

RÉSUMÉ

FROST, VICTOR S.

Home Address: 1313 Raintree Place, Lawrence, Kansas (913) 841-3244

Citizenship: U.S.A.

EDUCATION

B.S.E.E., University of Kansas, 1977

M.S.E.E., University of Kansas, 1978, Honors

Ph.D.E.E., University of Kansas, 1982, Honors

AREAS OF SPECIALIZATION

Communication Systems and Networks

PROFESSIONAL EXPERIENCE

- 1997- Present Dan F. Servey Distinguished Professor EECS, University of Kansas
- 2011- Present Associate Chair for Graduate Studies EECS, University of Kansas
- Feb 2009 –
Feb 2011 Program Director at the National Science Foundation in CISE/CNS
- 2000 - 2008 Director, Information and Telecommunications Technology Center, ITTC was one of the largest research centers at the University of Kansas, with approximately 150 faculty, staff, and students, and external expenditures averaging \$5.4 Million/year from FY1998-FY2007.
- 1997 - 1999 Acting Director, Information and Telecommunications Technology Center
- Spring 2007 Sabbatical - Visiting Erskine Fellow
University of Canterbury, Christchurch, New Zealand
- 1999 – 2000 Sabbatical
Technical Planning and Integration, Sprint Corp. Overland Park, Kansas
- 1996- 1997 Executive Director for Research
Information and Telecommunications Technology Center

- 1992 - 1997 Professor, Electrical Engineering and Computer Science Department, University of Kansas
- 1987 - 1996 Director, Telecommunications and Information Sciences Laboratory (TISL), University of Kansas
- 1986 - 1992 Associate Professor, Electrical and Computer Engineering Department, University of Kansas
- 1986 - 1987 Associate Director, Telecommunications and Information Sciences Laboratory (TISL), University of Kansas
- 1982 - 1986 Assistant Professor, Electrical Engineering Department, University of Kansas
- Summer 1985 Resident visiting member of the technical staff at AT&T Information Systems Laboratory, Denver, Colorado. Performed simulation and measurement studies of local area networks.
- Summer 1983 United States Air Force Summer Faculty Fellow at Rome Air Development Center, Communications Division, Rome, New York. Research related to the analysis and simulation of spread-spectrum communication systems in jamming and intercept environments.
- 1978 - 1982 Project Engineer at the University of Kansas Remote Sensing Laboratory. Responsibilities included proposal preparation, direction of graduate and undergraduate research assistants, and reporting to contracting agencies. The research was aimed at determining the stochastic nature of radar images, evaluating the quality of such images, and developing digital processing techniques for radar data, e.g., enhancement and edge detection.
- 1976 - 1978 Research Engineer at the University of Kansas Remote Sensing Laboratory. Conducted research in the areas of radar image simulation and system modeling.
- July - Dec. 1981 Visiting Scientist at the German Aerospace Research Establishment (DFVLR) Institute for High Frequency, Oberpfaffenhofen, West Germany. Participated in an International Synthetic Aperture Radar (SAR) experiment. Performed an information theory analysis of SAR images. Developed and implemented image processing algorithms for SAR imagery.
- 1979 - 1981 President of ST*AR Corporation. Duties included proposal preparation, supervision of employees, negotiating with contracting agencies, and budgeting.

HONORS

Fellow IEEE-1998

National Science Foundation Presidential Young Investigator Award, 1984

2012 H.O.P.E. Award Finalist (Honor for an Outstanding Progressive Educator -- recognizes outstanding teaching and concern for students and is the only honor for teaching excellence given exclusively by seniors on the KU Lawrence campus through a ballot-and-interview process.)

Visiting Erskine Fellow, University of Canterbury, Christchurch, New Zealand, Spring 2007

Bellows Scholar for 2008 from the University of Kansas School of Engineering

Bellows Scholar for 2005 from the University of Kansas School of Engineering

Miller Scholar for 2002 from the University of Kansas School of Engineering

Included in the 2002 Kansas City Star "Tech 50" list, June 25, 2002

Included in the 2000 Kansas City Star "Tech 50" list, June 13, 2000

Elected 2002 member of the European Academy of Science

"for an outstanding and lasting contribution to communications networking and computer science education"

The 1991 Miller Professional Development Award for Distinguished Service to Engineering from the University of Kansas School of Engineering

The 1986 Miller Professional Development Award for Distinguished Service to Engineering Research from the University of Kansas School of Engineering

Society of Automotive Engineers Ralph R. Teetor Educational Award, 1984

Honors Undergraduate Research Grant from the University of Kansas, Summer 1976

PROFESSIONAL ACTIVITIES

Elected Positions

Elected to the IEEE Communications Society Board of Governors as a Member at Large 2008-2011

Chairman, Kansas City Section of the IEEE Communications Society, June 1991 - Dec. 1992

Chairman of the IEEE Communications Society Computer-Aided Modeling of Communications Systems Subcommittee, 1990 - 1992

Vice Chairman of the IEEE Communications Society Computer-Aided Modeling of Communications Systems Subcommittee, 1988-1990

Secretary of the IEEE Communications Society Computer-Aided Modeling of Communications Systems Subcommittee, 1986-1988

Editorships

Journals

- Associate Editor ACM Transactions on Simulation and Modeling of Computer Systems 1996-1997 and 2013-present
- Area Editor for Communications Simulation for ACM Transactions on Simulation and Modeling of Computer Systems 1997 – 2013
- Associate Editor IEEE Communications Letters 1996 - 2000
- Guest Editor for IEEE Communications Magazine, Feature Topic on "Computer-aided Modeling and Simulation for Communications Networks," March 1994
- Guest Editor for IEEE Journal on Selected Areas in Communications, "ATM LANs: Implementation and Experiences with an Emerging Technology," (with Jack Brassil, Ian Leslie, and Bryan Lyles) May 1995.
- Guest Editor for IEEE Communications Magazine, Feature Topic on "Performance Experiences with Wide-Area High Speed Networks," August 1997 (with Donald L. Endicott Jr)

Books

- Technical Editor for "ATM for Dummies" Cathy Gadecki and Christine Heckart, IDG Books Worldwide, 1997

Selected Conference, Workshop, Transactions Activities

- Co-organizer of the Second IEEE Communications Society Workshop on Computer-Aided Modeling, Analysis and Design of Communication Links and Networks (CAMAD '88), The University of Massachusetts, Amherst, Massachusetts, October 1988
- Co-Organizer for the Silicon Prairie Technology Association Symposium on Industry/University Collaboration 1989
- Session Organizer and Session Chairman for IEEE International Communications Conference, ICC '89, June 1989
- Session Organizer and Session Chairman for IEEE International Conference on Systems Engineering, August 1989
- Member of Technical Program Committee for IEEE Global Communications Conference, Globecom '90
- Member of Organizing Committee for the Fourth IEEE Communications Society Workshop on Computer-Aided Modeling, Analysis, And Design Of Communication Links And Networks (CAMAD '92), Sept. - Oct. 1992
- Session Organizer and Session Chairman at IEEE Global Communications Conference, Globecom '92
- Member of the Technical Program Committee for IEEE INFOCOM '92
- Member of the Technical Program Committee for IEEE INFOCOM '93
- Member of the Technical Program Committee for IEEE INFOCOM '94
- Session Chairman for IEEE INFOCOM '90
- Session Chairman for IEEE INFOCOM '94
- Session Organizer and Session Chairman at IEEE Global Communications Conference, Globecom '93
- Technical Program Co-Chair (with Bhaskar Sengupta, NEC USA) for the Fifth IEEE International Workshop On Computer-Aided Modeling, Analysis, And Design Of

Communication Links And Networks (CAMAD '94), Princeton, New Jersey, April 24 - 27, 1994

Session Moderator of the University of Kansas School of Business Stakeholders Biannual Symposium on Telecommunications, 1990-1993

Member of the Technical Program Committee for the IEEE Symposium on Planning and Design of Broadband Networks, Montebello, Quebec, Canada, Oct. 21-23, 1994

Session Chairman for 18th Biennial Symposium on Communications, Queen's University, Kinston, Ontario, Canada, June 4, 1996

Session Chairman for IEEE ICC'96

Co-Organizer (with Donald L. Endicott, Jr) 1996 DARPA Workshop on Wide-Area ATM Performance, Lawrence, Kansas June 19-20, 1996

Member of the Technical Program Committee for IEEE Symposium on Planning and Design of Broadband Networks, Montebello, Quebec, Canada, Oct. 17-20 1996

Organizer (with William Edwards, Tim Kelley, Frank DeNap) Sprint Applied Research Partners Advanced Networking Symposium, March 18-19, 1997, Nichols Hall, University of Kansas, Lawrence, Kansas

Organizer (with William Edwards, and Rick Lett) Second Annual Sprint Applied Research Partners Advanced Networking Symposium, March 19-20, 1998, Nichols Hall, University of Kansas, Lawrence, Kansas

Organizer (with Tom Davis, Rick Lett, Mir Islam) Third Annual Sprint Research Symposium, March 8-9, 2000, Nichols Hall, University of Kansas, Lawrence, Kansas

Member of the program committee for the First IEEE Workshop on Disaster Recovery Networks, June 24, 2002, Hilton New York, New York City

Panel Chair at the First IEEE Workshop on Disaster Recovery Networks, June 24, 2002, Hilton New York, New York City

Member of the Technical Program Committee for the IEEE Internet Performance Symposium 2002

Member of the Technical Program Committee, 2003 IEEE Workshop on IP Operations and Management

Session Chairman, 2003 IEEE Workshop on IP Operations and Management

Member of the IEEE Transactions on Networking Inter-Society Steering Committee 2003-2010 (Chairman 2005-2006, 2008-2009)

Member of the Technical Program Committee 19th IEEE International Conference on Network Protocols, 2011

Member of the organizing committee for the Workshop on Future Heterogeneous Networks, Mountain View, Cal. March 24-25 2011

Tutorials

Computer-Aided Analysis and Design of Communications Systems (with W. Tranter and K.S. Shanmugan), one-day tutorial, 1986 IEEE Military Communications Conference

Computer-Aided Analysis and Design of Communications Systems (with W. Tranter and K. Kosbar), one-day tutorial, 1990 IEEE Military Communications Conference

Computer-Aided Analysis and Design of Communications Systems (with K. Kosbar), half-day tutorial, 1994 IEEE Global Communications Conference

Introduction to Communications Networks, Aug 4-8, 1997 TRW, Redondo Beach CA

Communications Networks, Oct. 19-23, 1998, Barcelona, Spain

Modern Communications Networks: Concepts and Simulation, May 31, June 4, 1999, Garmisch-Partenkirchen, Germany

State-Wide Committees

State of Kansas NSF EPSCoR Faculty Task Force-1991

State of Kansas DoD DEPSCoR Steering Committee 1995-1998

Kansas Inc. Task Force on Telecommunications

Senator Pat Roberts Task Force on Information, Telecommunications and Computing Technology

Legislative Presentations

“KU/TISL & Sprint: A successful Industry/University Partnership,”

Kansas House of Representatives, Economic Development Committee, January 29, 1996

“Trends in Telecommunications Technology,”

Kansas House of Representatives, Utilities Committee, February 20, 1998

"Information Technology: The Unpredictable Certainty"

Kansas Senate, Commerce Committee, January 20, 1999

"Information Technology: The Unpredictable Certainty"

Kansas House of Representatives, Utilities Committee, January 20, 1999

Board of Trustees

Member of the Board of Trustees of the University of Kansas Center for Research, Inc. 1985-2008

Member of the Executive Committee of the University of Kansas Center for Research, Inc. 1989-1993 and 2006-2007

Member of the Board of Trustees of the University of Kansas Self Fellowship Program 1993-1998

Member of the Board for the Lawrence Technology Association 2001-2003

Memberships

Fellow, IEEE

Member, ACM

Member, Eta Kappa Nu, National Electrical Engineering Honor Society

Member, Tau Beta Pi, National Engineering Honor Society

Member, Sigma Xi

Member, IEEE Communications Society Technical Committee on Communications Systems Engineering

Member, IEEE Communications Society Technical Committee on Computer Communications

