

JAMES F. KUROSE

College of Information and Computer Sciences
University of Massachusetts
Amherst, Mass. 01003
kurose@cs.umass.edu
<http://cs.umass.edu/~kurose>
ph: 413-545-1585, FAX: 413-545-1249
Sept. 2019

EDUCATION

Doctor of Philosophy, Computer Science, Columbia University, 1984. Thesis advisors: Mischa Schwartz, Electrical Engineering; Yechiam Yemini, Computer Science
Masters of Science, Computer Science, Columbia University, 1980
Bachelor of Arts, Physics, Wesleyan University, 1978

WORK EXPERIENCE

Distinguished University Professor, U. Massachusetts, 9/04 to present, Department of Computer Science. Full Professor, 9/96 – 9/04. Associate Professor, 9/90 – 8/96. Assistant Professor, 9/84 – 8/90.

Assistant Director, US National Science Foundation, Computer and Information Science and Engineering (CISE) Directorate, 1/15 to 5/18; 7/18 – 9/19. In this position, I led the CISE Directorate, with an annual budget of nearly \$1B and a staff of more than 125 individuals, in its mission to uphold the nation's leadership in scientific discovery and engineering innovation through its support of fundamental research in computer and information science and engineering and transformative advances in cyberinfrastructure. Responsibility for CISE's overall scientific direction and programmatic; working with NSF leadership, including other Assistant Directors, on NSF-wide strategic issues; budgeting and planning; coordination and communication with Congress and White House on CISE-related activities; engagement and communication with multiple stakeholders. Specific activities have included developing NSF's Big Ideas (particularly Harnessing the Data Revolution, the Future of Work at the Human-Technology Frontier, and The Quantum Leap); working the Office of Science and Technology Policy, other Federal agencies, industry partners, and the academic research community on new initiatives in Advanced Wireless Communications, Artificial Intelligence, Computer Science for All, Strategic Computing, and Smart and Connected Communities; creation of the Office of Advanced Cyberinfrastructure and programs including Leadership-Class Computing, and enhanced access to cloud computing. In addition to these NSF responsibilities, I co-chaired the Networking and Information Technology Research and Development Program, the Subcommittee on Machine Learning and AI, and the Subcommittee on Open Science of the National Science and Technology Council (NSTC), facilitating the coordination of research and development efforts in these three areas across Federal agencies. See jimkurose.wordpress.com for my reflections on this service.

Assistant Director for Artificial Intelligence, Office of Science and Technology Policy (OSTP), Executive Office of the President, 4/18 to 10/18. (Full time 5/18-7/18, part-time detail other times). In this position, I led OSTP activities in Artificial Intelligence. This included planning and implementation of a national AI strategy; managing the new NSTC Select Committee on AI; co-chairing the ML/AI NSTC subcommittee; assisting on international AI strategy including OECD AI Principles; advising OSTP

leadership; and participating in various meetings/briefings in the executive and legislative branches of US government on AI, strategic computing, science and security, and open science.

Executive Associate Dean, College of Natural Sciences (CNS), 9/09 – 9/11. Working with dean and associate deans of new college on academic/staff personnel actions and hiring; budgeting and planning; development; space/facilities; communications. Working with Vice Chancellor for Research and Engagement on center-scale proposal development, leading system-wide activities in developing state-wide Massachusetts Green High Performance Computing Center, MA Governor's digital economy task force, and facilitating research compliance.

Interim Dean, College of Natural Sciences and Mathematics (NSM), U. Massachusetts, 9/08 – 8/09. Responsibility for academic/staff personnel actions and hiring; budgeting and planning; development; space/facilities; communications. Additional specific activities include leading system-wide activities in conception and development of state-wide Massachusetts Green High Performance Computing Center, developing and supporting the integrated concentration in science (iCons) program, creating and supporting the first flipped-classroom pilots at UMass, initiating NSM-specific faculty development with Center for Teaching, and preparing for the new organization of the university's colleges.

Department Chair, U. Massachusetts, Dept. Computer Science, 5/98 – 6/01.

Associate Director and Co-PI, Center for Collaborative Adaptive Sensing of the Atmosphere (CASA), NSF Engineering Research Center, 9/03 – 8/08.

Visiting Professor, Sorbonne University, Paris (10/19 – present), University of Paris VI (Université Pierre et Marie Curie), 6/05, 6/06, 2/12 – 7/12; Institut National de Recherche en Informatique et en Automatique (INRIA), and Institut Eurecom, INRIA, Sophia Antipolis, France, 9/97 – 9/98.

Visiting Scientist, Thomson/Technicolor (Paris, Palo Alto) 5/06-6/06, 10/06, 2/12 – 7/12, 9/1 –12/12; IBM Thomas J. Watson Research Center, 9/90 – 8/91.

RESEARCH INTERESTS

Computer networks, protocols and architecture, network measurement, sensor networks, multimedia communication, stochastic modeling and performance evaluation

AWARDS AND HONORS

RESEARCH AWARDS AND HONORS

Fellow, IEEE (1997), ACM (2001)

ACM SIGCOMM Lifetime Achievement Award, 2016

Distinguished Faculty Lecture, U. Massachusetts, 2014

IEEE Infocom Achievement Award, 2013

ACM SIGCOMM Test-of-Time Award (10-year retrospective best paper), 2008

ACM SIGMOBILE Test-of-Time Award (10-year retrospective best paper), 2018

Samuel F. Conti Research Fellowship, U. Massachusetts, 2011-2012

Award for Outstanding Achievement in Research and Creative Activity, U. Massachusetts, 2005

Faculty Development Award, IBM, 1985, 2005

Outstanding Investigator Award, DARPA, 2002

Young Faculty Award, General Electric Foundation, 1985

Best Paper Award (runner up), 2014 ACM Information-centric Networking Conference
Best Poster/Demo, 2014 ACM MSWiM Conference
Best Paper Award 2013 IEEE Infocom conference
Best paper Award, 2013 IEEE Vehicle Technology Conference
Best Paper Award, 2008 IEEE Multimedia Computing and Networking Conference
Best Student Paper Award, 2000 ACM Sigmetrics Conference
Best Paper Award, 1996 ACM Sigmetrics Conference
Best Paper Presentation Award, 1994 ACM Sigmetrics Conference

Distinguished Lecturer (as UMass faculty member): UC Davis, UC Irvine, CMU, Columbia U., Colorado State U., U. Delaware, U. Kentucky, U. Illinois, Indiana U., U. Minnesota, Northeastern U., NYU Polytechnic Institute, Ohio State U., Purdue University, Rensselaer Polytechnic Institute, Texas A&M, U. Texas Dallas, U. Toronto, U. Utah, Worcester Polytechnic Institute

Keynote Addresses (as UMass faculty member): ACM Sigcomm Workshop on Information-centric Networks, Asian Internet Engineering Conference, ACM Federated Computing Research Conference (FCRC), ACM Mobicom Conference, ACM SigComm Conference, Consortium for Computing Sciences in Colleges New England, IEEE COMSWARE, IEEE COMSNETS, EU Workshop on Future Internet Research and Experimentation (FIRE), IEEE Infocom (twice), IEEE Int. Conference on Network Protocols, IEEE Percom Conference, IEEE Internet Performance Symposium, IEEE Int. Conference on Sensor, Mesh and Ad Hoc Communications and Networks (SECON), IEEE Int. Conf. Computer Network and Mobile Communications, IEEE Int. Workshop on Quality of Service in MultiService IP Networks, IEEE Distributed Interactive Simulation and Real-Time Workshop, IEEE Real-Time System Symposium, IFIP Networking, Workshop on Embedded Networked Sensors

TEACHING AWARDS AND HONORS

IEEE Computer Society Taylor Booth Education Medal, 2001
Outstanding Teaching Award, Northeast Assn. of Graduate Schools, 1996
Outstanding Teaching Award, College of Natural Sciences and Mathematics, U. Massachusetts, 1995
Lilly Teaching Fellowship, U. Massachusetts, 1993/94
Outstanding Teacher Award, National Technological University, awarded each year 1989 – 1998

SERVICE AWARDS AND HONORS

IEEE Communication Society, Publications Exemplary Service Award, 2007
IEEE Infocom Outstanding Service Award, 2005
Massachusetts 2002 Workforce Development Leader of the Year
U. Massachusetts President's 2002 Service Award
College of Natural Sciences and Mathematics, U. Massachusetts 2002 Service Award

GRADUATE AND UNDERGRADUATE HONORS

Graduate: IBM Graduate Student Fellowship
Undergraduate: Magna cum laude with high honors in Physics, Phi Beta Kappa, Sigma Xi, Bertman Research Prize, Thorndike award, Eastman-Kodak research fellowship

