

Geoffrey G. Xie

ADDRESS

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RESEARCH INTERESTS

- Systematic Enterprise Network Design
- Bridging Gap between Theory and Practice of IP Routing
- Delay Tolerant Networking
- Role-based Traffic Analysis
- Mobile Tactical Networking
- Clean Slate Network Control and Management
- Static Analysis of Network Configuration
- Policy-Based Networking
- Underwater Acoustic Networking
- Design of integrated services computer networks

EDUCATION

- Ph.D.** Computer Science, University of Texas at Austin, TX (1996)
M.S. Computer Science, Bowling Green State University, OH (1988)
M.A. Mathematics, Bowling Green State University, OH (1988)
B.S. Computer Science, Fudan University, Shanghai, China (1986)

ACADEMIC POSITIONS

- 10/2009 – present Professor & Associate Department Chair, Department of Computer Science, Naval Postgraduate School
July, 2011 Visiting Professor, Department of Computer Science Laboratory, UCL, Belgium
10/2010 – 06/2011 Visiting Scholar, Computer Science Laboratory, The University of Cambridge, United Kingdom
07/2007 – 09/2009 Professor, Department of Computer Science, Naval Postgraduate School
10/2003 – 08/2004 Visiting Scientist, School of Computer Science, Carnegie Mellon University
04/2002 – 6/2007 Associate Professor, Department of Computer Science, Naval Postgraduate School
09/1996 – 03/2002 Assistant Professor, Department of Computer Science, Naval Postgraduate School

HONORS AND AWARDS

- IEEE Ellersick Award, 2011
Best Paper Award, IEEE International Conference on Network Protocols, 2007
NPS Outstanding Research Achievement in Computer Science, 2001
NPS Outstanding Instructional Achievement Award, 1999

PROFESSIONAL ACTIVITIES

- Steering Committee member, *Internet Network Management Workshop*, 2008–present
- Program Committee Co-Chair, *IEEE NGNI Symposium*, 2011
- Program Committee Member, *IEEE LANMAN Workshop*, 2010–present
- Program Committee Member, *IEEE SafeConfig Symposium*, 2011
- General Chair, *ACM HotNets Workshop*, 2010
- Technical Program Committee member, ACM Workshop on Assurable and Usable Security Configuration, 2009
- Technical Program Committee member, IFIP/IEEE International Workshop on Distributed Systems: Operations and Management (DSOM), 2008-2009
- Guest editor, IEEE JSAC Special Issue on Network Infrastructure Configuration, 2008
- Technical Program Committee member, *IEEE INFOCOM Conference*, 1998–2008
- Technical Program Committee member, *IEEE International Conference on Network Protocols (ICNP)*, 1998–2001, 2005, 2008
- Program Committee Co-Chair, *ACM SIGCOMM INM'07 Workshop*, 2007
- Technical Program Committee member and session chair/panel moderator, *ACM SIGCOMM Internet Network Management (INM) Workshop*, 2006
- Technical Program Committee member, *MTS/IEEE Oceans Conferences*, 2007
- Technical Program Committee member, *International Conference on QoS in Heterogeneous Wired/Wireless Networks (QSHINE)*, 2004–2005
- Editorial Board member, *Computer Networks*, 2001–2004
- Technical Program Committee member, *IEEE 18th Annual Workshop on Computer Communications*, 2003
- Technical Program Committee member, *IEEE International Workshop on QoS (IWQoS)*, 2000
- Publicity Chair, *6th IEEE International Conference on Network Protocols (ICNP)*, 1998
- Session Organizer and Chair, *Military Communications Conference (MILCOM)*, 1998
- NSF Review Panelist, Special Networking Projects Program, 2002
- Reviewer for various journals, conferences, and NSF proposals, including:
 - *IEEE/ACM Transactions on Networking*
 - *IEEE Transactions on Mobile Computing*
 - *Computer Networks Journal*
 - *IEEE Communications Letter*
 - *ACM SIGCOMM* conferences
 - *IEEE INFOCOM* conferences
 - *IEEE International Conference on Network Protocols* conferences

REFEREED JOURNAL PUBLICATIONS

They are available on-line at <http://faculty.nps.edu/xie/papers/index.html>.