Member of the KC Area Silicon Prairie Technology Association Information Technology Steering Committee 1988-1994

Reviewer

NSF Proposal Review Panels

DOE Proposal Review Panel
NASA Proposal Review Panel
Member of committee of visitors (CoV) to review the Networking research component of the
Department of Energy's Advanced Scientific Computing Research (ASCR) program, 2011
Proposal reviewer for the Kansas Technology Enterprise Corp.
Reviewer for various IEEE transactions and journals, and other publications

University Committees 2000-present

Departmental

Advocate for Dr. David Petr promotion to full professor, 2000
Advocate for Dr. Ron Hui promotion and tenure, 2001
Advocate for Dr. Susan Gauch promotion to full professor, 2003
Advocate for Dr. James Sterbenz promotion to full professor, 2013
Graduate Recruiting Committee, 2001, 2002
Ad Hoc Committee on Bioinformatics, chair, 2003, 2004
Bioinformatics Faculty Search Committee, chair, 2002/2003, 2003/2004, 2004/2005
Digital Communications Faculty Search Committee, chair, 2004/2005
Advocate for Dr. Daniel Deavours promotion to Research Associate Professor, 2008
Untenured faculty review committee 2008
Prepared the Communications/Networking questions and solutions for PhD qualifying exam
2005, 2006, 2008, 2012, 2013

School

Chairman of the EECS Chair review Committee 1994
Chairman of the EECS Chair Search Committee 1999
Member of Engineering School Building Committee-1999
School of Engineering Promotion and Tenure Committee, 2000 (chair);
2001, 2002, 2003 (member)
Miller Awards Committee, 2002
Sharp Professorship Selection Committee, 2004

University

Chair of KU Restricted Research Committee 2013/2014
KU Restricted Research Committee 2006-2008, 2011-present
Elected to the Executive Council of the Graduate School (representing the School of
Engineering), 2011-Present
KU Provost Search Committee 2005-2006
University Temporary Classification Committee, alternate member, 2001-2004
University RDF Review Committee, member, 2001-2002
ITTC KTEC bi-annual peer review, coordinator, 2001
KU Transportation Executive Committee, member, 2002
Digital Library Advisory Group, member, 2002
Ad Hoc Bioinformatics Committee, member, 2003, 2004
Bioinformatics Director Search Committee, member, 2003
TRI Director Search Committee, member, 2006

KUCR Promotion Committee, member, 2004, 2005
KUCR Kansas Economic Growth Act (KEGA) Committee, member, 2004

THESES

"Development of Statistical Models for Radar Image Analysis and Simulation," Master of Science, University of Kansas, Lawrence, Kansas, October 1978

"Information Analysis and Extraction Techniques for Synthetic Aperture Radar Signals," Doctor of Philosophy, University of Kansas, Lawrence, Kansas, April 1982

RESEARCH GRANTS AND CONTRACTS

Principal Investigator (Total as PI \$8,418,508)

1. Title: "Research in Information Extraction from Spaceborne Synthetic Aperture Radar Images"
Sponsor: NASA Headquarters
Period of Performance: November 1, 1982 - October 31, 1984
Amount: \$87,770
2. Title: "Simulation of Adaptive Antennas"
Sponsor: University of Kansas General Research Fund
Period of Performance: July 1, 1983 - June 30, 1984
Amount: \$4,500
3. Title: "Evaluation of the Interception of FH/PN Waveforms by a Scanning Cross Correlator Receiver"
Sponsor: Air Force Office of Scientific Research through subcontract with Southeastern Center for Electrical Engineering Education
Period of Performance: November 1, 1983 - October 31, 1984
Amount: \$12,000
4. Title: "Presidential Young Investigator Award"
Sponsor: National Science Foundation
Period of Performance: July 1984 - June 1989
Amount: \$312,000
5. Title: "Presidential Young Investigator Award"
Sponsor: AT&T Information Systems Laboratory
Period of Performance: July 1984 - 1989
Amount: \$187,500

6. Title: "Analysis of Terrain Scattering Properties for Navigation - Update Systems"
Sponsor: McDonnell Douglas Astronautics Company
Period of Performance: August 15, 1984 - January 15, 1985
Amount: \$22,487
7. Title: "Performance Evaluation of Local Area Networks"
Sponsor: AT&T Information Systems
Period of Performance: May 15, 1985 - August 15, 1985
Amount: \$19,566
8. Title: "A Study of High Capacity Modulation Schemes"
Co-Investigator: K. Sam Shanmugan
Sponsor: Hughes Aircraft Company
Period of Performance: July 15, 1985 - December 31, 1985
Amount: \$34,975
9. Title: "Two Dimensional HF Spatial Baseline"
Co-Investigator: K. Sam Shanmugan
Sponsor: Rome Air Development Center, U.S. Air Force
Period of Performance: April 1, 1986 - March 30, 1987
Amount: \$100,000
10. Title: "Innovative Techniques for Coding of Voice for Communications in Packet Networks"
Sponsor: University of Kansas Graduate Research Fund
Period of Performance: July 1, 1987 - June 30, 1988
Amount: \$5,076
11. Title: "Efficient Modeling Techniques of Large Heterogeneous LANs"
Sponsors: NCR Wichita and Kansas Technology Enterprises Corporation
Period of Performance: February 1, 1988 - January 31, 1989
Amount: \$37,647
12. Title: "Evaluation of SCSI Systems"
Sponsor: NCR Wichita
Period of Performance: February 1, 1988 - May 14, 1988
Amount: \$9,497
13. Title: "Development of Course on Information Network Planning, Service and Management"
Sponsor: AT&T
Period of Performance: December 1, 1988 - December 15, 1989
Amount: \$25,000

14. Title: "Congestion Control in Mixed Packet Networks Using Speech Processing"
Sponsor: AT&T
Period of Performance: September 1, 1989 - August 31, 1990
Amount: \$35,460
15. Title: "Modeling Networked Information Systems"
Sponsors: NCR Wichita and Kansas Technology Enterprise Corporation
Period of Performance: September 15, 1989 - September 14, 1990
Amount: \$82,657
16. Title: "Research in Computer Aided Analysis of Communications Networks Using a New Modeling Paradigm: The Block Oriented Network Simulator (BONeS)"
Sponsors: COMDISCO Systems, Inc., and Kansas Technology Enterprise Corporation
Period of Performance: December 12, 1989 - December 11, 1990
Amount: \$36,471
17. Title: "Development of New Modeling Structures Within the Block Oriented Network Simulator (BONeS)"
Sponsors: COMDISCO Systems, Inc., and Kansas Technology Enterprise Corporation
Period of Performance: October 1, 1990 - December 30, 1991
Amount: \$44,629
18. Title: "Support of Future Battle Laboratories CINCUSAREUR Project"
Sponsor: SRI
Period of Performance: July 15, 1990 - November 15, 1990
Amount: \$2,500
19. Title: "Research in Technologies in Modeling of Telecommunication Networks"
Sponsor: COMDISCO Systems, Inc.
Period of Performance: November 1, 1991 - June 15, 1992
Amount: \$24,966
20. Title: "Research on Gigabit Gateways: Access to the Future Public Switched Network"
Sponsor: Defense Advanced Research Projects Agency
Period of Performance: June 10, 1992 - June 9, 1995
Amount: \$565,907
21. Title: "Equipment and Facilities for Research on Gigabit Gateways: Access to the Future Public Switched Network"
Sponsors: Digital Equipment Corp., Sprint, Southwestern Bell Corp., Northern Telecom Inc., and Kansas Technology Enterprise Corporation
Period of Performance: June 10, 1992 - June 9, 1995
Amount: \$960,000

22. Title: "Research on Real Time Estimation of Traffic Descriptors for High Speed Telecommunications Networks"
Sponsor: Bell Northern Research Inc.
Period of Performance: May 15, 1993 - December 31, 1993
Amount: \$23,700
23. Title: "ACTS ATM Internetwork"
Sponsor: DARPA (Prime contractor - Sprint Corp.)
Period of Performance: July 1, 1994 - June 30, 1998
Amount: \$658,691
24. Title: "Development of a Large-scale ATM Network Simulation Environment"
Sponsor: Sprint Corp.
Period of Performance: April 20, 1995 - October 19, 1996
Amount: \$122,111
25. Title: "Collection and Application of ATM Network Performance Characteristics"
Sponsor: Sprint Corp.
Period of Performance: June 16, 1995 - June 15, 1996
Amount: \$274,930
26. Title: "Advanced ATM Research"
Sponsor: NEC
Period of Performance: Jan 1, 1997 - Dec 31 15, 1997
Amount: \$100,000
27. Title: "Interworking and Traffic Management for Advanced Networks"
Sponsor: Sprint Corp.
Period of Performance: July 21, 1999- June 30, 2000
Amount: \$273,357
28. Title: "Network Capacity Trade-offs for Traffic Aggregation in Future Networks"
Sponsor: Sprint Corp.
Period of Performance: 5/1/00-4/30/01
Amount: \$50,000
29. Title: "Engineering the Next Generation of Communications Networks: Proposal for Sabbatical Support"
Sponsor: Sprint Corp.
Period of Performance: 8/16/99 – 7/31/00
Amount: \$128,610
30. Title: "Wireless Smart Devices and their Coordination"
Sponsor: Ambient Computing Inc.
Period of Performance: 1/1/02 – 6/30/02
Amount: \$25,103

31. Title: "Quantifying the Temporal Characteristics of Congestion Events in the Internet"
Sponsor: National Science Foundation
Period of Performance: 9/1/02 – 8/30/07
Base Amount: \$249,807
REU Supplement: \$36,460
32. Title: "Development Multilink PPP Technologies"
Sponsor: Harris Corporation-Government Communications Systems Division
Period of Performance: 9/1/03 – 10/31/03
Amount: \$14,133
33. Title: "Development of an Integrated Bioinformatics Information Infrastructure"
Sponsor: US Army
Period of Performance: 9/29/04 - 12/31/06
Amount: \$2,147,000
34. Title: "A Computing Facility for Bioinformatics and Life Sciences Research"
Sponsor: US Dept. of Health and Human Service, Health Resources and Services Adm.
Period of Performance: 09/01/2004 - 08/31/2005
Amount: \$492,000
35. Title: "In-Service Monitoring for Congestion Events in IP Networks"
Sponsor: Sprint
Period of Performance: 06/30/2005 - 07/1/2006
Amount: \$25,000
36. Title: "Development of Technologies for Trusted Corridors"
Sponsor: KU Transportation Research Institute (through US DoT grant)
Period of Performance: 08/18/06 - 12/15/07
Amount: \$174,706
37. Title: "Robust Millimeter Wave Metropolitan Mesh Network"
Sponsor: Sprint
Period of Performance: 04/1/2007 - 03/31/2008
Amount: \$169,310
38. Title: "Robust Wireless Mesh Networking Research: Extension to 23GHz"
Sponsor: Sprint
Period of Performance: 10/15/2007 - 10/14/2008
Amount: \$63,000
39. Title: NSF IPA
Sponsor: NSF
Period of Performance: 2/9/2009 - 2/8/2011
Amount: \$702,292

40. Title: "Exploiting Adaptive Protocols in Packet-Based Broadband Wireless Networks,"
Sponsor: NSF
Period of Performance: 8/1/2012 – 7/31/2015.
Base Amount: \$330,000
REU Supplement: \$15,999

Co-Principal Investigator (Total as Co-PI \$9,868,570)

1. Title: "AT&T 1985 University Equipment Donation Program"
Co-Principal Investigator: G.J. Minden
Sponsor: AT&T
Amount: \$684,375 (Equipment, software, and maintenance)
2. Title: "AT&T 1986 University Equipment Donation Program"
Co-Principal Investigator: W.G. Bulgren
Sponsor: AT&T
Amount: \$553,008 (Equipment, software, and maintenance)
3. Title: "AT&T 1987 University Equipment Donation Program"
Co-Principal Investigator: W.G. Bulgren
Sponsor: AT&T
Amount: \$600,000 (Equipment, software and maintenance)
4. Title: "Research on Lightwave Communications Systems"
Co-Principal Investigator: Kenneth Demarest
Sponsor: Sprint Corp.
Period of Performance: January 1, 1996 - December 31, 1998
Amount: \$2,690,018
5. Title: "MAGIC-II: A Large-Scale Internetwork Supporting High Speed Distributed Storage, Processing and Applications"
Co-Principal Investigator: I. Richer, CNRI
Sponsor: ARPA
Period of Performance: August, 1996 - January 14, 1999
Amount of Prime Contract: \$3,414,743
Subcontractors: CNRI, MITRE, SRI International, Minnesota Supercomputer Center
Amount of KU component-J. Evans Principal Investigator: \$777,707