PROFESSIONAL SERVICE: RESEARCH

NSF CISE Advisory Committee, 2011 – 2014

NSF CISE, Committee of Visitors, Chair, 2014 (through 9/14)
Computing Research Association, Board of Directors, 2008 – 2014
NSF CISE, Midscale Infrastructure Committee, Co-Chair, 2012 – 2014
NSF, Merit Review Advisory Committee, 2011-2012
NSF CISE Indo-US Workshops in Pervasive Communications/Computing Collaboration, Co-Chair, 2010 – 2013
Panel on Information Technology, National Academy of Sciences, 2011
NSF Future Internet Design (FIND) Planning Committee, 2006 – 2008
NSF Workshop on Integrated Computing Education and Research, Workshop Co-organizer, 2005
NSF Workshop on Science of Networking Design, Workshop Co-organizer, 2004
DARPA Panel: NetVision 2014, 2003 – 2004
NSF Workshop on Future Networking Research Directions, 2003
NSF Workshop on Research Network Testbeds, Workshop Chair, 2002
Panel on Networking Research Horizons, National Academy of Sciences, 2001
Panel on Army Communications, National Academy of Sciences, 1994 – 1995
Panel, National Science Foundation, Very High Speed Backbone Network, 1995
NSF Blue Ribbon Panel – Engineering Research Centers, 2005 – 2006
Proposal Evaluation Panels, NSF, 1987, 1992, 1993, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2005, 2008, 2009, 2013

Founding Editor-in-Chief, *IEEE/ACM Trans. Networking*, 6/92 – 6/95
Editor-in-Chief, *IEEE Trans. Communications*, 6/91 – 9/92
Editor, *IEEE/ACM Trans. Networking*, 1995-1997
Associate Editor for Networking Systems, *IEEE Trans. Communications*, 1989-1991
Guest Editor, *IEEE J. Selected Areas in Communications*, special issues on Network Measurement and Sampling, 12/06; Computer-Aided Modeling of Communication Systems, 12/90, 1/91
Director of Journals, IEEE Communications Society, 1/00 – 12/02
Steering Committee, *IEEE/ACM Trans. Networking*, 2000 – 2009
Editorial Advisory Board, *International Journal of Distributed Sensor Networks*, 2004 – 2010

ACM Doctoral Dissertation Award Committee, 2014
Marconi Society Award Selection Advisory Committee, 2014 – present
IEEE Computer Society, Education Awards Committee, 2012 – 2014
IEEE Alexander Graham Bell Award Committee, 2010 – 2013
Nominations and Elections Committee, ACM Sigcomm, 2006 (chair), 2013
NSF/CCC CI Fellows Committee, 2009 – 2011
ACM Sigmetrics Test of Time Award Committee, 2011
Awards Committee, ACM Sigcomm, 2003 – 2004, 2006, 2010
ACM Sigcomm Rising Star Award Committee, 2007, 2008, 2010 (chair)
ACM Sigcomm Test of Time Award Committee, 2006, 2007 (chair), 2009
IEEE Computer Society, Fellows Evaluation Committee, 2009, 2011
Nomination and Elections Committee, IEEE Communications Society, 2004 – 2006
Board of Governors, IEEE Communications Society, 1996 – 1998, 2000 – 2002
Awards Committee, IEEE Communications Society, 1998 – 2000
IEEE Tech. Committee on Computer Communications, Vice Chair 1989 – 1991; Secretary, 1987 – 1989
Advisory Board, National Center for Telecommunications Technologies, 2001 – 2003

Steering Committee, ACM Internet Measurement Conference, 2012 – 2014

Steering Committee, ACM e-Energy Conference, 2013 – 2014
Steering Committee, ACM CoNext Conference, 2006 – 2008
Steering Committee, IEEE Global Internet Conference, 2003 – 2008
Conference Standing Committee, IEEE INFOCOM Conference, 1992 – 2002
Technical Advisory Committee, ACM SIGCOMM, 1997 – 2001

General Co-Chair, ACM Internet Measurement Conference, Boston, 11/12
General Co-Chair, IEEE Infocom 2009, Rio de Janeiro, 4/09
General Co-Chair, IEEE COMSNETS 2008, Bangalore, India, 1/08
General Co-Chair, ACM CoNext Conference, NY, 12/07
Technical Program Co-Chair, ACM e-Energy, Berkeley, 5/13
Technical Program Chair, ACM Internet Measurement Conference 11/04
Technical Program Co-Chair, ACM SIGCOMM'00, Stockholm, 8/00
Technical Program Co-Chair, ACM SIGMETRICS'00, Santa Clara, 06/00
Technical Program Co-Chair, IEEE INFOCOM 92, Florence, Italy, 5/02
Workshop Co-Chair, INTIMATE Big Data Workshop, Paris, France 06/12
Workshop Chair, ACM Sigcomm 2010, Delhi India, 08/10
Workshop Chair, ACM Sigcomm 2002 Workshop on Computer Networking: Curriculum Designs and Educational Challenges, Pittsburgh, 08/02
Workshop Chair, Program Committee, 2nd Int. IEEE Workshop on Computer-Aided Modeling of Communication Links and Networks, Amherst MA, 09/88
Program Committee, IEEE INFOCOM Conference, (11 years), ACM SIGCOMM Conference, (11 years), ACM SIGMETRICS Conference, (12 years), ACM Int. Workshop on Network and Operating System Support for Digital Audio and Video, (6 years), ACM CoNEXT, (3 years), ACM Hotnets, (2 years), ACM Internet Measurement Conference (2 years), IEEE Int. Conference on Distributed Computer Systems, (5 years), and numerous other conference and workshop program committees

Research and Science Advisory Boards and Panels:

Board of Trustees and Science Advisory Board, Instituto Madrileño de Estudios Avanzados (IMDEA Madrid) 2007 – 2014
Networking Advisory Panel, National Information and Communications Technology Australia (NICTA), 2005 – 2014
Scientific Advisory Board, Laboratory for Information, Network and Communication Sciences, Paris, 2009 – 2014
Science Advisory Board, Technicolor, 2008 – 2012
Review panel, Institut Nationale de Recherche en Informatique et en Automatique (INRIA) Networking and Telecommunications, 2000, 2012 (chair)
Advisory/Review Boards for EU Projects: ResumeNet, ETH Zurich, 2009 – 2012; Future and Emerging Technologies, 2008; Onelab, U. Paris VI, 2009 – 2014; User-centric Networking, 2013 – 2014
Swiss National Center for Competence in Research, 2004 – 2010

PROFESSIONAL SERVICE: EDUCATION

Advisory Panel/Group/Board, Dept. Computer Science, U. Connecticut, 2003 – 2008; Dept. Computer Science, U. Delaware, 2009, Dept. Electrical Engineering and Computer Science, Chinese U. of Hong Kong, 2003 – 2006; College of Computing, Georgia Institute of Technology, 2012; Dept. Computer

Science, John Jay College, 2006; School of Engineering, TISL, U. Kansas, 2004, 2010; Dept. Electrical Engineering and Computer Science, U. Michigan, 2004 – 2009; Dept. Computer Science, U. Minnesota, 2003; NIIT University, India, 2009 – 2012; Dept. Computer Science, North Carolina State U., 2004; Dept. Computer Science, Rensselaer Polytechnic U., 2008; Dept. Computer Science, U. Toronto, 2014; Dept. Computer Science, Tufts U., 2013; Dept. Computer Science, Union College, 2001; Dept. Computer Science, Washington U. in St. Louis 2005 – 2011.

CS Principles AP Advisory Committee, College Board, 2009 – 2012
Faculty Leader, Indo US Collaboration for Engineering Education, Mysore, 2008
ACM Education Council, 2006 – 2008
Director of Education, ACM Special Interest Group on Data Communications, 2003 – 2008
Workshop Chair, NSF CISE Pathways to Revitalized Undergraduate Computing Education (CPATH) New England Workshop, 2006
Workshop Chair, NSF Workshop on Integrative Computing Education and Research Northeast Workshop, 2005
Advisory Board, Internet Engineering Curriculum, CAIDA, 1999 – 2003

PROFESSIONAL SERVICE: STATE

Massachusetts Green High Performance Computer Center, (MGHPCC), Steering Committee; Research, Education and Outreach Co-chair, 2009 – 2014
Technology Hub Collaborative (Massachusetts Governor's task force), 2009 – 2012
Holyoke Innovation District Design and Development Task Force, 2010 – 2012
Holyoke Clean Energy Innovation Workshop, Co-chair, 2011
Commonwealth Information Technology Initiative (CITI), Co-founder and Co-chair, 2000 – 2003
Commonwealth Information Technology Initiative (CITI), Advisory Committee, 2002 – 2006
Massachusetts Board of Higher Education, Information Technology Committee, 2000 – 2003

UNIVERSITY SERVICE

Faculty Delegate to the Trustees, University of Massachusetts Board of Trustees, 2013 – 2014
Faculty Senate, Rules Committee (ex officio), University of Massachusetts Amherst, 2013 – 2014
University Strategic Planning Committee, 2001 – 2002, 2013 – 2014 (Research Co-Chair, JTFSO)
University Strategic Planning Committee (Curricular Innovations, member), 2012/13
Search Committee, Director, Center for Teaching and Faculty Development, 2014
Search Committee, IT Manager, Center for Teaching and Faculty Development, 2013
Principal Investigator, RR-03-011, Extramural Research Facilities Construction, " National Institutes of Health, J. Kurose (PI), \$7.1M (LGRT Renovation), 9/09 – 6/14
Engineering Dean Search Committee (Chair), 2010/11
Provost Search Committee, (Co-Chair), 2009
Assoc. Director Search Committee, Center for Teaching, 2008
Chair Search Committee, Astronomy, 2007
Chair Search Committee, Physics, 2001/02
NSM Dean Search Committee, 2000/01, 2005/06
UMass System-wide Academic VP Search Committee, 2004, 2005
UMass System-wide UMass Online CEO Search Committee, 2000/01