1. Xie, G.G., and Lam, S.S., “Delay Guarantee of Virtual Clock Server,” *IEEE/ACM Transactions on Networking*, vol 3, no. 6, pp. 683-689, December 1995.
2. Xie, G.G., and Lam, S.S., “Group Priority Scheduling,” *IEEE/ACM Transactions on Networking*, vol 5, no. 2, pp. 205-218, April 1997.

3. Lam, S.S., and Xie, G.G., "Burst Scheduling Networks," *Performance Evaluation*, vol 31, pp. 133-157, November 1997.
4. Xie, G.G., "An Efficient Network Architecture Motivated by Application-Level QoS," *Journal of High Speed Networks*, vol 6, no. 3, pp. 165-179, January 1998.
5. Xie, G.G., and Lam, S.S., "Real-time Block Transfer under A Link Sharing Hierarchy," *IEEE/ACM Transactions on Networking*, vol 6, no. 1, pp. 30-41, February 1998.
6. Stone, G., Lundy, G., and Xie, G.G., "Network Policy Languages: A survey and a new approach," *IEEE Network*, vol 15, no. 2, pp. 10-21, January 2001.
7. Gibson, J., Xie, G.G., Kaminski, A., "Demand Assigned Channel Allocation Applied to Full Duplex Underwater Acoustic Networking," *Recent Advances in Marine Science & Technology*, Journal of PACON International, pp. 81-95, June 2005.
8. Greenberg, A., Hjalmytsson, G., Maltz, D., Myers A., Rexford J., Xie, G.G., Yan, H., Zhan, J., and Zhang, H., "A Clean Slate 4D Approach to Network Control and Management," *ACM Computer Communications Review*, vol 35, no. 5, pp. 41-54, October 2005.
9. Maltz, D., Zhan, J., Hjalmytsson, G., Greenberg, A., Rexford, J., Xie, G.G., and Zhang, H., "Structure preserving anonymization of router configuration data," *IEEE Journal on Selected Areas in Communications*, 27(3): 349-358, April 2009.
10. Xiao, Y., Zhang, Y., Gibson, J.H., Xie, G.G., and Chen, H., "Performance Analysis of ALOHA and p-persistent ALOHA for Multi-hop Underwater Acoustic Sensor Networks," *Cluster Computing Journal - Springer*, vol 14, no. 1, pp. 65-80, March 2011. (Online version published in June 2009.)
11. Sung, Y-W, Sun, X., Rao, S.G., Xie, G.G., and Maltz, D.M., "Towards Systematic Design of Enterprise Networks," *IEEE/ACM Transactions on Networking*, vol 19, no. 3, pp. 695-708, June 2011.

INVITED JOURNAL PUBLICATIONS

1. Anderson, P., Gunter, C., Kalmanek, C., Narain, S., Smith, J., Talpade, R., Xie, G.G., "Guest editorial: Network Infrastructure Configuration," *IEEE Journal on Selected Areas in Communications*, 27(3): 349-358, April 2009.
2. Al-Shaer, E., Greenberg, A., Kalmanek, C., Maltz, D., Ng, E., and Xie, G.G., "New Frontiers of Internet Network management," *ACM Computer Communications Review*, vol 39, no. 5, October 2009.

REFEREED BOOK CHAPTERS

1. Xie, G.G., "Internet Architecture," *The Handbook of Computer Networks*, ed. Hossein Bidgoli, John Wiley & Sons. ISBN: 978-0-471-78461-6. vol 2, pp. 345-357, November 2007.