6. Title: "Determination of the Impact of Advanced Traffic Controls on the Performance of Edge/Core ATM Network Architectures"
Co-Principal Investigator: Joseph Evans, Douglas Niehaus, David Petr
Sponsor: Sprint Corp.
Period of Performance: January 1, 1997 - December 31, 1998
Amount: \$893,660

7. Title: Center of Excellence: Information and Telecommunications Technology Center
Co-Principal Investigator: Tim Johnson
Sponsor: KTEC
Period of Performance: Continuing
Amount: \$3,499,802 (for period July 1, 2000 to June 30, 2005)

8. Title: "Complexity, Implementation, and Management Trade-offs for Traffic Aggregation in Future Networks"
Co-Principal Investigator: Douglas Niehaus
Sponsor: Sprint Corp.
Period of Performance: 15 June 2000 – 14 June 2001
Amount: \$170,000

Co-Investigator (Total as Co-I \$20,817,419)

1. Title: "Computer Simulation of Spread Spectrum Systems Operating in Jamming Environments"
Principal Investigator: K.S. Shanmugan
Sponsor: U. S. Air Force/RADC
Period of Performance: September 1982 - September 1983
Amount: \$50,000

2. Title: "Modification and Implementation of Data Management Software for Radar Image Simulation"
Principal Investigator: J.C. Holtzman
Sponsor: Mitsubishi International Corporation
Period of Performance: December 1, 1982 - January 31, 1983
Amount: \$30,000

3. Title: "Development of a Simulation Model to Predict Interference of Spread Spectrum Networks on Non-Spread Spectrum Networks"
Principal Investigators: J.C. Holtzman and K.S. Shanmugan
Sponsor: U. S. Army CSEI
Period of Performance: July 1, 1983 - June 30, 1986
Amount: \$469,000

4. Title: "ICSSM EHF Communication Enhancement"
Principal Investigator: K.S. Shanmugan
Sponsor: U. S. Air Force/RADC
Period of Performance: August 8, 1983 - September 30, 1983
Amount: \$50,000
5. Title: "Modify, Enhance and Install the Radar Image Simulation System (RIS) at the DFVLR Facility"
Principal Investigator: J.C. Holtzman
Sponsor: German Aerospace Research Establishment/DFVLR
Period of Performance: June 1, 1983 - May 31, 1984
Amount: \$40,000
6. Title: "Shuttle Imaging Radar-B (SIR-B) Data Analysis"
Principal Investigator: R.K. Moore
Sponsor: NASA
Period of Performance: June 1984 - September 1984
Amount: \$25,000
7. Title: "Development of Data Transmission System CAD Package for ITT/ATC"
Principal Investigator: K.S. Shanmugan
Sponsor: ITT
Period of Performance: August 1, 1985 - July 30, 1986
Amount: \$35,000
8. Title: "Advanced Spatially Adaptive Propagation Program"
Principal Investigator: K.S. Shanmugan
Sponsor: Rome Air Development Center
Period of Performance: March 1985 - March 1986
Amount: \$54,000
9. Title: "RAKE Filter for ICS"
Principal Investigator: K.S. Shanmugan
Sponsor: Rome Air Development Center
Period of Performance: August 1, 1985 - July 30, 1986
Amount: \$50,000
10. Title: "Extension and Installation of the Radar Image Simulation System"
Principal Investigator: J.C. Holtzman
Sponsor: Northrop Research Center
Period of Performance: January 1, 1985 - June 30, 1985
Amount: \$35,000

11. Title: "Development of Software for Interactive Teaching-Learning of Electromagnetic Theory"
Principal Investigator: P. Gogineni
Sponsor: AT&T
Period of Performance: November 1, 1987 - May 1, 1989
Amount: \$86,500 (value of 6 AT&T 630 Terminals and a 3B2/500)
12. Title: "Network Modeling"
Principal Investigator: W.G. Bulgren
Sponsor: AT&T
Period of Performance: September 1, 1989 - August 31, 1990
Amount: \$30,357
13. Title: "Computer Aided Design Meta-Tools"
Principal Investigator: P. Gogineni
Sponsor: AT&T
Period of Performance: September 1, 1984 - August 31, 1990
Amount: \$15,000 (for purchase of workstation)
14. Title: "A Study of the Role of ACTS in Remote Manufacturing Operations"
Principal Investigator: C. Tsatsoulis
Sponsor: NASA
Period of performance: 11/15/90 - 5/15/91
Amount: \$45,446
15. Title: "Development of Bandwidth Assignment Algorithms and Performance Simulation Software"
Principal Investigator: D.W. Petr
Sponsor: Telesat Canada
Period of Performance: 9/15/90 - 12/15/90
Amount: \$25,000
16. Title: "Analysis and Simulation of Traffic Management Algorithms for Frame Relay/Fast Packet Networks"
Principal Investigator: D.W. Petr
Sponsors: Sprint International and Kansas Technology Enterprise Corporation
Period of Performance: 5/1/91 - 11/8/91
Amount: \$35,291
17. Title: "For Equipment in Support of Research on Gigabit Gateways: Access to the Future Public Switched Network"
Principal Investigator: G.J. Minden
Sponsor: Digital Equipment Corporation, CRINC, and TISL
Period of Performance: 6/10/92 - 6/11/95
Amount: \$98,299

18. Title: "Evaluation of Broadband Networking Technologies"
Principal Investigator: D.W. Petr
Sponsors: Sprint Corp.
Period of Performance: 5/15/92 - 5/14/93
Amount: \$66,462
19. Title: "Design Rules and Associated Tools for ATM Networks"
Principal Investigator: D.W. Petr
Sponsors: Sprint Corp. and Kansas Technology Enterprise Corporation
Period of Performance: 5/16/93 - 5/15/95
Amount: \$162,888
20. Title: "For Equipment in Support of Research on Gigabit Gateways: Access to the Future
Public Switched Network"
Principal Investigator: G.J. Minden
Sponsor: Digital Equipment Corporation
Period of Performance: 6/10/93 - 6/11/94
Amount: \$74,427
21. Title: "Voice Transport via ATM Networks"
Principal Investigator: D.W. Petr
Sponsor: Sprint Corp.
Period of Performance: 8/16/93 - 8/15/94
Amount: \$120,900
22. Title: "Rapidly Deployable Radio Network (RDRN) Design and Prototyping"
Principal Investigator: K.S. Shanmugan
Sponsor: ARPA
Period of Performance: 7/1/94 - 6/30/97
Amount: \$1,596,433
23. Title: "Traffic Management and Controls for ATM Networks"
Principal Investigator: DW. Petr
Sponsor: Sprint
Period of Performance: 1/1/95 - 12/31/97
Amount: \$466,200
24. Title: "Development and Testing of Advanced Signaling Protocols for ATM Networks"
Principal Investigator: D. Niehaus
Sponsor: Sprint
Period of Performance: 10/15/94 - 10/14/95
Amount: \$99,974

25. Title: "ATM Reference Traffic Source"
Principal Investigator: D. Niehaus
Sponsor: Sprint
Period of Performance: 05/15/95 - 12/31/95
Amount: \$200,000
26. Title: "A Wireless Extension to the ACTS ATM Internetwork"
Principal Investigator: J.B. Evans
Sponsor: Sprint
Period of Performance: 1/1/95 - 12/31/97
Amount: \$522,343
27. Title: "CDMA Capacity Assessment for Personal Wireless Communications"
Principal Investigator: J. Roberts
Sponsor: Sprint
Period of Performance: 10/9/95 - 8/15/97
Amount: \$150,000
28. Title: "ATM Available Bit Rate Service Simulation Models"
Principal Investigator: J. Evans
Sponsor: Integrated Telecom Technologies (IgT)
Period of Performance: 1/1/96 - 12/31/96
Amount: \$35,000
29. Title: "Wireless ATM Adaptive Voice/Data Networks"
Principal Investigator: J. Evans
Sponsor: Integrated US Air Force Rome Labs
Period of Performance: 9/30/95 - 12/31/98
Amount: \$408,842
30. Title: "Establishment of a Lightwave Laboratory for Applications Focused Research"
Principal Investigator: K. Demarest
Sponsor: NSF and Kansas Technology Enterprise Corporation
Period of Performance: 8/1/96-7/31/98
Amount: \$1,056,120 (NSF/EPSCoR \$643,603, KTEC \$412,517)
31. Title: "Performance Evaluation of IP Firewalls over ATM Networks"
Principal Investigator: J. Evans
Sponsor: Trusted Systems Inc
Period of Performance: 11/15/96-1/31/97
Amount: \$9,300

32. Title: "Rapidly Deployable Radio Network (RDRN)-Phase II"
Principal Investigator: J. Evans and K. Sam Shanmugan
Sponsor: DARPA
Period of Performance: 6/20/97-12/19/99
Amount: \$1,499,074
33. Title: "Performance Tuning Study and Tools for Computers Systems Connected to the DREN"
Principal Investigator: J. Evans
Sponsor: Space and Naval Warfare Systems Command-San Diego
Period of Performance: 11/1/97-4/30/98
Amount: \$24,500
34. Title: "ALL2 Call/Connection Control Signaling"
Principal Investigator: J. Evans
Sponsor: Sprint
Period of Performance: 1/1/98-12/31/99
Amount: \$235,900
35. Title: "Broadband Wireless Local Loop"
Principal Investigator: J. Evans
Sponsor: Sprint
Period of Performance: 1/1/98-12/31/99
Amount \$431,800
36. Title: "Enhancement of the KU PNNI Performance Evaluation Tools"
Principal Investigator: D. Niehaus
Sponsor: Sprint TP&I and NP&D
Period of Performance: 1/1/99-12/31/99
Amount: \$419,600
37. Title: "Network Monitoring for Performance Analysis and for Enabling Network-Aware Applications"
Principal Investigator: Joseph Evans
Sponsor: Department of Energy
Period of Performance: 7/15/99 - 7/14/02
Amount: \$502,797
38. Title: "Ambient Computing Environments"
Principal Investigator: Joseph Evans and Gary Minden
Sponsor: Sprint
Period of Performance: 4/1/00-5/29/01
Amount: \$360,000
39. Title: "Large ITR-A Mobile Sensor Web for Polar Ice Sheet Measurements"
Principal Investigator: Prasad Gogineni

Co- Investigators: Chris Allen, Glenn Prescott, Arvin Agah, David Braaten, Costas Tsatsoulis
Sponsor: NSF, NASA, KTEC
Period of Performance: 10/1/01- 9/30/06
Amount: \$8,715,000

40. Title: "A Unified Architecture for SensorNet with Multiple Owners"
Principal Investigator: Gary Minden
Co- Investigators: David Petr, Douglas Niehaus, Dan Deavours
Sponsor: Oak Ridge National Laboratory
Period of Performance: 8/15/05- 8/15/07
Amount: \$929,655

41. Title: "A Unified Architecture for SensorNet with Multiple Owners: Supplement to Advance SensorNet Technologies to Monitor Trusted Corridors"
Principal Investigator: Gary Minden
Co- Investigators: Joseph Evans, Dan Deavours
Sponsor: Oak Ridge National Laboratory
Period of Performance: 6/15/07- 09/31/2010
Amount: \$1,541,588 (KU \$816,178)

42. Title: "Rail Sensor Testbed Active Agents in Containers for Transport Chain Security"
Principal Investigator: Joseph Evans
Co- Investigators: Gary Minden, Costas Tsatsoulis
Sponsor: Office of Naval Research
Period of Performance: 6/25/07- 12/31/2010
Amount: \$1,217,000

BOOK CHAPTERS

Chapter 6, "Modeling and Simulation in Network Management," in *Network Management into the 21st Century*, ed. S. Aidarous and T. Plevyak, IEEE Press, 1994.

"Modeling and Simulation of Telecommunications Networks" (with B. Melamed), *The Froehlich/Kent Encyclopedia of Telecommunications*, Vol. 11, ed. Fritz E. Froehlich, Allen Kent, Carolyn M. Hall, Marcel Dekker, Inc., New York, 1996.

JOURNAL PAPERS

1. J.C. Holtzman, V.S. Frost, J.L. Abbott, and V.H. Kaupp, "Radar Image Simulation," *IEEE Transactions on Geoscience Electronics*, vol. GE-16, no. 4, pp. 296-303, October 1978.

2. J.C. Holtzman, J.A. Stiles, V.S. Frost, V.H. Kaupp, and E.E. Komp, "A Digital Computation Technique or Radar Scene Simulation: New SLAR," *Simulation*, pp. 183-192, June 1979.

3. V.S. Frost, J.A. Stiles, K.S. Shanmugan, J.C. Holtzman, and S.A. Smith, "An Adaptive Filter for Smoothing Noisy Radar Images," *The Proceedings of the IEEE*, vol. 69, no. 1, pp. 133-155, January 1981.
4. K.S. Shanmugan, V.K. Narayanan, V.S. Frost, J.A. Stiles, and J.C. Holtzman, "Textural Features for Radar Image Analysis," *IEEE Transactions on Geoscience and Remote Sensing*, vol. GE-19, no. 3, pp. 153-156, July 1981.
5. V.S. Frost, J.A. Stiles, K.S. Shanmugan, and J.C. Holtzman, "A Model for Radar Images and Its Application to Adaptive Digital Filtering of Multiplicative Noise," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. PAMI-4, no. 2, pp. 157-166, March 1982.
6. J.A. Stiles, V.S. Frost, J.C. Holtzman, and K.S. Shanmugan, "The Recognition of Extended Targets: SAR Images for Level and Hilly Terrain," *IEEE Transactions on Geoscience and Remote Sensing*, vol. GE-20, no. 2, pp. 205-211, April 1982.
7. V.S. Frost, M.S. Perry, L.F. Dellwig, and J.C. Holtzman, "Digital Enhancement of SAR Imagery as an Aid to Geologic Data Extraction," *Photogrammetrical Engineering and Remote Sensing*, vol. 49, no. 3, pp. 358-364, March 1983.
8. V.S. Frost and K.S. Shanmugan, "The Information Content of Synthetic Aperture Radar Images of Natural Terrain," *IEEE Transactions on Aerospace and Electronics Systems*, vol. AES-19, no. 5, pp. 768 - 774, September 1983.
9. V.S. Frost, "Probability of Error and Radiometric Resolution for Target Discrimination in Radar Images," *IEEE Transactions on Geoscience and Remote Sensing*, vol. GE-22, no. 2, pp. 121 - 125, March 1984.
10. V.S. Frost, K.S. Shanmugan, and J.C. Holtzman, "The Influence of Sensor and Flight Parameters on Texture in Radar Images," *IEEE Transactions on Geoscience and Remote Sensing*, vol. GE-22, no. 5, pp. 440-448, September 1984.
11. W.D. Wade, M.E. Mortara, P.K. Leong, and V.S. Frost, "Interactive Communications System Simulation Model - ICSSM" *IEEE Journal on Selected Areas in Communications*, Special Issue on Computer-Aided Modeling, Analysis, and Design of Communications Systems, vol. SAC-2, no. 1, pp. 102-128, January 1984.
12. V.S. Frost, "Probabilistic Modeling of Radar Images of Agricultural Sciences," *Electromagnetics*, December 1984.
13. J.K. Townsend, K.S. Shanmugan, and V.S. Frost, "Optimal Frequency Domain Textural Edge Detection Filter," *Applied Optics*, vol. 24, no. 14, July 1985.

14. V.S. Frost and G.J. Minden, "A Data Compression Technique for Synthetic Aperture Radar Images," *IEEE Transactions on Aerospace Electronics Systems*, vol. AES-22, no. 1, pp. 47 - 55, January 1986.
15. V.S. Frost and L.S. Yurovsky, "Maximum Likelihood Classification of Synthetic Aperture Radar Imagery," *Computer Vision, Graphics and Image Processing*, vol. 32, pp. 291 - 313, December 1985.
16. J.D. Curlis, V.S. Frost, and L.F. Dellwig, "Geological Mapping Potential of Computer-Enhanced Images from the Shuttle Imaging Radar: Lisbon Valley Anticline Utah," *Photogrammetric Engineering and Remote Sensing*, vol. 52, no. 4, pp. 525-532, April 1986.
17. V.S. Frost, E.M. Freedman, and G.J. Minden, "Multirate Voice Coding for Load Control on CSMA/CD Local Computer Networks," *Computer Networks and ISDN Systems*, vol. 11, no. 2, pp. 99-110, February 1986.
18. V.S. Frost, W.W. LaRue, and K.S. Shanmugan, "Efficient Techniques for the Simulation of Computer Communications Networks" *IEEE Journal on Selected Areas in Communications*, vol. 6, no. 2, pp. 146-157, January 1988.
19. D.W. Petr, L.A. DaSilva, and V.S. Frost, "Priority Discarding of Speech in Integrated Packet Networks," *IEEE Journal on Selected Areas in Communications*, vol. 7, no. 5, pp. 644-656, June 1989.
20. L.A. DaSilva, D.W. Petr, and V.S. Frost, "A Class-Oriented Replacement Technique for Lost Speech Packets," *IEEE Transactions on Acoustics Speech and Signal Processing*, vol. 37, no. 10, pp. 1597-1600, October 1989.
21. V.S. Frost and W.W. LaRue, "A Technique for Extrapolating the End-to-End Performance of HDLC Links for a Range of Lost Packet Rates," *IEEE Transactions on Communications*, vol. 38, no. 4, pp. 461-466, April 1990.
22. V.S. Frost, W.W. LaRue, A.G. McKee, A.J. Ernstein, P. Kishore, and M.J. Gormish, "A Tool for Local Area Network Modeling and Analysis," *Journal of Simulation*, vol. 5, pp. 283-298, November 1990.
23. D.W. Petr and V.S. Frost, "Priority Cell Discarding for Overload Control in B-ISDN/ATM Networks: An Analysis Framework," *International Journal of Digital and Analog Communications Systems, Special Issue on Broadband Network Performance and Congestion Control*, vol. 3, no. 2, pp. 219-227, April-June 1990.
24. W. Bulgren, V.S. Frost, and C. Chang, "A Model for Interconnected LANs with General Arrivals," *Journal of Systems and Software*, vol. 17, no. 2, pp. 145-153, February 1992.
25. K.S. Shanmugan, V.S. Frost, and W.W. LaRue, "A Block-Oriented Network Simulator (BONeS)," *Journal of Simulation*, vol. 58, no. 2, pp. 83-94, February 1992.

26. D.W. Petr, K.M.S. Murthy, V.S. Frost, and L. Neir, "Modeling and Simulation of the Resource Allocation Process in a Bandwidth-on-Demand Satellite Communications Network," *IEEE Journal on Selected Areas in Communications*, vol. 10., no. 2, pp. 465-477, February 1992.
27. D.W. Petr and V.S. Frost, "Optimized Nested Threshold Cell Discarding for ATM Overload Control," *International Journal of Digital and Analog Communication Systems*, vol. 5, pp. 97-116, May 1992.
28. S. Kumara, I. Ham, S. Ohsuga, C. Tsatsoulis, R. Ramesh, V.S. Frost, and R.L. Kashyap, "Intelligent Computer-Integrated Manufacturing (I-CIM): Research Perspectives," *International Journal of Applications of Artificial Intelligence*, 6:529-552, 1992.
29. Q. Wang and V.S. Frost, "Efficient Estimation of Cell Blocking Probability for ATM Systems," *IEEE/ACM Transactions on Networking*, vol. 1, no. 2, April 1993.
30. V.S. Frost and B. Melamad, "Traffic Modeling for Telecommunications Networks," *IEEE Communications Magazine*, vol. 32, no. 3, pp. 70-81, March 1994.
31. D.W. Petr, V.S. Frost, L. Neir, A. Demirtjis, and C. Braun, "Simulation Comparison of Broadband Networking Technologies," *Simulation*, vol. 64, no. 1, pp. 42-50, January 1995.
32. S. Motoyama, D.W. Petr, and V.S. Frost, "Input-Queued Switch Based on a Scheduling Algorithm," *Electronics Letters*, vol. 31, no. 14, pp. 1127-1128, July 6, 1995.
33. H. Zhu and V.S. Frost, "H. Zhu and V.S. Frost, "In-Service Monitoring for Cell Loss Quality of Service Violations in ATM Networks," *IEEE/ACM Transactions on Networking*, Vol 4, No. 2, April 1996 .," *IEEE/ACM Transactions on Networking*, Vol 4, No. 2, April 1996.
34. D.W. Petr, V.S. Frost, T. Kelley, C. Braun, and A. Demirjjs, "Cell Loss Quality of Service in an Integrated Traffic ATM Network," *International Journal of Communications Systems*, Vol 9 pp 97-104., 1996
35. S.F. Bush, J.B. Evans, and V.S. Frost, "Mobile ATM Buffer Capacity Analysis," *ACM-Baltzer Mobile Networks And Nomadic Applications (NOMAD): Topical Journal on Mobility of Systems, Users, Data and Computing*. Vol 1. No. 1, 1996
36. J.B. Evans, D. Niehaus, D.W. Petr, V.S. Frost, G.J. Minden, and B. Ewy, "A 622 Mb/s LAN/WAN Gateway and Experiences with ATM Networking," Vol 10, No 3, May/June 1996, *IEEE Network Magazine*, pp 40-48
37. S. F. Bush, S. Jagannath, R. Sanchez, J. B. Evans, K. S. Shanmugan, V. S. Frost, and G. Minden, "A Control and Management Network for Wireless ATM Systems," *ACM/Baltzer Wireless Information Networks (WINET) Journal*, Vol 3, Number 4, pp 267-283, 1997.

38. L. Dasilva, J. B. Evans, D. Niehaus, V. S. Frost, R. Jonkman, B. Lee, G. Lazarou, "ATM WAN Performance Tools, Experiments, and Results," *IEEE Communications Magazine*, Vol 35, No. 8, Vol 35 August 1997, pp 118-125.
39. K. Liu, H. Zhu, D.W. Petr, V.S. Frost, C. Braun, and W. Edwards, "Design and Analysis of a Bandwidth Management Framework for ATM-Based Broadband ISDN," *IEEE Communications Magazine*, Vol 35, No. 5, May 1997, pp 138- 145.
40. Stephen F. Bush and Victor S. Frost, "A framework for predictive network management of predictive mobile networks", *Journal of Network and Systems Management*, Vol. 7, No. 2 (June 1999).
41. Georgios Y Lazarou, Victor S. Frost, Joseph B. Evans, Douglas Niehaus, "Simulation & Measurement of TCP/IP over ATM Wide Area Networks" *IEICE Transactions on Communications special issue on ATM Switching Systems for Future B-ISDN*, Vol.E81B, No. 2, February 1998, pp 307-314.
42. J. B. Evans, G. J. Minden, K. S. Shanmugan, G. Prescott, V.S. Frost, B. Ewy, R. Sanchez, C. Sparks, K. Malinimohan, J. Roberts, R. Plumb, and D. Petr, "The Rapidly Deployable Radio Network", *IEEE Journal on Selected Areas in Communications*, Vol 17, No. 4, April 1999, pp 689-703.
43. Ricardo Sanchez, Joseph Evans, Gary Minden, Victor S. Frost, and K. Sam Shanmugan, "RDRN: A Prototype for a Rapidly Deployable Radio Network" *ACM Mobile Computing and Communications Review*, Vol 2. No 2, April 1998, pp 15-22.
44. "Information Technology: Drivers, Trends, and Impact", *Kansas City Business Journal*, Vol 16, No 20, Jan 30-Feb 5, 1998, *Technology Resource Guide* page 3-4.
45. Charalambous P. Charalambous, Victor S. Frost, and Joseph Evans, "Performance Evaluation of TCP Extensions on ATM over High Bandwidth Delay Product Networks", *IEEE Communications Magazine*, July 1999 pp 57-63.
46. Charalambous P. Charalambous, Victor S. Frost, and Joseph Evans, "Performance of TCP extensions on noisy high BDP networks", *IEEE Letters on Communications*, Vol 3. No. 10. pp. 294-296 1999.
47. Yulia Indrayani Wijata, Douglas Niehaus, Victor S. Frost, "A Scalable Agent-based Network Measurement Infrastructure", *IEEE Communications Magazine*, Volume 38, Issue 9, Sept. 2000 Page(s):174 - 183.
48. Cory Beard and Victor S. Frost, "Prioritized Resource Allocation for Stressed Networks", *IEEE/ACM Transactions on Networking*, Vol 9, No 5, October 2001, pp. 618-633.

49. Saravanan Radhakrishnan, Victor S. Frost, Joseph B. Evans, "Quality of Service for Rapidly Deployable Radio Networks", *Telecommunications Systems Journal*, Vol 18, No. 1-3, Sept-Nov 2001, pp. 207-225.
50. Cory Beard and Victor S. Frost, "Ticket Servers for Network Traffic Prioritization", *Journal of Network and Systems Management*, June 2003, p.151-170.
51. Victor S. Frost, "Quantifying the Temporal Characteristics of Network Congestion Events for Multimedia Services", *IEEE Transactions on Multimedia*, Vol 5, No. 3, September, 2003, pp 458-465.
52. Cory Beard and Victor S. Frost, "Prioritization of Emergency Network Traffic using Ticket Servers: A Performance Analysis", *Simulation: Transactions of the Society for Modeling and Simulation International* Vol. 80, Issue 6, June 2004, pp. 289-299.
53. Towela P.R. Nyirenda-Jere, Victor S. Frost, and Nail Akar, "Capacity Requirements of Traffic Handling Schemes in Multi-Service Networks", *Computer Communications, Special Issue on End-to-End Quality of Service Differentiation*, Vol. 28, Issue 18, November 2005, pp 2070-2081.
54. Said Zaghoul, Victor Frost, and Abdul Jabbar Mohammad, "Modeling TCP Long File Transfer Latency over Long Delay Wireless Multilink PPP", *IEEE Communications Letters*. Vol. 9, Issue 11, November 2005, pp 988- 990.
55. Soshant Bali, Yasong Jin, Victor S. Frost and Tyrone Duncan "Characterizing User-Perceived Impairment Events Using End-to-End Measurements", *International Journal of Communication Systems, Int. J. Commun. Syst.* December 2005; Vol 18, pp 935-960.
56. Soshant Bali and Victor S. Frost, "An Algorithm for Fitting MMPP to IP Traffic Traces," *IEEE Communications Letters* Feb. 2007, Vol. 11, No. 2, page(s): 207-209
57. Georgios Y. Lazarou and Victor S. Frost, "Variance-Time Curve for Packet Streams Generated by Exponentially Distributed ON/OFF Sources," *IEEE Communications Letters*, vol. 11, no. 6, pp. 552-554, June 2007.
58. Yasong Jin, Soshant Bali. Tyrone Duncan, Victor S. Frost, "Predicting Properties of Congestion Events for a Queueing System with fBM Traffic", *IEEE/ACM Transactions on Networking*, December 2007, vol. 15.
59. Lance Feagan, Justin Rohrer, Alexander Garrett, Heather Amthauer, Ed Komp, David Johnson, Adam Hock, Terry Clark, Gerald Lushington, Gary Minden, Victor Frost, "Bioinformatics Process Management: Information Flow via a Computational Journal," *Source Code for Biology and Medicine*, 2007, 2:9, doi:10.1186/1751-0473-2-9.

60. Georgios Y Lazarou, Julie Baca, Victor S. Frost, Joseph B. Evans, "Describing Network Traffic Using the Index of Variability", *Networking, IEEE/ACM Transactions on*, Vol. 17, No. 5. (30 June 2009), pp. 1672-1683.
61. Martin Kuehnhausen and Victor S. Frost, "Framework for Analyzing SOAP Messages in Web Service Environments", *International Journal of Web Services Practices* Vol. 5, No.1 (2010), pp. 1-9.
62. Daniel T. Fokum, Victor S. Frost, "A Survey on Methods for Broadband Internet Access on Trains", *IEEE Communications Surveys & Tutorials* Vol. 12, no. 2, 2010.
63. Daniel T. Fokum, Victor S. Frost, Daniel DePardo, Martin Kuehnhausen,, Angela N. Oguna, Leon S. Searl, Edward Komp, Matthew Zeets, Daniel D. Deavours, Joseph B. Evans, and Gary J. Minden, "An Open System Transportation Security Sensor Network: Field Trial Experiences", *IEEE Transactions on Vehicular Technology*, Vol 59, No 8., October 2010, pp 3942-3955.
64. Abdul Jabbar, Justin P. Rohrer, Victor S. Frost, James P.G. Sterbenz "Survivable millimeter-wave mesh networks" *Computer Communications*, Volume 34 Issue 16, October, 2011.
64. Martin Kuehnhausen and Victor S. Frost, "Transportation Security SensorNet: A Service Oriented Architecture for Cargo Monitoring", *Journal of Systems and Information Technology*, Vol. 13, No. 4, 2011.
65. Martin Kuehnhausen and Victor S. Frost, "Application of the Java Message Service in Mobile Monitoring Environments", *Journal of Network and Computer Applications* Volume 34, Issue 5, September 2011, Pages 1707-1716.

PAPERS SELECTED FOR ADDITIONAL PUBLICATION

1. V.S. Frost, E.M. Friedman, and G.J. Minden, "Multirate Voice Coding for Load Control on CSMA/CD Local Computer Networks," Tenth Conference on Local Computer Networks, Minneapolis, Minnesota, October 7 - 9, 1985. Selected for publication in a Special Issue of *Computer Networks and ISDN Systems*, vol. 11, no. 2, February 1986, pp. 99 - 110)
2. V.S. Frost, J.A. Stiles, K.S. Shanmugan, and J.C. Holtzman, "A Model for Radar Images and Its Application to Adaptive Digital Filtering of Multiplicative Noise," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. PAMI-4, no. 2, March 1982. Selected for inclusion in "Digital Image Processing and Analysis: Vol. 1: Digital Image Processing," R. Chellappa and A. Sawchuk eds. IEEE Computer Society Press, 1985.
3. V.S. Frost and G.J. Minden, "A Data Compression Technique for Synthetic Aperture Radar Images," *IEEE Transactions on Aerospace Electronics Systems*, vol. AES-22, no. 1, pp. 47 - 55, January 1986. Selected for inclusion in "Image Data Compression: Block Truncation Coding," B.V. Dasarathy, Ed., IEEE Computer Society Press, 1995.

4. Amit Kulkarni, Gary Minden, Victor Frost and Joseph Evans, "An Active Network Architecture for ATM WANs", 3rd International Workshop on Mobile Multimedia Communications Conference, Princeton, New Jersey, September 25-27, 1996. Selected for publication in, *Mobile Multimedia Communications*, Plenum Publishing, Chapter 3, Nov 1997.
5. Georgios Y. Lazarou, Victor S. Frost, Joseph B. Evans, Douglas Niehaus, "Simulation & Measurement of TCP/IP over ATM Wide Area Networks" *IEICE Transactions on Communications* special issue on ATM Switching Systems for Future B-ISDN, Vol.E81B, No. 2, February 1998, pp 307-314. Selected for publication in *High Performance Backbone Network Technologies*, Edited by: Naoaki Yamanaka, IEICE and Marcel Dekker, Inc. ISBN 0-8247-5321-6, 2004.
6. Amit Kulkarni, Gary Minden, Victor Frost and Joseph Evans, "Survivability of Active Networking Services", *IWAN '99*. Selected for publication in *Lecture Notes in Computer Science*, Springer, v1653, February 2004, pp. 299-306.

KEYNOTE AND PLENARY ADDRESSES

"The MAGIC Testbed and Access to Future Public Switched Networks," IEEE Symposium on Planning and Design of Broadband Networks, Montebello, Quebec, Canada, Oct. 21-23 1994.

"Experiences with Wide-Area ATM Networking: From Hardware Development to System Performance," 18th Biennial Symposium on Communications, Queen's University, Kingston, Ontario, Canada, June 4, 1996.

"Toward the Future Internet" in the Future Network Forum, IEEE GLOBECOM 2010, Miami, FL, Dec 6-10, 2010.

CONFERENCE PAPERS

1. "Simulation of Imaging Radar Systems," (with J.C. Holtzman, V.H. Kaupp, J.L. Abbott, R. Martin), Eighth Annual Pittsburgh Conference on Modeling and Simulation, The University of Pittsburgh, Pittsburgh, Pennsylvania, April 21 - 22, 1977.
2. "Electronic Image Enhancement of Autoradiographs to Facilitate Measurement of Brain Injuries," *IEEE Student Papers*, 1977.
3. "Image Synthesis for SAR Systems, Calibration, and Processor Design," (with J.C. Holtzman, J.L. Abbott, V.H. Kaupp), *Proceedings of the Synthetic Aperture Radar Technology Convention*, Las Cruces, New Mexico, March 8 - 10, 1978.
4. "An Image Simulation Model for Radar Guidance," (with J.C. Holtzman, V.H. Kaupp, J.L. Abbott), Ninth Annual Pittsburgh Conference on Modeling and Simulation, The University of Pittsburgh, Pittsburgh, Pennsylvania, April 1978.

5. "Computer Generated Radar Images for Navigation," (with J.C. Holtzman, J.A. Stiles, V.H. Kaupp), *Proceedings of the Military Electronics Expo*, Anaheim, California, November 14 - 16, 1978.
6. "Seasonal Effects on Radar Imagery as Predicted by the PSM Simulation Techniques," (with J.C. Holtzman, J.A. Stiles, E.E. Komp, E.S. Bergan, V.H. Kaupp), Tenth Annual Pittsburgh Conference on Modeling and Simulation, The University of Pittsburgh, Pittsburgh, Pennsylvania, April 1979.
7. "Radar Image Enhancement and Simulation as an Aid to Interpretation and Training," (with J.C. Holtzman, J.A. Stiles, L.F. Dellwig, D.N. Held), International Symposium on Remote Sensing of Environment, San Jose, Costa Rica, April 23 - 30, 1980.
8. "A System Model for Imaging Radars and Its Application to Minimum Mean Square Error Filtering," (with J.A. Stiles, K.S. Shanmugan, J.C. Holtzman), Fifth International Conference on Pattern Recognition and Image Processing, Miami Beach, Florida, December 1 - 4, 1980.
9. "A Model for Simulation and Processing of Radar Images," (with J.A. Stiles, K.S. Shanmugan, J.C. Holtzman), International Geoscience and Remote Sensing Symposium, Washington, D. C., June 8 - 10, 1981.
10. "Radar Image Preprocessing," (with J.C. Holtzman, J.A. Stiles, D.N. Held), Sixth Purdue Symposium on Machine Processing of Remote Sensing Data, Purdue University, West Lafayette, Indiana, June 2 - 6, 1980.
11. "Digital Preprocessing of SEASAT Imagery," (with J.C. Holtzman, J.A. Stiles, D.N. Held), International Conference on Communications, Seattle, Washington, June 8 - 11, 1980.
12. "Image Analysis: Current and Future Possibilities in the Study of Brain Function," Video Tape Presentation at Brain Function and Metabolism in Cholinergic Poisoning, U. S. Army Biomedical Laboratory, Edgewood Area, Aberdeen Proving Ground, Maryland, February 27, 1980.
13. "An Information Theory Characterization of Radar Images and New Definition for Radiometric Resolution," (with K.S. Shanmugan, J.C. Holtzman), *IGARSS '82 Digest*, International Geoscience and Remote Sensing Symposium, Munich, West Germany, June 1 - 4, 1982.
14. "A Statistical Model for Radar Images of Agricultural Scenes," (with K.S. Shanmugan, J.C. Holtzman), *IGARSS '82 Digest*, International Geoscience and Remote Sensing Symposium, Munich, West Germany, June 1 - 4, 1982.
15. K.S. Shanmugan, V.S. Frost, and P.K. Leong, "Simulation of Spread-Spectrum Systems Using ICSSM," Global Telecommunications Conference, San Diego, California, November 28 - December 1, 1983.

16. "The Influence of Sensor and Flight Parameters on Texture in Radar Images," (with K.S. Shanmugan, J.C. Holtzman), NASA Symposium on Mathematical Pattern Recognition and Image Analysis, Houston, Texas, June 1 - 3, 1983.
17. "Telecommunications Systems Engineering Programs," (with K.S. Shanmugan, J.C. Holtzman), National Communications Forum, Chicago, Illinois, October 24 - 26, 1983.
18. V.S. Frost, K.L. Gaylor, K.S. Shanmugan, "Time Domain Simulation of Scanning Intercept Receivers for the Detection of Spread Spectrum Signals", *Proceedings of the 1984 Summer Computer Simulation Conference*, vol. 1, p. 471, July 23-25, 1984, Boston, MA.
19. K.S. Shanmugan, M.S. McKinley, V.S. Frost, E.M. Friedman, and J.C. Holtzman, "Wideband Digital Transmissions Through Atmosphere at EHF Frequencies: Effects of Refractive Dispersion," Global Telecommunications Conference, Atlanta, Georgia, November 26 - 29, 1984.
20. V.S. Frost, E.M. Friedman, and G.J. Minden, "Multirate Voice Coding for Load Control on CSMA/CD Local Computer Networks," Tenth Conference on Local Computer Networks, Minneapolis, Minnesota, October 7 - 9, 1985.
21. V.S. Frost and K.S. Shanmugan, "Hybrid Approaches to Network Simulation," International Conference on Communications, June 1986.
22. K.S. Shanmugan and V.S. Frost, "CAD Tools for Communications System Engineering," Fifth International Conference on Systems Engineering, Fairborn, OH, September 1987.
23. V.S. Frost, M. Kashefipour, W.W. LaRue, and R. Ananthanpillai, "A Combined LAP-D/CSMA-CD Simulation Model for the Study of Local Area Networks," International Communications Conference, Seattle, WA, June 1987.
24. W.W. LaRue, V.S. Frost, and K.S. Shanmugan, "Some New Efficient Techniques for the Simulation of Computer Communications Networks," *Proceedings of the 1987 Symposium on the Simulation of Computer Networks*, pp. 152-158, August 1987, Colorado Springs, CO.
25. V.S. Frost, R. Moats, R. Spahn, S. Fechtler, and R. Balasubramanian, "The Evaluation of HF Communications Systems Using Simulation Workstations," IEEE Military Communications Conference, October 1987.
26. K.S. Shanmugan, W.W. LaRue, E. Komp, M. McKinley, G.J. Minden, and V.S. Frost, "Block-Oriented Network Simulator (BONeS)," IEEE Global Communications Conference, pp. 1679-1683, Hollywood, Florida, November 28-December 1, 1988.
27. L.A. DaSilva, D.W. Petr, and V.S. Frost, "A Class-Oriented Replacement Technique for Lost-Speech Packets," IEEE INFOCOM, Ottawa, Canada, April 1989.

28. M.J. Gormish and V.S. Frost, "A Comparison of Computational Techniques of Network Analysis," IEEE International Conference on Systems Engineering, Fairborn, Ohio, pp. 479-482, August 24-26, 1989.
29. S. Francis, V.S. Frost, and D. Soldan, "Measured Ethernet Performance for Multiple Large File Transfers," 14th IEEE Local Computer Network Conference, Minneapolis, Minnesota, October 10-12, 1989.
30. "BONeS, A Block Oriented Network Simulator," (with K.S. Shanmugan), Fourth Annual Conference on Computer Communications, Denna Point, California, October 30 - November 1, 1989.
31. D.W. Petr and V.S. Frost, "Optimal Packet Discarding: An ATM-Oriented Analysis Model and Initial Results," IEEE INFOCOM, San Francisco, CA, pp. 537-542, June 1990.
32. W.W. LaRue, E.E. Komp, S. Schaffer, V.S. Frost, K.S. Shanmugan, and D. Reznik, "A Block Oriented Paradigm for Modeling Communications Networks," IEEE Military Communications Conference, Monterey, CA, pp. 689-695, October 1990.
33. D.W. Petr and V.S. Frost, "Optimal Threshold-Based Discarding for Queue Overload Control," International Teletraffic Conference, Morristown, NJ, October 1990.
34. D.W. Petr and V.S. Frost, "Nested Threshold Cell Discarding for ATM Overload Control: Optimization Under Cell Loss Constraints," IEEE INFOCOM, Bal Harbour, FL, pp. 1403-1412, April 1991.
35. Q. Wang and V.S. Frost, "Efficient Estimation of Cell Blocking Probability for ATM Systems," IEEE International Communications Conference, Denver, CO, pp. 385-390, June 23-26, 1991.
36. P. Kavi, V.S. Frost, and K.S. Shanmugan, "Generic Approach to LAN Modeling," Winter Simulation Conference, Phoenix AZ. Dec. 8 -11 1991. Invited Paper
37. F. Tari and V.S. Frost, "Performance Comparison of DQDB and FDDI for Integrated Networks," 16th Local Computer Networks Conference, Oct. 16-17 1991.
38. Q. Wang and V.S. Frost, "A New Solution Technique for Discrete Queueing Analysis of ATM Systems," IEEE Global Telecommunications Conference, Dec. 1991. Invited Paper
39. M.T. Mullen and V.S. Frost, "Dynamic Bandwidth Allocation for B-ISDN Based on End-to-End Delay Estimates," IEEE International Communications Conference, vol. 1, pp. 225-231, June 1992.
40. D.W. Petr, J.B. Evans, L. Neir, J. Singh, and V.S. Frost, "Access Traffic Control Implementations for Frame Relay," IEEE International Communications Conference, June 1993.

41. G.J. Minden, J.B. Evans, D.W. Petr, and V.S. Frost, "An ATM WAN/LAN Gateway Architecture," Second International Symposium on High Performance Distributed Computing, Spokane, Washington, July 21-23, 1993.
42. Q. Wang and V.S. Frost, "Estimation of Cell Loss Probabilities for Tandem ATM Queues," IEEE Communications Conference, 1994.
43. H. Zhu and V.S. Frost, "A New Method for In-Service Estimation of Cell Loss QoS in ATM Networks," IEEE Symposium on Planning and Design of Broadband Networks, Montebello, Quebec, Canada, Oct. 21-23, 1994.
44. B.J. Ewy, J.B. Evans, V.S. Frost, and G.J. Minden, "TCP/ATM Experiences in the MAGIC Testbed," Fourth IEEE Symposium on High Performance Distributed Computing, pp. 87-93, August 1995.
45. C. Braun, V. Sirkay, H. Uriona, S. Seetharam, E. Yousefi, D.W. Petr, D. Niehaus, V.S. Frost, J.B. Evans, and G.J. Minden, "A High Speed Implementation of Adaptive Shaping for Dynamic Bandwidth Allocation," Fourth IEEE Symposium on High Performance Distributed Computing, pp. 94-101, August 1995.
46. S. Motoyama, D.W. Petr, and V.S. Frost, "A Connection Admission Control Based on Real Time Traffic Statistics," *Proc. 13th Brazilian Telecommunication Symposium*, Vol.1, pp. 31-36, Sept. 3-6, 1995, Aguas de Lindoia, SP, Brazil.
47. H. Zhu, L.A. DaSilva, J.B. Evans, and V.S. Frost, "Performance Evaluation of Congestion Control Mechanisms in ATM Networks," 20th International Conference of the Computer Measurement Group, Nashville, TN, December 3-8, 1995.
48. G.Y. Lazarou, V.S. Frost, J.B. Evans, and D. Niehaus, "Using Measurements to Validate Simulation Models of TCP/IP over High Speed ATM Wide Area Networks," IEEE International Conference on Communications, Dallas, TX, June 1996.
49. S.F. Bush, S. Jagannath, J.B. Evans, V.S. Frost, "A Control and Management Network for Wireless ATM Systems," IEEE International Conference on Communications, Dallas, TX, June 1996.
50. K. Liu, H. Zhu, D.W. Petr, V.S. Frost, C. Braun, and W. Edwards, "Design and Analysis of a Bandwidth Management Framework for ATM-Based Broadband ISDN," IEEE International Conference on Communications, Dallas, TX, June 1996.
51. H. Zhu and V.S. Frost, "Single Point On-line Estimation of Cell Loss in ATM Networks" 14th European Conference of Operations Research, Jerusalem, Israel, June 3-6 1995.
52. V.S. Frost and H. Zhu, "Real-Time Detection of Quality of Service Violations in High-Speed Networks" 1996 SIAM Annual Meeting, Kansas City, Missouri, July 22-26, 1996.

53. L. DaSilva, Rick Lett, and V.S. Frost, "Performance Considerations in File Transfers Using FTP Over Wide-Area ATM Networks", 22nd International Conference for the Resource Management and Performance Evaluation of Enterprise Computing Systems, San Diego Cal, Dec. 8-13 1996.
54. Joseph B. Evans, Victor S. Frost, Douglas Niehaus, David W. Petr, Gary J. Minden, Benjamin J. Ewy; "A 622 Mb/s ATM LAN/WAN Gateway with Cell Level Measurement and Pacing Capabilities", HOT INTERCONNECTS SYMPOSIUM IV 1996, Kresge Auditorium, Stanford University, Palo Alto, CA, August 15-17, 1996
55. S. F. Bush, V. S. Frost, J. B. Evans, "Predictive Systems in Network Management with Mobility", 1996 IEEE Symposium on Planning and Design of Broadband Networks, Montebello, Quebec, Canada, Oct. 17-20, 1996.
56. Amit B. Kulkarni, Gary J. Minden, Victor S. Frost and Joseph Evans, "An Active Network Architecture for ATM WANs", 3rd International Workshop on Mobile Multimedia Communications, Princeton, New Jersey, September 25-27, 1996.
57. Luiz DaSilva, J. Evans, D. Niehaus, V. Frost, R. Jonkman, B. Lee, G. Lazarou, "Performance Experiences in a Wide Area ATM Network" IEEE International Conference on Communications, Montreal, Canada, pp 1694-1698, June 1997
58. Charalambous P. Charalambos, Georgios Y. Lazarou, Victor S. Frost, Joseph Evans, and Roelof Jonkman, "Experimental and Simulation Performance Results of TCP/IP over High-Speed ATM over ACTS", IEEE International Conference on Communications 1998.
59. Ricardo Sanchez, Fadi Wahhab, Joseph Evans, Victor Frost, and Gary Minden. "Design and Evaluation of an Adaptive Data Link Control Protocol for Wireless ATM Networks", IEEE Global Telecommunications Conference, Nov. 1998, Sydney, Australia, pp 2239-2244.
60. Victor S. Frost, "Building Successful Industry/University Partnerships in Information and Telecommunications Sciences," Merrill Advanced Studies Center Conference on Mobilizing for Research Opportunities in the Next Century, July 15-17, 1998
61. Richardo Sanchez, Joseph Evans, Victor Frost, Gary Minden and K. Sam Shanmugan, "RDRN: A Rapidly Deployable Radio Network-Implementation and Experiences" IEEE 1998 International Conference on Universal Personal Communications, Oct. 5-9 1998, Florence, Italy
62. Cory Beard and Victor S. Frost, "Dynamic Agent-Based Prioritized Connection Admission for Stressed Networks" 1999 IEEE International Conference on Communications, Vancouver, Canada, June 7-9, 1999.
63. Amit Kulkarni, Gary Minden, Victor Frost and Joseph Evans, "Survivability of Active Networking Services", IWAN '99

64. Cory C. Beard and Victor S. Frost, "Connection Admission Control for Differentiating Priority Traffic on Public Networks," IEEE MILCOM '99.
65. Cory C. Beard and Victor S. Frost, "Ticket Server Performance Evaluation Using a Hybrid Simulation Approach", *Proceedings of the SCS 2001 Applied Telecommunication Symposium*, Seattle, Washington, April 2001.
66. Towela P.R. Nyirenda-Jere Victor S. Frost Nail Akar "Traffic Handling and Network Capacity in Multi-Service Networks", IEEE Globecom, San Antonio, Tx, November 2001
67. Towela P.R. Nyirenda-Jere, Victor S. Frost and Nail Akar, "Impact of Traffic Handling on Internet Capacity," SPIE ITCOM 2001, 20-24, Denver, Colorado August 2001.
68. Todd Gardner, David W. Petr, and Victor S. Frost, "Using Optimization to Achieve Efficient Quality of Service in Voice over IP Networks," 22nd International Performance, Computing, and Communications Conference, Phoenix, Arizona, April 9-11, 2003.
69. Georgios Y. Lazarou, Xiangdong Xia, V. S. Frost, "Internet Traffic Modeling Using the Index of Variability," IASTED International Conference on Modeling and Simulation (MS 2003) February 24-26, 2003, at Palm Springs, California.
70. A. Mohammad, V. Frost, D. Braaten, "Results of an Iridium-Based Data Communication System Providing Internet Access to Polar Expeditions", American Geophysical Union Fall Meeting, Dec 8-12, 2003.
71. A. Mohammad, N. Chalishazar, V. Frost, G. Prescott, "Alternative Communication Networking in Polar Regions," International Symposium on Advanced Radio Technologies, Boulder, Colorado March 2-4, 2004.
72. Abdul Jabbar Mohammad, Victor Frost, Said Zaghoul, Glenn Prescott, and David Braaten, "Multi-channel Iridium Communication System for Polar Field Experiments", 2004 IEEE International Geoscience and Remote Sensing Symposium, Anchorage Alaska, 20-24 September 2004, pp 121-124.
73. Yasong Jin, Soshant Bali, Tyrone Duncan, Victor S. Frost, "Conditioned Fractional Brownian Motion and its Applications in Telecommunications", Joint Mathematics Meetings, San Antonio, TX, January 12-15, 2006
74. Wesam Alanqar and Victor Frost, "A Service Profile-Aware Control Plane with a Comparison to IETF & ITU Approaches," IEEE International Conference on Communications 2006.
75. Yasong Jin, Soshant Bali, Tyrone E. Duncan, Victor S. Frost, "Properties of Congestion Events for a Queue with Fractional Brownian Traffic," Poster at Conference on Stochastic Networks, June 19-24, 2006, University of Illinois at Urbana-Champaign

76. Soshant Bali, Sridhar Machiraju, Hui Zang, and Victor Frost, "A Measurement Study of Scheduler-based Attacks in 3G Wireless Networks," Eighth Passive and Active Measurement Conference April 5-6, 2007 in Louvain-la-neuve, Belgium.
77. Abdul Jabbar, Justin P. Rohrer, Andrew Oberthaler, Egemen K. Cetinkaya, Victor Frost, and James P.G. Sterbenz, "Performance Comparison of Weather Disruption-Tolerant Cross-Layer Routing Algorithms," INFOCOM 2009 Rio de Janeiro, Brazil, April 19-25 2009.
78. Brian Quanz, Hongliang Fei, Jun Huan, Joseph Evans, Victor Frost, Gary Minden, Daniel Deavours, Leon Searl, Daniel DePardo, Martin Kuehnhausen, Daniel Fokum, Matthew Zeets, and Angela Oguna, "Anomaly Detection with Sensor Data for Distributed Security," in Proc. 18th Int'l Conf. Computer Communications and Networks (ICCCN 2009), San Francisco, CA, USA, Aug. 2009, pp. 1-6.
79. Zaid Hijaz and Victor S. Frost, "Exploiting OFDM Systems for Covert Communication", 2010 IEEE Military Communications Conference, San Jose, Cal, Oct 31-Nov 3, 2010.
80. Martin Kuehnhausen, Victor S. Frost, and Gary Minden, "Framework for Assessing the Trustworthiness of Cloud Resources" 2012 IEEE Conference on Cognitive Methods in Situation Awareness and Decision Support (CogSIMA)
81. Martin Kuehnhausen and Victor S. Frost, "Trusting Smartphone Apps? To install or not to install, that is the question" 2013 IEEE Conference on Cognitive Methods in Situation Awareness and Decision Support (CogSIMA), 25-28 February 2013, San Diego, California, USA.
82. Zaid Hijaz and Victor S. Frost, "The Impact of Interference from a Covert Link on a Data Link using OFDM, AMC, and Hybrid ARQ" Poster Paper at 32nd IEEE International Performance, Computing, and Communication Conference (IPCCC) December 6-8, 2013 San Diego, California, USA.

WORKSHOPS AND PANELS

1. "Communications Systems Simulation: Theory, Applications and Design Examples," (with K.S. Shanmugan, J.C. Holtzman, G.J. Minden, C. Townsend), Coventry Polytechnic Conference, Coventry, England, September 1985.
2. "Computationally Efficient Procedures for the Simulation of Computer Networks," (with K.S. Shanmugan), IEEE Communications Society Workshop in Computer-Aided Modeling, Analysis and Design of Communications Links and Networks, The University of Kansas, Lawrence, Kansas, May 6 - 8, 1986.

3. "Performance Extrapolation Techniques for HDLC Links and Networks," (with W.W. LaRue), Second IEEE Communications Society Workshop on Computer-Aided Modeling of Communications Links and Networks, Univ. of Massachusetts, Amherst, Massachusetts, October 1988.
4. "The Evolution of the Telecommunications Network," Southwestern Bell Stakeholders Symposium on Telecommunications, University of Kansas, Lawrence, Kansas, May 14-16, 1990.
5. "A Discussion of Modeling Paradigms for Communications Network Simulation," (with K.S. Shanmugan), Third IEEE Communications Society Workshop on Computer-Aided Modeling of Communications Links and Networks, Torino, Italy, September 26-28, 1990.
6. "The Impact of Modeling Abstraction on Network Simulation," (with G. Saurez), Third IEEE Communications Society Workshop on Computer-Aided Modeling of Communications Links and Networks, Torino, Italy, September 26-28, 1990.
7. Featured Speaker for the COMDISCO Systems, Inc. Technical Seminar Series," Applications and Technologies Showcase: New techniques for the design and management of communications and computer networks" Bedford Massachusetts, November 20, 1991.
8. "Modeling Frameworks and Architectures" Globecom '91 Workshop on Network Management Techniques and Standards, Globecom '91 Dec. 2, 1991, Phoenix AZ. **INVITED**
9. "The Future of Telecommunications: Technology," Creating Tomorrow's Telecommunications Task Force Stakeholder's Forum, Regents Telecommunications Task Force, Topeka, Kansas, February 14, 1992. **INVITED**
10. "Introduction to High Speed Networks," Kansas City IEEE Section Workshop on High Speed Networks, Overland Park, Kansas, June 30, 1992.
11. "Validation of a Modified Source Routing Protocol Providing Route-Reconfiguration Using Discrete Event Simulation" (with T. Kelley), Fourth IEEE Communications Society Workshop on Computer-Aided Modeling of Communications Links and Networks, Montebello, Canada, September 29-October 2, 1992.
12. "Position Paper," Workshop on HPCC and Crisis Management, National Research Council, Computer Science and Telecommunication Board, Irvine Cal. June 12-13, 1995. **INVITED**
13. "Overview of the MAGIC Testbed," War Fighters XXI Training Conference, Lawrence, Kansas, August 4, 1995. **INVITED**
14. "Experiences with ATM Traffic Control in MAGIC," 1995 MAGIC Technical Symposium, Minneapolis, Minnesota, July 31-August 2, 1995. **INVITED**

15. "Characterization of Over the Shoulder Tool: A Collaborative Application Enabled by the MAGIC High-Speed Network," 1995 MAGIC Technical Symposium, Minneapolis, Minnesota, July 31-August 2, 1995. **INVITED**
16. "KU/TISL & Sprint: A Successful Industry/University Partnership", State of Kansas House Committee on Economic Development, Topeka, Kansas, January 29, 1996
17. J. B. Evans, V. S. Frost, D. Niehaus, R. Jonkman, L. Dasilva, B. Lee, G. Lazarou, "AAI ATM WAN Performance Tools, Experiments, and Results," 1996 DARPA Workshop on Wide-Area ATM Performance, Lawrence, Kansas, June 19-20, 1996
18. A. B. Kulkarni, G. Minden, S. Frost, J. Evans, "An Active Network Architecture for ATM WANs", 3rd International Workshop on Mobile Multimedia Communications, Princeton, New Jersey, Sept. 25-27 1996.
19. "Industry/University/Government Partnership in Information and Telecommunications Research", Second Annual Regional SBIR/EPSCoR Conference, October 10, 1996.
20. "Performance Measurements on National Scale ATM Network", Second Annual Sprint Applied Research Partners Advanced Networking Symposium, March 19-20, 1998, Nichols Hall, University of Kansas, Lawrence, Kansas
21. J. B. Evans, V. S. Frost, G. J. Minden, A. Kulkarni, I. Deendar, "Active Networks and Wireless Adaptation", Cross-Industry Workshop on End-to-End Wireless Integration, Menlo Park, California, August 1998.
22. J. B. Evans, V. S. Frost, G. J. Minden, "Service Independent Access Points (SIAP) to Optical Wide Area Networks," 1998 *IEEE Gigabit Networking Workshop*, March 1998.
23. "An Overview of the Senator Roberts' Advisory Committee on Science, Technology and the Future: Task Force on Information, Telecommunications, and Computing" University After Next Quarterly Review, Ft. Leavenworth, Leavenworth Kansas, June 22, 1999
24. Towela P.R. Nyirenda-Jere and Victor S. Frost, "Finding Your Shade of Grey on the Network Spectrum", Sprint Research Symposium 2000, Lawrence, Kansas, 8-9 March 2000.
25. Victor S. Frost, "Perspectives on Engineering Education for Next Generation Networks," Panel on How to Prepare Engineers for Tomorrow's Networks, IEEE ICC 2002, New York, New York, April 2002.
26. Victor S. Frost and Joseph B. Evans, "Breadth and Experience in Education for Next Generation Networks" Workshop on Computer Networking: Curriculum Design and Educational Challenges, August 20, 2002, Pittsburgh Pa.

27. Matthew C. Schlesener and Victor S. Frost, "Performance Evaluation of Telephony Routing over IP (TRIP)," 2003 IEEE Workshop on IP Operations and Management (IPOM), Kansas City, Mo., October 1-3, 2003.
28. Victor Frost "Experiences with an Iridium Based Communications System in Polar Regions", Technical Workshop on Applications of Iridium Telecommunications to Oceanographic and Polar Research, University of Washington, Seattle, 19-21 May 2004.
28. James P.G. Sterbenz, Victor S. Frost, Alexander M. Wyglinski, Abdul Jabbar Mohammad, Vinay Muralidharan, Bharat Raman "Weather Disruption-Tolerant Millimeter Wave Wireless Mesh: Architecture and Research", International Wireless Industry Consortium Workshop, Toward Use of Gigabit Millimeter Wave Wireless in Cellular and Enterprise Networks, Dulles, Virginia, 20 June, 2007.
29. Abdul Jabbar, Bharatwajan Raman, Bharatwajan Raman, Victor Frost, James P.G. Sterbenz, "Weather Disruption-Tolerant Self-Optimising Millimeter Mesh Networks" 3rd International Workshop on Self-Organizing Systems 2008.
30. Victor S. Frost, Gary J. Minden, Joseph B. Evans, Leon S. Searl, Edward Komp, Daniel Depardo, Martin Kuehnhausen, Matthew Zeets, Daniel T. Fokum, Angela N. Oguna "Service Oriented Architecture for Monitoring Cargo in Motion Along Trusted Corridors", poster HotMobile 2009, The Tenth Workshop on Mobile Computing, Systems, and Applications, Santa Cruz, CA, USA, February 23-24, 2009
31. D. Fokum, V. Frost, D. DePardo, M. Kuehnhausen, A. Oguna, L. Searl, E. Komp, M. Zeets, D. Deavours, J. B. Evans, G. J. Minden, "Experiences from a Transportation Security Sensor Network Field Trial" 3rd IEEE Workshop on Enabling the Future Service-Oriented Internet – Towards Socially-Aware Networks (EFSOI 09) held in conjunction with IEEE GLOBECOM 2009 Honolulu, HI, USA, December 4, 2009.
32. Zaid Hayyeh and Victor S. Frost, "Analysis of the Impact of Covert Communication", First Great Plains Graduate Student Network Research Summit, Kansas City Missouri, June 1, 2012.
33. Zaid Hijaz and Victor S. Frost, "A Method for Estimating the Average Packet Error Rates of Multi-carrier Systems with Interference" submitted to 2014 Annual IEEE Communications Quality and Reliability International Workshop, May 13-15, 2014 Tucson, AZ, USA.

CHAIRMAN OF STUDENT THESIS AND DISSERTATION COMMITTEES

Doctoral Degree in Electrical Engineering/Computer Science

	Degree	Name	Year	Thesis
1	PhD/EE	David W. Petr	1989	Optimal Priority Packet Discarding for Queue Overload Control
2	PhD/EE	Qinglin Wang	1992	New Solution Techniques for Performance Analysis of ATM Networks
3	PhD/EE	William W. LaRue, Jr.	1996	New Algorithms to Improve the Efficiency of Parallel Discrete Event Simulation
4	PhD/CS	Stephen F. Bush	1997	The Design and Analysis of Virtual Network Configuration for a Wireless Mobile ATM Network
5	PhD/EE	Stephen A. Oliva	1999	Optimizing Integrated Broadband Network Bandwidth Utilization Through Connection Admission Control Using Weighted Round Robin Queue Server Measurements
6	PhD/EE	Cory Charles Beard	1999	Dynamic Agent Based Prioritized Resource Allocation for Stressed Networks
7	PhD/EE	Georgios Y. Lazarou	2000	On the Variability of Internet Traffic
8	PhD/EE	Towela P. R. Nyirenda-Jere	2001	Impact of Traffic Aggregation on Network Capacity and Quality of Service
9	PhD/EE	Wesam Alanqar	2005	Service Profile-Aware Control Plane: A Multi-Instance Fixed Point Approximation Within a Multi-Granularity VPN Loss Networks Perspective
10	PhD/EE	XueJun Mao	2005	Occurrence and Duration of Queue Overflow for Heavy Tail Interarrival Times
11	PhD/EE	Soshant Bali	2007	Detection and Mitigation of Impairments for Real Time Multimedia Applications
12	PhD/CS	Daniel Fokum	2010	Optimal Communications Systems and Network Design for Cargo Monitoring
13	PhD/CS	Martin Kuehnhausen	2013	A Framework for Knowledge Derivation Incorporating Trust and Quality of Data

Master's Degree in Electrical Engineering/Computer Science

	Degree	Name	Year	Title
1	MS/EE	Kent Gaylor	1983	Time Domain Simulation of Scanning Intercept Receivers for the Detection of Spread Spectrum Signals
2	MS/EE	J. Keith Townsend	1984	An Optimal Frequency Domain Textural Edge Detection Filter
3	MS/EE	Leonid S. Yurovsky	1984	Maximum Likelihood Classification of Synthetic Aperture RADAR Imagery
4	MS/EE	Thomas Joseph Baumgartner	1985	Developing a Packet Voice/Data Workstation: An Approximate Analysis of a Single User Integrated Packet Voice/Data Link
5	MS/EE	Bahaa N. Moukadam	1985	A Simulation Study of a Token Ring LAN with Lognormal Message Inter-Arrival and Heterogeneous Traffic
6	MS/EE	Paul C. Snow	1985	Adaptive Antenna Simulation for a Spread Spectrum System
7	MS/EE	Stefan Fechtel	1986	A Steady-State Analysis of Tapped-Delay-Line Adaptive Antenna Arrays
8	MS/EE	Ed Friedman	1986	Multirate Voice Coding for Load Control on CSMA/CD Local Compute Networks
9	MS/EE	Darin Haegert	1986	A study of adaptive algorithms for HF antenna arrays
10	MS/EE	William Wood LaRue, Jr.	1986	Efficient Techniques for the Simulation of Computer Communications Networks
11	MS/EE	Roger Spohn	1986	Adaptive Algorithms for HF Antenna Arrays
12	MS/EE	Rajagopalan Ananthanpillai	1987	A Combined LAPD/CSMA-CD Analytical Model for the Study of Local Area Networks
13	MS/EE	Timothy R. Davis	1987	Integrating LAN Data and Digital Voice on Wire Twisted Pair
14	MS/EE	Mohammed Kashfipour	1987	A Combined LAP-D/CSMA-CD Simulation Model for the Study of Local Area Networks
15	MS/EE	Ryan Moats	1987	The Evaluation of HF Communications Systems Using Simulation Workstations
16	MS/EE	Brad Wood	1987	LAN Analysis
17	MS/EE	R.K. Balasubramaniam	1987	Evaluation of Hardware Architectures for HF Antenna Arrays
18	MS/EE	Steve Casagrande	1988	Discrete Event Simulation of SCSI Disc Subsystems
19	MS/EE	Luiz Antonio Pereira DaSilva, Jr.	1988	A Class-Oriented Voice Communication System for Packet-Switched Networks: Description and Performance Study
20	MS/EE	Van F. (Rick) Lett	1988	An Alternative Baseband Multiplexing Scheme for Local Area Networks
21	MS/EE	Andy Earnstein	1989	A Tool for Local Area Network Modeling and Analysis
22	MS/EE	Alan G. McKee	1989	LANSIM Token Ring LAN Simulation
23	MS/EE	Kishore Patnam	1989	Performance Evaluation of LAN Protocols Using Discrete Event Simulation Techniques
24	MS/EE	Marios Demetriou	1990	Modeling networked information systems : estimation of the user perceived performance
25	MS/EE	Shailesh Shukla	1990	Performance Analysis of Interconnected Local Area Networks

	Degree	Name	Year	Title
26	MS/EE	Farzad Tari	1990	Performance Comparison of DQDB and FDDI for Integrated Networks
27	MS/EE	Stavros C. Yiannaki	1990	Wireless Communication Systems
28	MS/EE	Latha Arun-Kant	1991	Deferred expulsion discarding for ATM congestion control
29	MS/EE	Timothy L. Bower	1991	Statistical Analysis of Dynamic Speech Features for Speech Recognition and Speaker Verification
30	MS/EE	Cheng-Ning Chang	1991	Modeling and Simulation Tools for Communication Networks Management
31	MS/EE	John C. Johnson	1991	
32	MS/EE	Jaime L. Prieto, Jr.	1991	A Varying Time-Frequency Model Applied to Voice Speech Based on Higher-Order Spectral Representations
33	MS/EE	Gustavo Saurez	1991	The impact of modeling abstraction on network simulation
34	MS/EE	Michael F. Sobek	1991	An Architecture Evolution Plan Describing the Integration of Broadband Capabilities in Long Distance Telecommunication Networks Through the Year 2000
35	MS/EE	Tim Kelley	1992	A modified source routing transparent MAC bridging protocol capable of dynamic route re-configuration
36	MS/EE	Carl E. Smith	1992	X Window Based Simulation Tool Modeling The Behavior of a Queue Receiving Traffic with Correlated Interarrival Times
37	MS/EE	Rachmat Dwiono Basuki	1993	Performance Analysis of Link-by-Link Credit-Based Flow Control in High Speed ATM Networks
38	MS/EE	Teck Hock Choo	1993	Adapting an N-body cosmological simulation code from CRAY-2 to CM-2
39	MS/EE	Prabhudeva N. Kavi	1993	A method of characterizing computer application workloads for use in simulation models
40	MS/EE	Steve Schaffer	1993	Development of resource models for data flow block diagram network simulation tools.
41	MS/EE	Arief Suharko	1993	Analysis of I out of M Moving Window Control for an ATM Policing Function Mechanism
42	MS/EE	Esmuell Yousefi	1994	A High Speed Implementation of Adaptive Shaping for Dynamic Bandwidth Allocation
43	MS/EE	Kevin Wagner	1995	An application of optical networking to broadband ATM switching
44	MS/EE	Hongbo Zhu	1995	In-service monitoring and estimation of cell loss rate QoS in ATM network
45	MS/EE	Dorothy Kabagaju Rubaihayo	1995	Use of Side Information in an Adaptive Rate Control Scheme for Cell Loss Management in a Wireless ATM Network
46	MS/EE	David Boberg	1996	
47	MS/EE	Towela P. R. Nyirenda	1996	Comparative Study of ABR Traffic management Schemes in an Input-Output Buffered ATM Switch with Back-Pressure Mechanisms
48	MS/EE	Sunil Jagannath	1997	An adaptive data link layer protocol for wireless ATM networks
49	MS/EE	Isaac Kodwo Eyeson	1997	Evaluation of ATM Capacity Assignment Strategies

	Degree	Name	Year	Title
50	MS/EE	Soma S. Muppidi	1997	Modeling and Analysis of Traffic in High Speed Networks
51	MS/EE	Antoine Lawrence	1997	RanVarsMac
52	MS/EE	Beng-Ong Lee	1998	Wide Area ATM Network Experiments Using Emulated Traffic Sources
53	MS/EE	Sohel Q. Khan	1998	The Performance of Heterogeneous Edge-Core ABR Network Supporting VBR Traffic
54	MS/EE	Charalambous P. Charalambos	1998	Performance Evaluation and Analysis of TCP on ATM Over High Bandwidth Delay Product Networks
55	MS/EE	Haritha Pindi	1998	Performance Analysis of TCP/IP and UDP/IP over ATM Networks: ABR vs UBR+EPD Services
56	MS/EE	Ananth Nagarajan	1998	Survivability Architectures for Service Independent Access Points to Multiwavelength Optical Wide Area Networks
57	MS/EE	Saravanan Radhakrishnan	1999	In-Band Flow Establishment for End-to-End QoS in Rapidly Deployable Radio Networks
58	MS/EE	Sreenivasamurthy Deepak	1999	Service-to-service mapping of differentiated services to the ABR service of ATM in Edge/Core networks
59	MS/EE	Balaji Prasad	1999	Service-specific resource allocation and fairness control for supporting quality of service in WDM packet networks
60	MS/EE	Ajay Uggirala	2000	Exploring the impact of differentiated services on carrier networks
61	MS/EE	Ming H. Chong	2000	Optimistic Parallel Simulation of TCP/IP Over ATM Networks
62	MS/EE	Michael Todd Gardner	2001	Analysis of Mission Critical Voice over IP Networks
63	MS/EE	Mahesh Akarapu	2002	Implementation of Dynamic TCP Congestion Control Scheme in the Enable Service
64	MS/EE	Matthew C. Schlesener	2002	Performance Evaluation of Telephony Routing over IP (TRIP)
65	MSEE	Abdul Jabbar	2004	Multi-Link Iridium Satellite Data Communication System
66	MS/EE	Said Ismail Zaghloul	2005	TCP Performance Over Multilink Long Delay Wireless Networks
67	MS/EE	Satyasree Muralidharan	2007	A Framework For Sensor Networks With Multiple Owners
68	MS/CS	Martin Kuehnhausen	2009	Service Oriented Architecture for Monitoring Cargo in Motion Along Trusted Corridors
69	MS/EE	Zaid Hijaz	2010	Exploiting OFDM Systems for Covert Communication
70	MS/CS	Matthew Zeets	2010	Web Mashups in the Supply Chain

Courses Taught

EECS 360 Signal Analysis

EECS 444 Control Systems

EECS 461 Probabilistic Analysis

EECS 562 Introduction to Communications Systems

EECS 663 (Renumbered to EECS 563) Introduction to Communications Networks

EECS 766 Resource Sharing for Broadband Access Networks

EECS 861 Random Signal Theory

EECS 863 Analysis of Communications Networks

EECS 864 Optical Communications Networks

EE 864 Communication System Planning & Design