UMass SOM Isenberg chair search committee, 1999/2000
PEEAS Advisory Board (UMass School of Engineering, 2000/01, 2003/04, 2004/05, 2005/06
NSM Awards Committee 2002/03, 2004/05, 2007/08
CS Department Awards Committee, 2003/04, 2003/04, 2004/05, 2005/06, 2006/07, 2007/08
CS Department Chair Search Committee, 2004 (chair), 2007 (chair)
CS Department Personnel Committee, 2002/03 (Chair), 2007/08 (Chair), 2008/09
CS Department Strategic Planning Committee 2003/04, 2004/05, 2007/08 (Chair), 2008/09 (Chair), 2009
– 2014 (chair, co-chair)
Department Executive Committee, 2005/06, 2006/07, 2010/11, 2013/14
Department Publicity Committee 2005/06, 2006/07

PUBLICATIONS: BOOKS

J. Kurose, K. Ross, *Computer Networking: a top-down approach*, Pearson/Addison-Wesley, 7th edition, March 2016; 6th edition, March 2012; 5th edition, May 2009; 4th edition, May 2007; 3rd edition, June 2004; 2nd edition, July 2002; 1st edition, July 2000; preliminary edition, December 1999.

PUBLICATIONS: REFEREED JOURNAL PUBLICATIONS

- M. Dehghan, B. Jiang, A. Seetharam, T. He, T. Salonidis, J. Kurose, D. Towsley, R. Sitaraman, "On the Complexity of Optimal Request Routing and Content Caching in Heterogeneous Cache Networks," *IEEE/ACM Transactions on Networking*, Vol. 25, No. 3, pp. 1635-1648 (May, 2017).
- H. Nakajima, T. Tsutsui, H. Urabayashi, M. Yamamoto, E. Rosensweig, J. Kurose, "Performance Evaluation of Partial Deployment of an In-Network Cache Location Guide Scheme, Breadcrumbs," *IEICE Transactions* 99-B(1): 157-166 (2016).
- A. Seetharam, J. Kurose, D. Goeckel, "A Markovian Model for Coarse-Timescale Channel Variation in Wireless Networks," *IEEE Trans. Vehicular Technology*, Vol. 65, No. 3. Pp. 1701-1710.
- P. Dutta, A. Seetharam, V. Arya, J. Kurose, M. Chetlur, S. Kalyanaraman, "On Managing Quality of Experience of Multiple Video Streams in Wireless Networks," *IEEE Trans. Mob. Comput.* 14(3): 619-631 (2015).
- A. Venkataramani, J. Kurose, D. Raychaudhuri, K. Nagaraja, M. Mao, S. Banerjee, "MobilityFirst: A Mobility-Centric and Trustworthy Internet Architecture," *ACM Computer Communication Review*, July 2014. DOI: <http://dx.doi.org/10.1145/2656877.2656888>
- J. Kurose, "Information-Centric Networking: the evolution from circuits to packets to content," *Computer Networks*, 66: 112–120 (June 2014).
- X. Zhang, G. Neglia, J. Kurose, D. Towsley, H. Wang, "Benefits of Network Coding for Unicast Application in Disruption-Tolerant Networks," *IEEE/ACM Trans. Networking*, vol.21, no.5, pp. 1407-1420, Oct. 2013.
- A. Misra, D. Irwin, P. Shenoy, J. Kurose, T. Zhu, "GreenCharge: Managing Renewable Energy in Smart Buildings," *IEEE Journal on Selected Areas in Communications*, 31(7): 1281 – 1293 (2013).

- X. Zhang, G. Neglia, J. Kurose, D. Towsley, H. Wang, "Benefits of Network Coding for Unicast Application in Disruption Tolerant Networks," *IEEE/ACM Trans. Netw.* 21(5): 1407 – 1420 (2013).
- J. Kurose, "Content-centric networking: technical perspective," *Commun. ACM* 55(1): 116 (2012).
- W. Wei, S. Jaiswal, J. Kurose, D. Towsley, K. Suh, B. Wang, "Identifying 802.11 Traffic from Passive Measurements Using Iterative Bayesian Inference," *IEEE/ACM Transactions on Networking*, 20(2): 325 – 338 (2012).
- M. Uchida, J. Kurose, "An Information-Theoretic Characterization of Weighted α -Proportional Fairness in Network Resource Allocation," *Info. Sci.* 181(18): 4009 – 4023 (2011).
- W. Wei, B. Wang, D. Towsley, J. Kurose: Model-based identification of dominant congested links. *IEEE/ACM Trans. Netw.* 19(2): 456 – 469 (2011).
- M. Zink, J. Kurose, E. Lyons, D. Pepyne, D. Westbrook, "Closed-loop Architecture for Distributed Collaborative Adaptive Sensing of the Atmosphere: Meteorological Command & Control," *International Journal for Sensor Networks*, Vol.7 No.1/2, 2010.
- D. McLaughlin, D. Pepyne, V. Chandrasekar, B. Philips, J. Kurose, M. Zink et al., "Short-Wavelength Technology and the Potential for Distributed Networks of Small Radar Systems," *Bulletin of the American Meteorological Society*, December 2009.
- W. Wei, K. Suh, B. Wang, Y. Gu, J. Kurose, D. Towsley, S. Jaiswal, "Passive Online Detection of 802.11 Traffic Using Sequential Hypothesis Testing with TCP ACK-Pairs," *IEEE Transactions on Mobile Computing*, Vol. 8, Issue 3, pp. 398 –412, March 2009.
- M. Zink, K. Suh, Y. Gu, J. Kurose, "Characteristics of YouTube Network Traffic at a Campus Network - Measurements, Models, and Implications," *Elsevier Computer Networks*, Vol. 53, No. 4, March 2009.
- W. Wei, B. Wang, C. Zhang, J. Kurose, D. Towsley, "Classification of Access Network Types: Ethernet, Wireless LAN, ADSL, Cable Modem or Dialup?" *Elsevier Journal of Computer Networks*, Vol. 52, No. 17, December 2008.
- D. Yates, E. Nahum, J. Kurose, and P. Shenoy, "Data Quality and Query Cost in Pervasive Sensing Systems", *Pervasive and Mobile Computing*, Volume 4, Number 6, December 2008.
- B. Wang, J. Kurose, P. Shenoy, D. Towsley, "Multimedia Streaming via TCP: An Analytic Performance Study," *ACM Transactions on Multimedia Computing Communications and Applications (TOMCCAP)*, Vol. 4, No. 2, April 2008.
- K. Suh, C. Diot, J. Kurose, L. Massoulie, C. Neumann, D. Towsley, M. Varvello, "Push-to-Peer Video-on-Demand system: design and evaluation", *IEEE Journal on Selected Areas in Communications (JSAC)*, Vol. 25, No. 9, (Dec. 2007), pp. 1706 –1716.
- B. Wang, W. Wei, J. Kurose, D. Towsley, K. Pattipati, Z. Guo, Z. Peng, "Application-layer Multipath Data Transfer via TCP: Schemes and Performance Tradeoffs," *Performance Evaluation*, Vol. 64, Issues 9 –12, pp. 965 – 977, October, 2007.
- X. Zhang, G. Neglia, J. Kurose, D. Towsley, "Performance Modeling of Epidemic Routing," *Computer Networks*, Vol. 51, No. 10 (2007), pp. 2859-2891.
- Y. Guo, K. Suh, J. Kurose, D. Towsley, "P2Cast: Peer-to-peer Patching Scheme for VoD Service," *Kluwer Multimedia Tools and Applications*, Vol. 33, No. 2, May 2007.

- S. Jaiswal, G. Iannaccone, C. Diot, J. Kurose, D. Towsley, "Measurement and Classification of Out-of-Sequence Packets in a Tier-1 IP Backbone," *IEEE/ACM Transactions on Networking*, Vol. 15, No. 1, (Feb. 2007), pp. 54 – 66.
- P. Ji, Z. Ge, J. Kurose, D. Towsley, "A Comparison of Hard-state and Soft-state Signaling Protocols," *IEEE/ACM Transactions on Networking*. Vol. 15, No. 2 (April 2007)., pp. 281 – 294.
- B. Plale, D. Gannon, J. Brotzge, K. Droegemeier, J. Kurose, D. McLaughlin, R. Wilhelmson, S. Graves, M. Ramamurthy, R. Clark, S. Yalda, D. A. Reed, E. Joseph, V. Chandrasekar, "CASA and LEAD: Adaptive Cyberinfrastructure for Real-Time Multiscale Weather Forecasting," *IEEE Computer*, Vol. 39, No. 11 (Nov. 2006), pp. 56-64.
- D. Figueiredo, B. Liu, Y. Guo, J. Kurose, D. Towsley, "On the Efficiency of Fluid Simulation of Networks," *Computer Networks*, Vol. 50, No. 12 (Aug. 2006), pp. 1974-1994.
- K. Suh, Y. Guo, J. Kurose, D. Towsley, "Locating Network Monitors: Complexity, Heuristics, and Coverage," *Journal of Computer Communications, Elsevier*, Vol. 29, No. 10, pp. 1564-1577, June 2006.
- S. Bhattacharyya, J. Kurose, D. Towsley, R. Nagarajan, "Efficient Rate-Controlled Bulk Data Transfer using Multiple Multicast Groups," *IEEE/ACM Transactions on Networking*, Vol. 11, No. 6 (Dec., 2004).
- D. Rubenstein, S. Kasera, D. Towsley, J. Kurose, "Improving Reliable Multicast Using Active Parity Encoding Services (APES)," *Computer Communications*, Volume 44, Issue 1, January 2004.
- P. Ji, B. Liu, D. Towsley, Z. Ge, J. Kurose, "Modeling Frame-level Errors in GSM Wireless Channels," *Performance Evaluation*, Vol. 55, No. 1, (Jan. 2004).
- M. Bradshaw, B. Wang, S. Sen, L. Gao, J. Kurose, P. Shenoy and D. Towsley, "Periodic Broadcast and Patching Services," *ACM Multimedia Systems Journal*, Vol. 9, no 1, July 2003.
- J. Kurose, J. Lieberherr, S. Ostermann, T. Ott-Boisseau, "Report from the ACM SIGCOMM Workshop on Computer Networking: Curriculum Designs and Educational Challenges," *Computer Communication Review*, Volume 32, Number 5, October/November 2002.
- L. Gao, J. Kurose, D. Towsley, "Efficient Schemes for Broadcasting Popular Video," *ACM Multimedia Systems Journal*, Vol. 8, No. 4 (2002), pp. 284-294.
- J.K. Shapiro, D. Towsley, Jim Kurose, "Optimization-Based Congestion Control for Multicast Communications", *IEEE Communications Magazine*, no. 9, September 2002.
- D. Rubenstein, J. Kurose, and D. Towsley, "Detecting Shared Congestion of Flows Via End-to-end Measurement," *IEEE/ACM Transactions on Networking*, Volume 10, Number 3, June 2002.
- D. Rubenstein, J. Kurose, D. Towsley, "The Impact of Multicast Layering on Network Fairness," *IEEE/ACM Transactions on Networking*, Vol. 10, No. 2 (April 2002), pp. 169 – 182.
- D. Rubenstein, J. Kurose, D. Towsley, "A Study of Proactive Hybrid FEC/ARQ and Scalable Feedback Techniques for Reliable Real-Time Multicast," *Computer Communications Journal*, March 2001.
- R. Ramjee, T. LaPorta, J. Kurose, D. Towsley, "Migration policies for user agents in wireless networks," *IEEE Journal on Selected Areas in Communications*, Volume: 18 Issue: 11 (Nov. 2000), pp. 2465 -2477.
- R.-H. Hwang, J.F. Kurose, D. Towsley. "MDP routing for multirate loss networks," *Computer Networks*, 34 (2) (2000) pp. 241-261.
- C. Casetti, J. Kurose, D. Towsley, "An Adaptive Algorithm for Measurement-based Admission Control in Integrated Services Packet Networks," *Computer Communications*, pp.1363-1376 August 2000.

- S. Sahu, D. Towsley, J. Kurose, "A Quantitative Study of Differentiated Services for the Internet," *Journal of Communication Networks*, Vol. 2, No. 2 (June 2000), pp. 127-137.
- S. Kasera, G. Hjalmtysson, D. Towsley, J. Kurose, "Scalable Reliable Multicast Using Multiple Multicast Channels," *IEEE/ACM Transactions on Networking*, pp. 294-310, June 2000.
- J. Padhye, V. Firoiu, D. Towsley, J. Kurose, "Modeling TCP Reno: A Simple Model and its Empirical Validation," *IEEE/ACM Transactions on Networking*, Vol. 8, No. 2, pp. 133-145, (April 2000).
- S. Sahu, V. Firoiu, D. Towsley, J. Kurose, "Traffic Models and Admission Control for Variable Bit Rate Continuous Media Transmission with Deterministic Service," *Int. J. Performance Evaluation*, March 2000, pp. 115-133.
- S. Sen, J. Rexford, J. Dey, J. Kurose, D. Towsley, "Online smoothing of variable-bit-rate streaming video," *IEEE Transactions on Multimedia*, pp. 37-48, March 2000.
- S. K. Kasera, S. Bhattacharyya, M. Keaton, D. Kiwior, J. Kurose, D. Towsley, S. Zabele, "Scalable fair reliable multicast using active services," *IEEE Network Magazine*, January 2000
- T. Hashimoto, M. Yamamoto, H. Ikeda, J. Kurose, "Performance Evaluations of Reliable Multicast Communication Protocols under Heterogeneous Transmission Delay Circumstances," *IEICE Transactions on Communications*, Vol. E82-B, No. 10, Oct. 1999. pp. 1609-1617.
- F. LoPresti, Z. Zhang, J. Kurose, D. Towsley, "Source time scale and optimal buffer/bandwidth tradeoff for heterogeneous regulated traffic in a network node," *IEEE/ACM Transactions on Networking*, Vol. 7, No. 4 (Aug. 1999), pp. 490 - 501.
- J. Padhye, J. Kurose "An Empirical Study of Client Interactions with a Continuous-Media Courseware Server" *IEEE Internet Computing*, April 1999.
- V. Firoiu, J. Kurose, D. Towsley, "Efficient admission control of piecewise linear traffic envelopes at EDF schedulers," *IEEE/ACM Transactions on Networking*, Vol. 6, No. 5 (Oct. 1998), pp.558 - 570.
- J. Salehi, Z.-L. Zhang, J. Kurose, and D. Towsley, "Optimal Smoothing of Stored Video and the Impact on End-to-End Resource Requirements," *IEEE/ACM Transactions on Networking*, Vol. 6, No. 4 (Aug. 1998), pp. 397 - 410.
- R. Ramjee, T. LaPorta J. Kurose, D. Towsley, "Performance Evaluation of Connection Rerouting Schemes for ATM-based Wireless Networks," *IEEE/ACM Transactions on Networking*, Vol. 6, No. 3 (Jun. 1998), pp. 249-261.
- D. Rubenstein, J. Kurose, D. Towsley, "Optimistic Parallel Simulation of Reliable Multicast Protocols," *ACM Performance Evaluation Review* Vol. 25, No. 4 (March 1998), pp. 22-29.
- S.B. Moon, J.F. Kurose, D. Towsley, "Packet Audio Playout Delay Adjustment: Performance Bounds and Algorithms," *ACM/Springer Multimedia Systems*, January, 1998.
- Z. Zhang, J. Kurose, J. Salehi, D. Towsley, "Smoothing, Statistical Multiplexing and Call Admission Control for Stored Video," *IEEE Journal on Selected Areas in Communications*, Vol. 15, No. 6 (August 1997).
- Z. Zhang, Z. Liu, J. Kurose, D. Towsley, "Call Admission Control Schemes Under the Generalized Processor Sharing Scheduling," *The Journal of Telecommunication Systems, Modeling, Analysis, Design, and Management*, Vol. 7, No. 1 (July 1997), pp. 125-152.

- D. Towsley, J. Kurose, S. Pingali, "A Comparison of Sender-Initiated and Receiver-Initiated Reliable Multicast Protocols," *IEEE Journal on Selected Areas in Communications*, Vol. 15, No. 3, April 1997.
- J. Kurose, "Future directions in networking research," *ACM Computing. Surveys* 28, 4es, Dec. 1996.
- J. Salehi, J. Kurose, Z. Zhang. "The Effectiveness of Affinity-Based Scheduling in Multiprocessor Networking (Extended Version)," *IEEE/ACM Transactions on Networking*, Vol. 4, No. 4 (Aug. 1996), pp. 516-534.
- J. Dey, J.F. Kurose, D. Towsley, "On-Line Processor Scheduling for a Class of IRIS Real-Time Tasks," *IEEE Transactions on Computers*, Vol. 45, No. 7 (July 1996), pp. 802-813.
- R.H. Hwang, J.F. Kurose, D. Towsley, "The effect of processing delay and QOS requirements in high speed networks," *IEEE/ACM Transactions on Networking*, Vol. 3, No. 6 (Dec. 1995), pp. 628-639.
- Z. Zhang, D. Towsley, J.F. Kurose, "Statistical Network Performance Guarantees with Generalized Processor Sharing Scheduling," *IEEE J. on Selected Areas in Communications*, Vol. 13, No. 6, (Aug. 1995), pp. 1071-1080.
- R. Nagarajan, J. Kurose, D. Towsley, "Finite-horizon statistical quality-of-service measures for high-speed networks," *Journal on High Speed Networks*, Vol. 3, No. 4, pp. 351 - 374.
- D. Yates, J. Kurose, D. Towsley, M. Hluchyj, "On per-session end-to-end delay distributions and the call admission problem for real-time applications with QOS requirements," *Journal on High Speed Networks*, Vol. 3, No. 4, pp. 429 - 458.
- R. Simha, J.F. Kurose, "A Stochastic Approximation Approach to the Call Setup Problem in High Speed Networks," *IEEE Transactions on Communications*, Vol. 42, No. 3, (March 1994), pp. 141 - 152.
- C. Aras, J.F. Kurose, D. Reeves, H. Schulzrinne, "Real-Time Communication in Packet Switched Networks," *Proceedings of the IEEE*, Vol. 82, No. 1 (Jan. 1994), pp. 122-139.
- S. Singh, J.F. Kurose, "Electing 'Good' Leaders in Distributed Systems," *Journal of Parallel and Distributed Systems*, Vol. 23 (1994), pp. 184-201.
- J.F. Kurose, "Open Issues and Challenges in Providing Quality of Service Guarantees in High-Speed Networks," *Computer Communication Rev.*, Vol. 23, No. 1 (Jan. 1993), pp. 6 - 15.
- S.-Z. Chen, J.A. Stankovic, J.F. Kurose, D. Towsley, "Performance Evaluation of Two New Disk Scheduling Algorithms for Real-Time Systems," *Journal of Real-Time Systems*, Vol. 3, pp. 307-336 (1991).
- R. Nagarajan, J.F. Kurose, and D. Towsley, "Approximation Techniques for Computing Packet Loss in Finite-Buffered Voice Multiplexers," *IEEE Journal on Selected Areas in Communications*, Vol. 9, No. 5 (April 1991).
- K. Gordon, J.F. Kurose, R. Gordon and E. MacNair, "An Extensible Visual Environment for Construction and Analysis of Hierarchically-Structured Models of Resource Contention Systems," *Management Science*, Vol. 37, No. 6 (June 1991), pp. 714-732.
- J.F. Kurose, A. Shrivastava and D. Towsley, "Stack Random Access Algorithms in the Presence of Asymmetric Noisy Feedback," *IEEE Transactions on Communications*, Vol. 38, No. 9 (Sept. 1990), pp. 1308-1313.
- J.F. Kurose and R. Simha, "A Microeconomic Approach to Decentralized Resource Sharing in Distributed Systems," *IEEE Transactions on Computers*, Vol. 38, No. 5 (May 1989), pp. 705-707.

- R. Simha and J.F. Kurose, "Relative Reward Strength Algorithms for Learning Automata," *IEEE Transactions on Systems, Man, and Cybernetics*, Vol. 19, No. 2 (March/April 1989), pp. 388-398.
- A. Bhargava, J.F. Kurose, D. Towsley and G. Van Leemput, "Performance Comparison of Error Control Schemes in High-Speed Computer Communication Networks," *IEEE Journal on Selected Areas in Communications*, Vol. 6, No. 12 (December 1988), pp. 1565-1575.
- A. Bhargava, J.F. Kurose and D. Towsley, "A Hybrid Protocol for High-Speed Ring Networks," *IEEE Journal on Selected Areas in Communications*, Vol. 6, No. 6 (July 1988), pp. 924-933.
- J.F. Kurose, M. Schwartz and Y. Yemini, "Controlling Time Window Protocols for Time-Constrained Communication in a Multiple Access Environment," *IEEE Transactions on Communications*, Vol. 36, No. 1 (January 1988), pp. 41-49.
- J.F. Kurose and H. Mouftah, "Computer-Aided Modeling of Computer Communication Networks," *IEEE Journal on Selected Areas in Communications*, Vol. 6, No. 1 (January, 1988), pp. 130-145.
- J.F. Kurose and R. Chipalkatti, "Load Sharing in Real-Time Distributed Computer Systems," *IEEE Transactions on Computers*, Vol. 36, No. 8 (August 1987), pp. 993-1000.
- J.F. Kurose, M. Schwartz and Y. Yemini, "Multiple Access Protocols and Real Time Communication," *ACM Computing Surveys*, Vol. 16, No. 1 (March, 1984), pp. 43-70. Also reprinted in *Hard Real-Time Systems*, J. Stankovic and K. Ramamritham, IEEE Computer Society Press, Washington, DC, 1988.
- C.H. Sauer, E.A. MacNair and J.F. Kurose, "Queueing Network Simulation of Computer Communication," *IEEE Journal on Selected Areas in Communications*, Vol. 2, No. 1 (January 1984), pp. 203-220.
- Y. Yemini and J.F. Kurose, "Can Current Protocol Verification Techniques Guarantee Correctness?," *Computer Networks*, Vol. 6,(December 1982), pp. 377-381.
- T. J. Morgan, J. Stone, M. Mayo, J. Kurose, "D- production by multiple charge-transfer collisions in alkaline-earth-metal vapors," *Phys. Rev. A* 20, 54 - 57 (1979).

PUBLICATIONS: REFEREED CONFERENCE PUBLICATIONS

- V. Chaganti, J. Kurose, A. Venkataramani, "A cross-architectural quantitative evaluation of mobility approaches," *2018 IEEE Infocom Conference*.
- S. Dernbach, N. Taft, J. Kurose, U. Weinsberg, C. Diot, A. Ashkan, "Cache Content-Selection Policies for Streaming Video Services," *2016 IEEE Infocom Conference*.
- S. Yang, S. Heimlicher, J. Kurose, A. Venkataramani, "User Transitioning Among Networks - a Measurement and Modeling Study", *2015 IEEE Infocom Conference*.
- M. Dehghan, A. Seetharam, B. Jiang, T. He, T. Salonidis, J. Kurose, D. Towsley, R. Sitaraman, "On the Complexity of Optimal Routing and Content Caching in Heterogeneous Networks," *2015 IEEE Infocom Conference*.
- T. Yagu, M. Yamamoto, H. Tode, C. Ohta, J. Kurose, "Demo: Contents Sharing among Mobile Users in Breadcrumbs-enabled Cache Network," *2015 IEEE 12th Consumer Communications and Networking Conference (CCNC)*.

- A. Seetharam, S. Heimlicher, J. Kurose, W. Wei, "Routing With Adaptive Flooding in Heterogeneous Mobile Networks," *2015 IEEE Comsnets Conference*.
- A. Seetharam, J. Kurose, "An analysis of opportunistic forwarding for correlated wireless channels," *17th IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks*, 2015.
- M. Dehghan, A. Seetharam, T. He, T. Salonidis, J. Kurose, D. Towsley, "Optimal Caching and Routing in Hybrid Networks," *IEEE Milcom 2014*.
- D. Gyllstrom, N. Braga, J. Kurose, "Fast Detection and Recovery from Communication Link Failures in a Smart Grid using OpenFlow," *2014 IEEE SmartGridComm*.
- B. Liu, V. Firoiu, J. Kurose, M. Leung, S. Nanda, "Capacity of Cache Enabled Content Distribution Wireless Ad Hoc Networks," *2014 IEEE Int. Conf. on Mobile Ad-hoc and Sensor Systems*.
- J. Steshenko, V. G. Chaganti, J. Kurose, "Mobility in a large-scale WiFi network: from syslog events to mobile user sessions," *2014 ACM Conf. on Modeling, Analysis and Simulation of Wireless and Mobile Systems*, pp. 331-334 (Best demo/poster award).
- Z. Gao, A. Venkataramani, J. Kurose S. Heimlicher, "Towards a Quantitative Comparison of Location-Independent Network Architectures," *ACM SIGCOMM'14* (Chicago, August 2014).
- M. Badov, A. Seetharam, J. Kurose, "Congestion-Aware Caching and Search in Information-Centric Networks," *ACM Information Centric Networking Conference* (Paris, Sept. 2014).
- A. Seetharam, B. Jiang, D. Goeckel, J. Kurose, R. Hancock, "Optimizing Control Overhead for Power-aware Routing in Wireless Networks," *IEEE Milcom 2013*.
- R. Urgaonkar, S. Guha, P. Basu, T. Freeman, R. Hancock, H. Tripp, A. Seetharam, W. Wei, J. Kurose, J. Connah, "Self-Optimization in Future Hybrid Networks," *IEEE Milcom 2013*.
- E. Rosensweig, D. Menasche, J. Kurose, "On the Steady-State of Cache Networks," *IEEE Infocom 2013*, **Conference Best Paper Award recipient** (out of 1600 submitted).
- E. Rosensweig, J. Kurose, "A Network Calculus for Cache Networks," *IEEE Infocom Mini-conference 2013*.
- S. Yang, J. Kurose, B.N. Levine, "Disambiguation of Residential Wired and Wireless Access in a Forensic Setting," *IEEE Infocom Mini-conference 2013*.
- G. Neglia, E. Zhang, J. Kurose, D. Towsley, "On Optimal Packet Routing in Deterministic DTNs," *IEEE Vehicular Technology Conference (VTC)*, 2013. **Best conference paper award recipient**.
- S. Gangam, J Chandrashekar, I. Cunha, J. Kurose, "Estimating TCP Latency Approximately and Scalably in the Middle with Passive Measurements," *2013 Passive and Active Measurement Conference*.
- A. Seetharam, S. Chau, J. Kurose, D. Towsley, "Opportunism versus Cooperation: Analysis of Forwarding Strategies in Multihop Wireless Networks with Random Fading," *2013 IEEE COMSNETS Conference*.
- A. Venkataramani, X. Tie, A. Sharma, D. Westbrook, H. Uppal, J. Kurose, D. Raychaudhuri, "Design Guidelines for a Global Name Service for a Mobility-Centric, Trustworthy Internetwork," *2013 IEEE COMSNETS*.
- A. Misra, D. Irwin, P. Shenoy, J. Kurose, T. Zhu, "SmartCharge: Cutting the Electricity Bill in Smart Homes with Energy Storage," *Proc. ACM e-Energy 2012*.
- D. Gyllstrom, E. Rosensweig, J. Kurose, "On the Impact of PMU Placement on Observability and Cross-Validation," *Proc. ACM e-Energy 2012*.

- T. Tsutsui, H. Yurubayashi, M. Yamamoto, E. Rosensweig, J. Kurose "Performance Evaluation of Partial Deployment of Breadcrumbs in Content Oriented Networks," *IEEE International Workshop on the Network of the Future, 2012 IEEE ICC Conference*.
- Y. Chen, J. Kurose, D. Towsley, "A simple queueing network model of mobility in a campus wireless network," *2012 IEEE Infocom Mini-conference*.
- P. Datta, A. Seetharam, V. Arya, M. Chetlur, S. Kalyanaraman, J. Kurose, "On Managing Quality of Experience of Multiple Video Streams in Wireless Networks," *2012 IEEE Infocom Conference*.
- A. Seetharam, J. Kurose, D. Goeckel, G. Bhanage, "A Markov chain model for coarse timescale channel variation in an 802.16e wireless network," *2012 IEEE Infocom Conference*.
- J. Partan, J. Kurose, B. Levine, J. Preseig, "Low Spreading Loss in Underwater Acoustic Networks Reduces RTS/CTS Effectiveness," *6th ACM International Workshop on Underwater Networks*.
- A. Seetharam, S. Chau, J. Kurose, D. Towsley, "Opportunism versus Cooperation: Analysis of Forwarding Strategies in Multihop Wireless Networks with Random Fading," *2011 ACITA Conference*.
- Y. Chen, J. Kurose, D. Towsley, "A simple queueing network model of mobility in a campus wireless network," *2011 ACITA Conference*.
- V. Manfredi, M. Crovella, J. Kurose, "Understanding Stateful vs Stateless Communication Strategies for Ad hoc Networks," *ACM Mobicom Conference 2011*.
- A. Seetharam, M. Somasundaram, D. Towsley, J. Kurose, P. Shenoy, "Shipping to streaming: is this shift green" *ACM Sigcomm Workshop on Green Networking 2010*, pp. 61-68.
- E. Rosensweig, J. Kurose, D. Towsley, "Approximate Models for General Cache Networks," *2010 IEEE Infocom*, pp. 1100-1108.
- Y. Chen, E. Rosensweig, J. Kurose, D. Towsley, "Group detection in mobility traces," *Proc. 12010 IWCMC*, pp. 875-879.
- S. Yang, S. Vasudevan, J. Kurose, "Witness-based Detection of Forwarding Misbehaviors in Wireless Networks," *Proc. Fifth IEEE Workshop on Wireless Mesh Networks 2010*.
- D. Gyllstrom, S. Vasudevan, J. Kurose, G. Miklau, "Efficient Recovery from False State in Distributed Routing Algorithms." *IFIP Networking 2010*.
- V. Manfredi, M. Zink, J. Kurose, N. Malouche, C. Zhang, M. Zink, "Separation of Sensor Control and Data in a Distributed Meteorological Sensing Network," *IEEE Conf. Sensor, Mesh and Ad Hoc Communications and Networks (SECON 2009)*.
- P. Serrano, M. Zink, J. Kurose, "Assessing the Fidelity of COTS 802.11 Sniffers," *2009 IEEE Infocom Conference*.
- E. Rosensweig, J. Kurose, "Breadcrumbs: efficient, best-effort content location in cache networks," *2009 IEEE Infocom Mini-Conference*.
- M. Uchida, J. Kurose, "An Information Theoretic Characterization of Weighted α -Proportional Fairness," *2009 IEEE Infocom Conference*.
- H. Zhang, B. DeCleene, J. Kurose, D. Towsley, "Bootstrapping Deny-by-Default Access Control for Mobile ad-hoc networks," *2008 IEEE Milcom conference* (Nov. 2008, San Diego).

- R. Khalili, M. Ghaderi, J. Kurose, D. Towsley, "On the Performance of Random Linear Network Coding in Relay Networks," *2008 IEEE Milcom conference* (Nov. 2008, San Diego).
- V. Manfredi, R. Hancock, J. Kurose, "Robust Routing in Dynamic MANETs," *2008 Annual Conference of International Technology Alliance in Network and Information Science (ACITA)*.
- B. Donovan, M. Zink, J. Kurose, "OTGsim: Simulation of an Off-the-Grid Radar Network with High Sensing Energy Cost," *IEEE Conf. Sensor, Mesh and Ad Hoc Communications and Networks (SECON 2008)*.
- R. Khalili, J. Kurose, "Practical algorithms for gathering stored correlated data in a network," *IEEE Conf. Sensor, Mesh and Ad Hoc Communications and Networks (SECON 2008)*.
- R. Khalili, J. Kurose, "A Distributed Minimum Distortion Routing Algorithm with In-network Data Processing," *IEEE Infocom 2008 mini-conference*.
- M. Ghaderi, D. Towsley, J. Kurose, "Reliability Gain of Network Coding in Lossy Wireless Networks," *IEEE Infocom 2008 mini-conference*.
- S. Paul, R. Yates, D. Raychaudhuri, J. Kurose, "The cache-and-forward network architecture for efficient mobile content delivery services in the future internet," *Innovations in NGN: Future Network and Services*, 2008. ITU.
- D. Pepyne, D. Westbrook, B. Philips, E. Lyons, M. Zink, and J. Kurose, "Distributed Collaborative Adaptive Sensor Networks for Remote Sensing Applications," *2008 American Control Conference*.
- M. Zink, K. Suh, Y. Gu, J. Kurose, "Watch Global, Cache Local: YouTube Network Traces at a Campus Network - Measurements and Implications," *Fifteenth Annual IEEE Multimedia Computing and Networking Conference (MMCN'08)*. Conference Best Paper award.
- D. Yates, E. Nahum, J. Kurose, and P. Shenoy, "Data Quality and Query Cost in Pervasive Sensing Systems", *Sixth Annual IEEE International Conference on Pervasive Computing and Communications*, Hong Kong, March 2008.
- V. Manfredi, J. Kurose, "Scan Strategies for Meteorological Radars," *Advances in Neural Information Processing Systems (2007 NIPS)*.
- B. Wang, W. Wei, J. Kurose, D. Towsley, K.R. Pattipati, Z. Guo, Z. Peng, "Application-layer Multipath Data Transfer via TCP: Schemes and Performance Tradeoffs," *Proceedings of IFIP Performance (Performance 2007)*, (Oct. 2007, Cologne, Germany).
- W. Wei, K.W. Suh, B. Wang, Y. Gu, J. Kurose, D. Towsley, "Passive Online Rogue Access Point Detection Using Sequential Hypothesis Testing with TCP ACK-Pairs," *ACM SIGCOMM Internet Measurement Conference (IMC 2007)*, (Oct. 2007, San Diego, CA).
- M. Ghaderi, D. Towsley, J. Kurose, "Network Coding Performance for Reliable Multicast," to appear in *IEEE Milcom 2007*, Oct. 2007.
- X. Zhang, J. Kurose, B. Levine, D. Towsley, H. Zhang, "Study of a Bus-Based Disruption Tolerant Network: Mobility Modeling and Impact on Routing," *ACM MobiCom 2007* (Montreal, Sept. 2007).
- T. Ireland, A. Nyzio, M. Zink, J. Kurose, 2007: "The Impact of Directional Antenna Orientation, Spacing, and Channel Separation on Long-distance Multi-hop 802.11g Networks: A Measurement Study", *Third International Workshop on Wireless Network Measurement (WinMee)*, (April 2007, Larnaca, Cyprus).

- D. Yates, E. Nahum, J. Kurose, P. Shenoy, "Data Quality and Query Cost in Wireless Sensor Networks," *Proceedings of the Third IEEE Intl. Workshop on Sensor Networks and Systems for Pervasive Computing (PerSens 2007)*, (2007), White Plains, NY).
- T. Banka, P. Lee, A.P. Jayasumana¹, J. Kurose, "An Architecture and a Programming Interface for Application-Aware Data Dissemination Using Overlay Networks," *2007 IEEE COMSWARE*, (Jan. 2007, Bangalore).
- B. Philips, D. Pepyne, D. Westbrook, E. Bass, J. Brotzge, W. Diaz, K. Kloesel, J. Kurose, D. McLaughlin, H. Rodriguez, M. Zink, "Integrating End User Needs Into System Design and Operation: The Center for Collaborative Adaptive Sensing of the Atmosphere (CASA)," *The 87th AMS Annual Meeting*, (January 2007, San Antonio).
- C. Zhang, J. Kurose, Y. Liu, D. Towsley, "An Optimal Distributed Algorithm for Joint Resource Allocation and Routing in Node-based Wireless Networks," *IEEE ICNP* (Nov. 2006, Beijing).
- J. Partan, J. Kurose, B. Levine, "A Survey of Practical Issues In Underwater Networks," *Proc. ACM MOBICOM Workshop on Underwater Networks*, (Sept. 2006).
- J. Kurose, E. Lyons, D. McLaughlin, D. Pepyne, B. Philips, D. Westbrook, M. Zink, "An End-User-Responsive Sensor Network Architecture for Hazardous Weather Detection, Prediction and Response " *2006 Asian Internet Engineering Conference*.(Nov. 2006, Bangkok).
- E. Zhang, G. Neglia, J. Kurose, D. Towsley, "Performance Modeling of Epidemic Routing," *IFIP Networking Conference*, 2006.
- E. Zhang, G. Neglia, J. Kurose, and D. Towsley, "On the Benefits of Random Linear Coding for Unicast Applications in Disruption Tolerant Networks," *IEEE netcod 2006 workshop*.
- W. Wei, C. Zhang, H. Zang, J. Kurose, D. Towsley, ""Inference and Performance Evaluation of Cellular Data Networks through End-to-End Measurements," *2006 Active and Passive Measurement Conference*.
- H. Zhang, J. Kurose, D. Towsley, "Can an overlay compensate for a careless underlay?," *2006 IEEE Infocom conference*.
- W. Wei, S. Jaiswal, J. Kurose, D. Towsley, "Identifying 802.11 Traffic from Passive Measurements Using Iterative Bayesian Inference," *2006 IEEE Infocom conference*.
- K. Suh, D. Figueiredo, J. Kurose, D. Towsley, "Characterizing and detecting relayed traffic: A case study using Skype," *2006 IEEE Infocom conference*.
- S. Jaiswal, G. Iannaccone, J. Kurose , D. Towsley, "Formal Analysis of Passive Measurement Inference Techniques," *2006 IEEE Infocom conference*.
- W. Wei, C. Zhang, H. Zang, J. Kurose, D. Towsley, "Inference and Evaluation of Split-Connection Approaches in Cellular Data Networks," *Proceedings of Passive and Active Measurement Conference 2006*, Adelaide, Australia, March 30-31, 2006.
- C. Zhang, Z. Ge, J. Kurose, Y. Liu, D. Towsley, "Optimal Routing with Multiple Traffic Matrices: Tradeoff between Average Case and Worst Case Performance," *2005 IEEE Int. Conference on Network Protocols*
- W. Chen, G. Ze, J. Kurose, D. Towsley, "Optimizing Event Distribution in Publish/Subscribe Systems in the Presence of Policy-Constraints and Composite Events," *2005 IEEE Int. Conference on Network Protocols*.

- S. Vasudevan, K. Papagiannaki, C. Diot, J. Kurose, D. Towsley, "Facilitating Access Point Selection in IEEE 802.11 Wireless Networks," *ACM Internet Measurement Conference (Oct 2005)*.
- M. Sims, J. Kurose, V. Lesser, "Streaming versus Batch Processing of Sensor Data in a Hazardous Weather Detection System," *IEEE International Conference on Sensor and Ad Hoc Communications and Networks (SECON)*, (Sept. 2005).
- V. Manfredi, S. Mahadevan, J. Kurose, "Switching Kalman Filters for Prediction and Tracking in an Adaptive Meteorological Sensing Network," *IEEE International Conference on Sensor and Ad Hoc Communications and Networks (SECON)*, (Sept. 2005).
- B. Donovan, D. J. McLaughlin, J. Kurose, V. Chandrasekar, "Principles and Design Considerations for Short-Range Energy Balanced Radar Networks", *Proc. International Geoscience and Remote Sensing Symposium (IGARSS05)*, Seoul, Republic of Korea.
- M. Zink, D. Westbrook, S. Abdallah, B. Horling, E. Lyons, V. Lakamraju, V. Manfredi, J. Kurose, K. Hondl. "Meteorological Command and Control: An End-to-end Architecture for a Hazardous Weather Detection Sensor Network", *2005 ACM Mobisys Workshop on End-End Sense-and-Response Systems, Applications, and Services* (June 2005).
- M. Bradshaw, J. Kurose, P. Shenoy, D. Towsley, "Online Scheduling in Modular Multimedia Systems with Stream Reuse," *2005 ACM Network and Operating System Support for Digital Audio and Video* (June 2005).
- W. Chen, Y. Huang, B. F. Ribeiro, K. Suh, H. Zhang, E. de Souza e Silva, J. Kurose, D. Towsley "Exploiting the IPID field to infer network path and end-system characteristics," *2005 Passive and Active Measurement (PAM'05)* (May 2005).
- K. Suh, Y. Guo, J. Kurose, D. Towsley, "Locating Network Monitors: Complexity, Heuristics, and Coverage," *2005 IEEE Infocom Conference* (April 2005).
- S. Vasudevan, J. Kurose, D. Towsley, "On Neighbor Discovery in Wireless Networks With Directional Antennas," *2005 IEEE Infocom Conference* (April 2005).
- W. Wei, B. Wang, C. Zhang, J. Kurose, D. Towsley, "Classification of Access Network Types: Ethernet, Wireless LAN, ADSL, Cable Modem or Dialup?" *2005 IEEE Infocom Conference* (April 2005).
- C. Zhang, Y. Liu, W. Gong, J. Kurose, R. Moll, D. Towsley, "On Optimal Routing with Multiple Traffic Matrices," *2005 IEEE Infocom Conference* (April 2005).
- W. Chen, L. Clarke, J. Kurose, and D. Towsley, "Optimizing Cost-sensitive Trust-negotiation Protocols" *2005 IEEE Infocom Conference* (April 2005).
- D. McLaughlin, V. Chandrasekar, K. Droegemeier, S. Frasier, J. Kurose, F. Junyent, B. Philips, S. Cruz-Pol, J. Colom, "Distributed Collaborative Adaptive Sensing (DCAS) for Improved Detection, Understanding, and Predicting of Atmospheric Hazards, *Proc. American Meteorological Society Annual Meeting*, Jan. 2005 (San Diego).
- M. Bradshaw, J. Kurose, L. Jane Page, P. Shenoy, D. Towsley, "A Reconfigurable, On-The-Fly, Resource-Aware, Streaming Pipeline Scheduler," *ACM Multimedia Computing and Networking* (Jan. 2005).
- McLaughlin, D.J., V. Chandrasekar, K. Droegemeier, S. Frasier, J. Kurose, F. Junyent, B. Philips, S. Cruz-Pol, and J. Colom, "Distributed Collaborative Adaptive Sensing (DCAS) for Improved Detection, Understanding, and Prediction of Atmospheric Hazards," *9th Symp. Integrated Obs. Assim. Systems - Atmos. Oceans, Land Surface (IOAS-AOLS)*, Amer. Meteor. Soc., San Diego, CA.

- C. Ohta, Z. Ge, Y. Guo, J. Kurose, "Index-Server Optimization for P2P File Sharing in Mobile Ad Hoc Networks," *IEEE Globecom*, (Dec. 2004)
- B. Wang, J. Kurose, P. Shenoy, D. Towsley, "A Model for TCP-based Video Streaming," *2004 ACM Multimedia Conference*, Nov, 2004. An earlier extended abstract of this paper appeared in *2004 ACM Sigmetrics*.
- S. Tao, K. Xu, Y. Xu, T. Fei, L. Gao, R. Guerin, J. Kurose, D. Towsley, Z. Zhang, "Exploring the Performance Benefits of End-to-End Path Switching," *IEEE International Conference on Network Protocols*, Oct. 2004.
- S. Vasudevan, J. Kurose, D. Towsley "Design and Analysis of a Leader Election Algorithm for Mobile Ad Hoc Networks," *IEEE International Conference on Network Protocols*, Oct. 2004.
- M. Zink, J. Brotzge, V. Chandresakar, K. Droegemeier, J. Kurose, D. McLaughlin, B. Philips, M. Preston, P. Rees, S. Sekelsky, D. Westbrook, "Distributed Collaborative Adaptive Sensing for Hazardous Weather Detection, Tracking, and Predicting," to appear in *Kluwer Lecture Notes in Computer Science (Dynamic Data Driven Application Systems)*.
- X. Zhang, M. K. Bradshaw, Y. Guo, B. Wang, J. Kurose, P. Shenoy, D. Towsley, "AMPS: A Flexible, Scalable Proxy Testbed for Implementing Streaming Services," *Proceedings of NOSSDAV, June 2004, Kinsale Ireland*
- W. Richards Adrion, James Kurose, Edward Riseman and Zhigang Zhu, "A Multimedia Virtual Classroom," *Proc. Int. Conf. on Information Communications Technologies in Education (ICICTE-04)*, Samos Island, Greece, July 2004.
- W. Chen, Z. Ge, C. Zhang, J. Kurose, and D. Towsley, "A Dynamic Subset Difference Revocation Scheme," *IFIP Networking 2004*.
- D. McLaughlin, J. Kurose, K. Droegemeier, M. Preston, S. Sekelsky, B. Philips, V. Chandresakar, J. Brodske, "Distributed Collaborative Adaptive Sensing for Hazardous Weather Detection, Tracking and Predicting," *Int. Conference on Computation Science*, (Krakow, Poland, June 2004).
- T. Friedman, D. Towsley, J. Kurose, "Scalable End-End Multicast Tree Fault Isolation," *Proc. IEEE/IFIP Int. Conference on Telecommunications*, (July 2004).
- S. Jaiswal, G. Iannaccone, C. Diot, J. Kurose, D. Towsley, "Inferring TCP Connection Characteristics Through Passive Measurement," *IEEE Infocom 2004*
- Z. Ge, P. Ji, J. Kurose, D. Towsley, "Min-Cost Matchmaker Problem in Distributed Publish/Subscribe Infrastructures," *IEEE ICNP 2003* (Nov. 2003).
- W. R. Adrion, Wayne Burleson, Wendy Cooper, William L. Israel, James Kurose, and Kenneth Watts, "EXCITE: Enabling X-- Campus Information Technology Education," *Proc. Frontiers in Education Conference*, November 2003
- W. Wei, B. Wang, D. Towsley, J. Kurose, "Model-based Identification of Dominant Congested Links," *ACM Internet Measurement Conference*, (Miami, Oct. 2003)
- P. Ji, Z. Ge, J. Kurose, D. Towsley, "A Comparison of Hard-state and Soft-state Signaling Protocols" *Proceedings of SIGCOMM 2003*
- Y. Guo, K. Suh, J. Kurose, D. Towsley, "A Peer-to-Peer On-Demand Streaming Service and Its Performance Evaluation," *Proceedings of 2003 IEEE International Conference on Multimedia & Expo (ICME 2003)*, Baltimore, MD, July 2003

- Y. Guo, K. Suh, J. Kurose, D. Towsley, "P2Cast: Peer-to-peer Patching Scheme for VoD Service," *Proceedings of the 12th World Wide Web Conference (WWW-03)*, Budapest, Hungary, May 2003.
- Z. Ge, D. Figueiredo, S. Jaiswal, J. Kurose, D. Towsley "Modeling Peer-Peer File Sharing Systems" *Proceedings of INFOCOM 200*, May 2003.
- S. Jaiswal, G. Iannaccone, C. Diot, J. Kurose, D. Towsley "Measurement and Classification of Out-of-Sequence Packets in a Tier-1 IP backbone ," *Proceedings of INFOCOM 2003*, May 2003. A short version of this paper appeared in *ACM Workshop on Internet Measurement*, Marseilles, Nov. 2002 (short paper).
- S. Vasudevan, B. DeCleene, N. Immerman, J. Kurose, D. Towsley, "Leader Election Algorithms for Wireless Ad Hoc Networks" *Proceedings DISCEX III 2003*.
- P. Ji, B. Liu, D. Towsley, J. Kurose, "Modeling Frame-level Errors in GSM Wireless Channels," *IEEE Globecom, Internet Performance Symposium (IPS) 2002*, Nov. 2002.
- C. Zhang, B. DeCleene, J. Kurose, D. Towsley, "Comparison of Inter-Area Rekeying Algorithms for Secure Wireless Group Communications," *2002 IFIP Performance Conference* (Rome, Sept. 2002).
- J. Shapiro, J. Kurose, D. Towsley, S. Zabele, "Topology Discovery Service for Router-Assisted Multicast Transport," *2002 IEEE OpenArch Workshop*, (New York, June 2002).
- W. Burlison, W. Cooper, J. Kurose, S. Thampuran, K. Watts, "An Empirical Study of Student Interaction with CD-based Multimedia Courseware," *2002 ASEE Conference and Exposition* (Montreal, May 2002).
- S. Zabele, M. Dorsch, Z. Ge, P. Ji, M. Keaton, J. Kurose, J. Shapiro, D. Towsley, "SANDS: specialized active networking for distributed simulation ," *IEEE/DARPA Active Networks Conference and Exposition*, (San Francisco, May 2002), pp. 356 -365.
- J. Shapiro, D. Towsley, J. Kurose, "Optimization-Based Congestion Control for Multicast Communications," *2002 IFIP Networking 2002*, (Pisa Italy, May 2002).
- M. Adler, Z. Ge, J. Kurose, D. Towsley, S. Zabele, "The Channelization Problem in Large Scale Data Dissemination," *IEEE 2001 Int. Conf. on Network Protocols*, pp. 100 -109.
- B. DeCleene, L. Dondeti, S. Griffin, T. Hardjono, D. Kiwior, J. Kurose, D. Towsley, S. Vasudevan, C. Zhang, "Secure Group Communications for Wireless Networks," *IEEE MILCOM 2001*, Nov. 2001, pp. 113 -117.
- P. Ji, J. Kurose, D. Towsley, "Activating and Deactivating Repair Servers in Active Multicast Trees," *2001 Int. Workshop on Digital Communications* (Taormina, Italy), Sept. 2001.
- M. Bradshaw, B. Wang, S. Sen, L. Gao, J. Kurose, P. Shenoy, D. Towsley, "Periodic broadcast and patching services: implementation, measurement, and analysis in an Internet streaming video testbed," *Proc. ACM Multimedia 200*, (Ottawa, Canada), pp. 280 - 290. An extended abstract of an earlier version of this paper appeared in *Proc. ACM Sigmetrics 2001*.
- B. Liu, D. Figueiredo, Y. Guo, J. Kurose, D. Towsley, "A Study of Networks Simulation Efficiency: Fluid Simulation vs. Packet-level Simulation," *IEEE INFOCOM 2001*, pp.1244 -1253
- S. Zabele, T. Stanzione, J. Kurose, and D. Towsley, "Improving Distributed Simulation Performance Using Active Networks", Invited Paper, *Proceedings of World Multi Conference 2000, January 23-27, 2000, San Diego, CA*.

- S. Kaser, J. Kurose, D. Towsley, "Buffer Requirements and Replacement Policies for Multicast Repair Service", *Proc. 2nd Int. Workshop on Networked Group Communication*, Stanford University, Palo Alto, California, USA, Nov. 2000
- D. Rubenstein, J. Kurose, D. Towsley "Detecting Shared Congestion of Flows Via End-to-end Measurement" *Proc. ACM Sigmetrics 2000* (Santa Clara, CA, June 2000).
- B. Levine, J. Crowcroft, C. Diot, J.J. Garcia-Luna Aceves, J. Kurose, "Consideration of Receiver Interest in Content for IP delivery," *Proc. IEEE Infocom 2000* (Tel-Aviv, Israel, March, 2000)
- S. Sahu, D. Towsley, J. Kurose, "A Quantitative Study of Differentiated Services for the Internet," *Proc. IEEE Global Internet'99* (Rio de Janeiro, Brazil, December 1999)
- D. Rubenstein, J. Kurose, D. Towsley, "The Impact of Multicast Layering on Network Fairness," *Proc. ACM Sigcomm 1999*, (Cambridge, MA, September 1999).
- J. Padhye, J. Kurose, D. Towsley, R. Koodli, "A Model Based TCP-Friendly Rate Control Protocol," *Proc. IEEE NOSSDAV'99* (Basking Ridge, NJ, June 1999). An Extended Abstract of an earlier version appeared in *Proc. ACM Sigmetrics 1999* (Atlanta, GA, May 1999).
- B. Liu, Y. Guo, J. Kurose, D. Towsley, W. Gong, "Fluid Simulation of Large Scale Networks: Issues and Tradeoffs," *Proc. International Conference on Parallel and Distributed Processing Techniques and Applications* (Las Vegas, NV, June 1999).
- S. Bhattacharyya, D. Towsley, J. Kurose, "The Loss Path Multiplicity Problem for Multicast Congestion Control," *Proc. IEEE Infocom 1999* (New York, USA, March 1999).
- V. Firoiu, J. Kurose, D. Towsley, "Performance Evaluation of ATM Shortcut Connections in Overlaid IP/ATM Networks," *Proc. IEEE Infocom 1999*, (New York, USA, March 1999).
- L. Gautier, C. Diot, J. Kurose, "End-to-end Transmission Control Mechanisms for Multiparty Interactive Applications on the Internet," *Proc. IEEE Infocom 1999* (New York, USA, March 1999). [zip]
- D. Rubenstein, S. Kaser, D. