Sem Ckpt: A Tool to Checkpoint Parallel Processes Synchronizing Via IPC Semaphores"

Hemanth Sundaram (August 2002) "Exactly-Once Transaction with Primary-backup Replications: A scheme for Providing End to End Reliability for Three-Tier Architectures"

Kasarabada Vijayaditya (August 2002) "Totally-Ordered Reliable Multicasting Using a Distributed Messaging Bus with Object Representation"

Sunil Pandita (December 2002) "Dynamic Creation and Management of Absolutely Hidden Partitions"

Sameer Deshpande (May 2003) "Fault Tolerance and Consensus in Group Communication"

Mona Bagde (May 2003) "Generic Algorithm based Optimization of Location Update Strategies in Cellular Networks"

Kumar Akshit (May 2003) "Kernel Level Process Migration"

Narayanan Subramanian (May 2003) "TCP Lite: A light weight version of TCP"

Vinoid Reddy (Thesis; 2003) "Fair Capacity Sharing in Multiple Aperiodic Servers"

Rishit Shah (2003) "Peer-to-Peer File Sharing Application"

Srinivas Nagarajan (Aug. 2003) "Object Migration Library"

Deepti Mikkilineni (Aug. 2003) "Locating User Using 802.11 WLAN"

XVI. ADDITIONAL INFORMATION:

Generalized Information Retrieval Systems for USMC, 1968 - 1969.

Development of Assignment and Transportation Operation Research Models for U.S. Navy, 1967 - 1968.

Development and Design of Computer System Resident Routines, University of California, San Diego, 1963 - 1966.

NSF Computing Short Courses, TAMU, Faculty Development Program (Winter 1970), Texas Regional Academic Computing Experiment.

Taught Graduate Level Courses in Computing Science, Texas A&M University, Extension Program, San Antonio College, San Antonio, Texas 1971 - 1972.

Taught Series of Short Summer Courses, Texas A&M University Extension Service (Minicomputers), Summer 1974.

Taught a Short Summer Course, UC Extension - Santa Cruz (Minicomputers), Santa Cruz, California, Summer 1973, Summer 1974.

Taught a Short Summer Course, Mesa College - Colorado (Tele-Communications) Summer, 1975.

Taught graduate/undergraduate courses, Information and Computer Science, University of Hawaii, Summer 1976, Summer 1977.

Listed in Who's Who in Education.

Listed in Who's Who in Technology Today.

Listed in Personalities of the South.

Listed in Who's Who in Computers and Data Processing.

Listed in American Men and Women of Science.

Listed in Who's Who in South and Southwest.

Listed in Men of Achievement.

Listed in American Men and Women of Science, 1982.

Listed in Who's Who of U.S. Executives, 1989.

ACM National Lecturer, 1974 - 1978.

DPMA National Lecturer, 1976 - 1982.

Committee member, ACM National Lectureship Program, 1976 - 77 - 78.

Committee member, Education Committee, Continuing Education Subcommittee, IEEE - CS 1977.

Ocean Technology Conference, Program Committee Member, 1977 - 1978.

Participant, 25th National Security Forum, Maxwell AFB, May 1978.

Editor, *Modelling*, Technical Committee on Simulation, IEEE/CS, 1978 - 1979.

Vice Chairman, Technical Committee on Simulation, IEEE, 1979 - 1980.

Chairman, Technical Committee on Simulation, IEEE/CS, 1981.

Taught short courses, State of the Art Computer Seminars, Randolph AFB, Texas, May 12-16, 1980.

Development and Coordination of short course for TAMU entitled "Data Communications and Networking", February 1982.

Executive Committee Member, TC on Simulation (IEEE/CS), 1983 - 85.

Taught and developed short courses for IBM - Quality Institute (1984 - 88):

- Design of Fault Tolerant Systems

Taught and developed short courses for IBM (1981 - 88) on such topics as:

- Computer Communication and Networking
- Computer Science Fundamentals
- RAS I, II, III (Reliability, Availability, and Serviceability)
- Advanced Operating Systems
- Computer Systems Reliability I, II, III
- System Reliability Overview
- Mechanical RAS
- System Reliability Theory
- Hardware Reliability Theory
- Software Reliability Theory

Texas Education Agency, Member, Selection Panel for National Science Scholars Program (NSSP), Texas Nominating Committee, Austin, TX, October 1992.

XVII. SUMMARY

A. *Publications Summary*

21 - Books, Book Chapters, and Contributions to books.

47 - Journal Papers

157 - Conference Papers

47 - Reports

7 - Submitted Papers

B. Research Summary

70 – Research Proposals

21 – Research Projects

- 13 External
- 8 Internal

C. Faculty Advisor Summary

313 Graduated Students

- 57 - Ph.D.
- 256 - Masters

22 Current Students

- 4 – Ph.D. Candidates
- 8 – Ph.D. Students
- 10 – Masters Students

RICHARDSON, III
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Exhibit P-2

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Project Editor: Mary Ann Jones

Technical Editors: David Rygmyr, Jeff Hirsch, Mary DeJong, Dail Magee, Jr.

Manuscript Editor: Pamela Beason

Copy Editor: Alice Copp Smith



ticular font being measured. In monospace fonts, characters have a constant width; in proportional fonts, characters have varying widths, and so measurements of the number of characters per inch must be averaged. *See also* monospace font, pitch, proportional font.

characters per second Abbreviated cps. A measure of the speed of a nonlaser printer, such as a dot-matrix or an ink-jet printer, or a measure of the rate at which a device, such as a disk drive, can transfer data. In serial communications, the speed of a modem in bits per second can generally be divided by 10 for a rough determination of the number of characters per second transmitted.

character string Often simply called a string. A set of characters treated as a unit and interpreted by a computer as text rather than numbers. A character string can contain any sequence of elements from a given character set, such as letters, numbers, control characters, and extended ASCII characters. *See also* ASCII, control character, extended ASCII.

character style Any attribute, such as boldface, italic, underline, or small caps, applied to a character. Depending on the operating system or program considered, the range of character styles of text might or might not include the font, which refers to the design of a group of characters in a given size. *See also* font family.

charge A property of subatomic particles, which can have either a negative charge or a positive charge. In electronics, a charge consists of either an excess of electrons (a negative charge) or a deficiency of electrons (a positive charge). The unit of charge is the coulomb, which corresponds to 6.28×10^{18} electrons.

charge-coupled device Abbreviated CCD. A device in which individual semiconductor components are connected so that the electrical charge at the output of one device provides the input to the next. The light-detecting component of many video cameras is a CCD.

chart A graphic or diagram that displays data or the relationships between sets of data in pictorial rather than numeric form.

chassis A metal frame on which electronic components such as printed circuit boards, fans, and

power supplies are mounted.

check bit One or more bits that are added to a data message at its origin and scrutinized by the receiving process to determine whether an error has occurred during transmission; in the simplest case, a parity bit. *See also* data integrity, parity bit.

check box A type of interactive control often found in graphical user interfaces. Check boxes are used to enable or disable one or more features or options from a set. When an option is selected, an X or a check mark appears in the box. *Compare* radio button; *see also* control.

check digit A digit added to an account number or other identifying key value and then recomputed when the number is used. This process determines whether an error has occurred in entering the number. *See also* checksum.

checkpoint A processing juncture at which the normal operation of a program or system is momentarily suspended in order to determine its environmental status. The term *checkpoint* is also used to describe a file containing information that describes the state of the system (the environment) at a particular time.

checksum A calculated value that is used to test data integrity. Errors can occur when data is transmitted or when it is written to disk. One means of detecting such errors is use of a checksum, a value calculated for a given chunk of data by sequentially combining all the bytes of data with a series of arithmetic or logical operations. After the data is transmitted or stored, a new checksum can be calculated (using the possibly faulty transmitted or stored data) and compared with the original one. If the checksums don't match, an error occurred and the data should be transmitted or stored again. If they do match, the transmission or storage was probably error-free. Checksums are a simple validation mechanism; they cannot detect all errors, and they cannot be used to correct erroneous data. *See also* error-correction code.

chiclet keyboard A slang term for a type of micro-computer keyboard. The name was derived from the chewing gum because the keys are small and square, resembling the gum pieces. This type of keyboard was used on the first version of IBM PC.