REFEREED CONFERENCE/WORKSHOP PUBLICATIONS

1. Lam, S.S., and Xie, G.G., "Burst Scheduling: Architecture and Algorithms for Switching Packet Video," in *Proceedings of IEEE INFOCOM '95*, vol 3, pp. 940-950, Boston, MA, April 1995. (acceptance ratio: 33.2%)
2. Lam, S.S., and Xie, G.G., "Burst Scheduling Networks: Flow Specification and Performance Guarantees," in *Proceedings of Network and Operating Systems Support for Digital Audio and Video Workshop (NOSSDAV '95)*, pp. 303-307, Durham, New Hampshire, April 1995.
3. Lam, S.S., and Xie, G.G., "Group Priority Scheduling," in *Proceedings of IEEE INFOCOM '96*, vol 3, pp. 1346-1356, San Francisco, CA, March 1996. (acceptance ratio: 29.8%)
4. Xie, G.G., and Lam, S.S., "An Efficient Adaptive Search Algorithm for Scheduling Real-Time Traffic," in *Proceedings of 4th IEEE International Conference on Network Protocols*, pp. 14-22, Columbus, OH, October 1996. (acceptance ratio: 32.3%)

5. Xie, G.G., "An Efficient Network Architecture Motivated by Application-Level QoS," in *Proceedings of 7th Maryland Workshop on Very High Speed Networks*, pp. 497-517, Univ. of Maryland at Baltimore County, Maryland, November 1996.
6. Xie, G.G., and Lam, S.S., "Real-time Block Transfer under A Link Sharing Hierarchy," in *Proceedings of IEEE INFOCOM '97*, vol 2, pp. 388-397, Kobe, Japan, April 1997. (acceptance ratio: 31.9%)
7. Xie, G.G., and Lam, S.S., "Admission Control and Loss Management for an Application-Level Statistical Service," in *Proceedings of 5th IEEE International Conference on Network Protocols*, pp. 142-151, Atlanta, GA, October 1997. (acceptance ratio: 39.5%)
8. Xie, G.G., Hensgen, D., Kidd, T., and Yarger, J., "SAAM: An Integrated Network Architecture for Integrated Services," in *Proceedings of 6th IEEE/IFIP International Workshop on Quality of Service*, pp. 117-126, Napa, CA, May 1998. (acceptance ratio: 16.8%)
9. Kresho, J., Hensgen, D., Kidd, T., and Xie, G.G., "Determining the Accuracy Required in Resource Load Prediction to Successfully Support Application Agility," in *Proceedings of 2nd IASTED European Conference on Parallel and Distributed Systems Conference (Euro-PDS 98)*, pp. 224-254, Vienna, Austria, July 1998.
10. Xie, G.G., "LLPA: A Protocol for High Speed Packet Authentication," in *Proceedings of IEEE 1999 Workshop on Gigabits Networking (GBN 1999)*, New York City, NY, March 1999.
11. Xie, G.G., and Gibson, J.H., "A Network Layer Protocol for Underwater Acoustic Networks to Address Propagation Delay Induced Performance Limitations," in *Proceedings of MTS/IEEE Oceans 2001 Conference*, vol 4, pp. 2088-2094, Honolulu, HI, November 2001.
12. Gibson, J., Larraza, A., Rice, J., Smith, K., and Xie, G.G., "On the Impacts and Benefits of Implementing Full-duplex Communications Links in an Underwater Acoustic Network," in *Proceedings of 5th International Mine Symposium*, Naval Postgraduate School, March 2002
13. Xie, G.G., Irvine, C., and Levin, T., "Quantifying Effect of Network Latency and Clock Drift on Time-Driven Key Sequencing," in *Proceedings of IEEE First International Workshop on Assurance in Distributed Systems and Networks*, Vienna, Austria, July 2002.
14. Braun, M. and Xie, G.G., "A Feedback Mechanism for Mitigating Denial of Service Attacks against Differentiated Services Clients," in *Proceedings of Tenth Int. Conf. on Telecommunication Systems: Modeling and Analysis*, pp. 204-213, Monterey, CA, October 2002.
15. Xie, G.G., Gibson, J., and Bektas, K., "Evaluating the Feasibility of Establishing Full-Duplex Underwater Acoustic Channels," in *Proceedings of Third Annual Mediterranean Ad Hoc Networking Workshop (MedHoc)*, Bordrum, Turkey, June 2004.
16. Xie, G.G., Wen, S., Gibson, J., and Singh, G., "Towards A First Responder Contingency Information Capability," in *Proceedings of 12th International Conf. on Telecommunication Systems: Modeling and Analysis*, Monterey, CA, July 2004.
17. Maltz, D., Xie, G.G., Zhan, J., Zhang, H., Hjalmytsson, G., and Greenberg, A., "Routing Design in Operational Networks: A Look from the Inside," in *Proceedings of ACM SIGCOMM*, Portland, OR, August 2004. (acceptance ratio: 9.11%)
18. Maltz, D., Xie, G.G., Zhan, J., Zhang, H., Hjalmytsson, G., and Greenberg, A., "Structure Preserving Anonymization of Router Configuration Data," in *Proceedings of ACM/USNIX Internet Measurement Conference (IMC)*, Sicily, Italy, October 2004. (acceptance ratio: 24%)
19. Rexford, J., Greenberg, A., Hjalmytsson, G., Maltz, D., Myers, A., Xie, G.G., Zhan, J., and Zhang, H., "Network-Wide Decision Making: Toward A Wafer-Thin Control Plane," in *Proceedings of ACM SIGCOMM HotNets'04*, San Diego, CA, November 2004. (acceptance ratio: 20%)
20. Gibson, J., Xie, G.G., Coelho, J., and Diaz-Gonzalez, L., "The Impact of Contention Resolution versus a priori Channel Allocation on Latency in a Delay Constrained Network," in *Proceedings of Annual Underwater Networking (UNET) Planning Workshop*, Naval Postgraduate School, March 2005.
21. Xie, G.G., Zhan, J., Maltz, D., Zhang, H., Greenberg, A., Hjalmytsson, G., and Rexford, J., "On Static Reachability Analysis of IP Networks," in *Proceedings of IEEE INFOCOM*, Miami, FL, March 2005. (acceptance ratio: 17.2%)

22. Brand, S., Xie, G.G., and Gibson, J., "A Software Framework for Mobile Ad hoc Data Communications Using Legacy Voice-Centric Tactical Radios," in *Proceedings of 2006 Command and Control Research and Technology (CCRTS) Symposium*, San Diego, June 2006.
23. Xie, G.G., Gibson, J., and Diaz-Gonzalez, L., "Incorporating Realistic Acoustic Propagation Models in Simulation of Underwater Acoustic Networks: A Statistical Approach," in *Proceedings of MTS/IEEE Oceans Conference*, Boston, September 2006.
24. Gibson, J.H., Xie, G.G., Xiao, Y., and Chen, H., "Analyzing the Performance of Multi-hop Underwater Acoustic Sensor Networks," in *Proceedings of MTS/IEEE Oceans Conference*, Scotland, June 2007.
25. Le, F., and Xie, G.G., "On Guidelines for Safe Route Redistributions," in *Proceedings of ACM SIGCOMM Internet Network Management (INM '07)*, Kyoto, Japan, August 2007. (acceptance ratio: 20%)
26. Le, F., Xie, G.G., and Zhang, H., "Understanding Route Redistribution," in *Proceedings of IEEE ICNP*, Beijing, China, October 2007. (acceptance ratio: 14.5%; won best paper award)
27. Gibson, J.H., Xie, G.G., and Xiao, Y., "Performance Limits of Fair-Access in Sensor Networks with Linear and Selected Grid Topologies," in *Proceedings of GLOBECOM Ad Hoc and Sensor Network Symposium*, Washington D.C., November 2007.
28. Le, F., Xie, G.G., Pei, D., Wang, J., and Zhang, H., "Shedding Light on the Glue Logic of the Internet Routing Architecture," in *Proc. ACM SIGCOMM Conference*, Seattle, WA, USA, August 2008. (acceptance ratio: 10%)
29. Fischer, W., Xie, G.G., and Young, J., "Cross-Domain Fault Localization: A Case for a Graph Digest Approach," in *Proc. IEEE Third Workshop on Internet Network Management (INM'08)*, Orlando, FL, USA, October 2008. (acceptance ratio: 25%)
30. Le, F., Xie, G.G., and Zhang, H., "Instability Free Routing: Beyond One Protocol Instance," in *Proc. ACM CoNEXT Conference*, Madrid, Spain, December 2008.
31. Sung, E., Rao, S., Xie, G.G., and Maltz, D., "Towards Systematic Design of Enterprise Networks," in *Proc. ACM CoNEXT Conference*, Madrid, Spain, December 2008.
32. Xiao, Y., Zhang, Y., Gibson, J.H., Xie, G.G., and Chen, H., "Performance Analysis of ALOHA and p-persistent ALOHA for Multi-hop Underwater Acoustic Sensor Networks," IEEE International Conference on Embedded Software and Systems, Zhejiang, China, May 2009.
33. Xiao, Y., Peng, M., Gibson, J., Xie, G.G., and Du, D., "Performance Limits of Fair-Access in Underwater Sensor Networks," in *Proc. 38th International Conf. Parallel Processing (ICPP'09)*, pp. 285-292, Vienna, Austria, September 2009.
34. Yue, S., Xiao, Y., and Xie, G.G., "Experiments on an Election Algorithm for Decision Element Failures in 4D Future Internet Architecture," in *Proc. International Conf. Future Generation Communication and Networking (FGCN'09)*, pp. 250-258, Jeju Island, Korea, December 2009.
35. Le, F., Xie, G.G., and Zhang, H., "Theory and New Primitives for Safely Connecting Routing Protocol Instances," in *Proc. ACM SIGCOMM Conference*, New Delhi, India, August 2010. (acceptance ratio: 12%)
36. Beverly, R., Berger, A., and Xie, G.G., "Primitives for Active Internet Topology Mapping: Toward High-Frequency Characterization," in *Proc. ACM Internet Measurement Conference*, Melbourne, Australia, November 2010. (acceptance ratio: 22.3%)
37. Vallina-Rodriguez, N., Efstratiou, C., Xie, G.G., Crowcroft, J. "Enabling Opportunistic Resources Sharing on Mobile Operating Systems: Benefits and Challenges," in *Proc. ACM S3 Workshop*, Las Vegas, NV, September 2011.
38. Sun, X., Wei, J-L, Rao, S., and Xie, G.G., "A Software Toolkit for Visualizing Enterprise Routing Design," in *Proc. 4th IEEE Symposium on Configuration Analytics and Automation*, Arlington, VA, November 2011.
39. Huchton, S., Xie, G.G., and Beverly, R., "Building and Evaluating a k-Resilient Mobile Distributed File System Resistant to Device Compromise," in *Proc. MILCOM Conference*, Baltimore, MD, November 2010. (IEEE Ellersick Award – best unclassified paper)
40. Le, F., Xie, G.G., and Zhang, H., "On Route Aggregation," in *Proc. ACM CoNEXT Conference*, Tokyo, Japan, December 2011. (acceptance ratio: 18.9%)

INVITED CONFERENCE/WORKSHOP PUBLICATIONS

1. Xie, G.G., and Lam, S.S., "Delay Guarantee of Virtual Clock Server," in *Proceedings of 9th IEEE Workshop on Computer Communications*, Marathon, FL, October 1994.
2. Lam, S.S., and Xie, G.G., "Burst Scheduling Networks: Flow Specification and Performance Guarantees," in *Proceedings of 9th IEEE Workshop on Computer Communications*, Marathon, FL, October 1994.
3. Xie, G.G., "SAAM: A Network Management System for the Next Generation Internet," in *Proceedings of 1998 NASA/NREN Workshop on QoS*, NASA Ames Research Center, Moffett Field, CA, August 1998.
4. Xie, G.G., "StarGate: PC-based ATM Cell Authentication Gateway," presented at *2nd Washington University Gigabits Switch Kit Workshop*, St Louis, MO, July 1999.
5. Xie, G.G., "Lightweight Key Management for WEP," presented at *Wireless LAN Security Conference*, Paris, France, June 2002.
6. Xie, G.G., "MPLS for Broadband Access Networks," panel presentation at *Tenth Int. Conf. on Telecommunication Systems: Modeling and Analysis*, Monterey, CA, October 2002.
7. Xie, G.G., "Wireless Multimedia: Hype and Reality", panelist, *14th ACM International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV)*, Ireland, June 2004.
8. Xie, G.G., "A Software Framework for Mobile Ad Hoc Data Communications Using Legacy Voice-Centric Tactical Radios," presented at *AFACA West Mobile Ad Hoc Network (MANET) Symposium*, San Diego, January 2006.
9. Xie, G.G., "Network Configuration Engineering," presented at *Configuration Management Workshop at 20th Large Installation System Administration Conference*, Washington D.C., December 2006.

PUBLISHED COMPUTER PROGRAMS

1. Xie, G.G., *et al*, "Server and Active Agent network Management (SAAM) Testbed," 2001. More than 25,000 lines of Java and XML code, integrating results from more than ten M.S. theses.
2. Xie, G.G, and Eryigit, C., "A Generic Java Event Channel Package for Building Dynamically Reconfigurable Applications," March 2002
3. Xie, G.G, *et al*, "A Functional BGP Stress Tester," 2005. More than 4,000 lines of Java and XML code, integrating results from two M.S. theses.
4. Xie, G.G, *et al*, "The SimBind Simulation Toolkit," August 2005. More than 5,000 lines of Java, XML, and Web service configuration code.
5. Xie, G.G, and Wong, E. "Static Reachability Analysis Toolkit," December 2006. More than 3,000 lines of Java code. Currently besting evaluated at AT&T Research Labs.

SELECTED NON-REFEREED TECHNICAL REPORTS

1. Xie, G.G., Hensgen, D., Kidd, T., and Yarger, J., "Efficient Management of Integrated Services Using a Path Information Base," NPS-CS-98-013, Department of Computer Science, Naval Postgraduate School, May 1998.
2. Xie, G.G., Irvine, C. and Colwell, C. "LLPA: A Protocol for High Speed Packet Authentication," NPS-CS-99-01, Department of Computer Science, Naval Postgraduate School, February 1999.
3. Stone, G., Lundy, B., and Xie, G.G., "Network policy languages: A survey and a new approach," Technical Report, NPS-CS-99-003, December 1999.
4. Xie, G.G., Irvine, C. and Levin, T., "Conditions for time-driven key sequencing," Technical Report, NPS-CS-00-001, August 2000.

5. Xie, G.G., and Gibson, J. "A Networking Protocol for Underwater Acoustic Networks," Technical Report, Department of Computer Science, Naval Postgraduate School, December 2000.
6. Xie, G.G., and Nguyen, L.K. "Fallacy of Predicting Global Routing Instabilities with Simple BGP Route Update Traffic Indicators," Technical Report NPS-CS-04-06, Department of Computer Science, Naval Postgraduate School, May 2004.
7. Obaidullah, K. and Xie, G.G., "BGP Stress Testing using PROTOS," June 2004.
8. Xie, G.G., Zhan, J., Maltz, D., Zhang, H., Greenberg, A., Hjalmtysson, G., and Rexford, J., "On Static Reachability Analysis of IP Networks," CMU-CS-04-146, Carnegie Mellon University, June 2004.
9. Greenberg, A., Hjalmtysson, G., Maltz, D., Myers A., Rexford J., Xie, G.G., Yan, H., Zhan, J., and Zhang, H., "Refactoring Network Control and Management: A Case for the 4D Architecture," CMU-CS-05-177, Carnegie Mellon University, September 2005.
10. Xie, G.G., Wang, J., Pei, D., Wong, E., and Kantz, S.M., "Inferring Reachability from Static Network Configuration," Naval Postgraduate School, May 2007.
11. Le, F., Xie, G.G., and Zhang, H., "Theory and new primitives for interconnecting routing protocol instances," Technical Report, CMU-CS-09-132, Carnegie Mellon University, May 2009.
12. Fischer, W., Xie, G.G., and Young, J., "Is cross-domain fault localization feasible?" Technical Report, NPS-CS-09-007, Naval Postgraduate School, February 2009.

RESEARCH GRANTS

TOTAL: \$2.5 million as Lead PI and \$410,000 as Co-PI.

1. Principal Investigator, "Integrating Cell Phone Capabilities with Marine Corps Tactical Networks," from USMC, \$160,000, 10/2009 - 8/2011.
2. Principal Investigator, "Collaborative Research: NeTS-NBD: An Abstraction Driven Approach to Characterizing and Designing Networks with Analyzable Properties," from National Science Foundation (NSF), \$275,000 for NPS, 8/2007 - 4/2011. Collaboration with Purdue, Princeton, Microsoft Research, and AT&T Research Labs.
3. Principal Investigator, "Collaborative Research: NeTS-NBD: A Revolutionary 4D Approach to Network-Wide Control and Management," from National Science Foundation (NSF), \$200,194 for NPS, 8/2005 - 3/2010. Collaboration with CMU, Princeton, and AT&T Research Labs.
4. Principal Investigator, "Investigation of Selected Information Assurance Topics," from National Security Agency (NSA), \$91,213, 4/2008 - 11/2008.
5. Principal Investigator, "Investigation of Selected Information Assurance Topics," from National Security Agency (NSA), \$93,000, 12/2006 - 12/2007.
6. Co-Principal Investigator, "Joint Mobile Network Operations," from US Marine Corp JMNO Program, \$350,000, 10/2006 - 3/2009. Co-PIs: Guminder Singh (CS) and JD Fulp (CS).
7. Co-Principal Investigator, "USMC TrellisWare Project - Computer Science Support," from US Marine Corp, \$35,000, 10/2006 - 9/2007. Co-PI: John Gibson (CS).
8. Principal Investigator, "Static Analysis of Routing Behavior," from National Science Foundation (NSF), \$58,000, 9/2006 - 9/2007.
9. Principal Investigator, "Softphone: Open Source Software VoIP Solution over EPLRS," from US Marine Corp MAR-CORSYSCOM, \$20,000, 6/2006 - 12/2006.

10. Principal Investigator, "Selected Information Assurance Topics," from National Security Agency (NSA), \$75,000, 10/2005 - 11/2006.
11. Principal Investigator, "Validating Network Security Policies via Static Analysis of Router ACL Configuration," from OSD Operational Test and Evaluation Directorate (DOT&E), \$20,000, 3/2006 - 12/2006.
12. Principal Investigator, "Simulation of Scenarios Involving Telecommunication and Internet Assets in San Luis Ray," from Department of Homeland Security, \$88,000, 2/2004 - 6/2005.
13. Principal Investigator, "BGP Anomaly Detection and Stress Testing," from National Security Agency (NSA), \$100,000, 2/2004 - 3/2005.
14. Principal investigator, "A Networking Protocol for Underwater Acoustic Networks", from the National Science Foundation (NSF), \$311,562, 9/1/2001 - 8/31/2004.
15. Principal investigator, "SAAM: Network Management for Integrated Services", from DARPA, \$880,000, 5/1/1998 - 3/31/2002.
16. Co-Principal Investigator, "Magma: Mobile Code Approach to Server Fault Tolerance," from the National Reconnaissance Office (NRO), \$25,000, 3/1/2001 - 12/13/2001. Co-PI: Scott Margulis (former CS student)
17. Principal investigator, "Centralized Network Policy Management using a SAAM Server", from NASA, \$192,000, 10/1/1998 - 9/30/2000.
18. Principal Investigator, "Research with Experimental Gigabits ATM Switches and Peripherals," from National Science Foundation (NSF), Equipment worth approximately \$100,000, 1997 - 2000.

NEW COURSES DEVELOPED

- Network Design and Programming
- Introduction to Multimedia Systems
- Advanced Network Topics: Internet Routing and Quality Service
- Network Modeling and Analysis

OTHER COURSES TAUGHT

- Introduction to Computer Networks
- Introduction to Object Oriented Programming using C++

STUDNETS SUPERVISED

- Principal advisor for one PhD dissertation and 58 MS theses, and co-advisor for two PhD dissertations and 10 MS theses
- Advising three PhD students and two MS students

NPS SERVICES / COMMITTEES

- Associate Department Chair, Computer Science, 2008 to present
- Member, Software Engineering Ph.D. Committee, 2000 to present
- Chair, CS PhD Program Committee, 2007-2008
- Member, Sabbatical Evaluation Committee, 2005
- Member, GSOIS Dean Search Committee, 2003
- CS Representative, Faculty Council, 1998-2000

- Chair, Computer Science Departmental Search Committee, 2005 to 2008
- Member, Computer Science Curriculum Committee, 2005 to 2008
- Member, Departmental Interim Chair Search Committee, April 2001 to July 2001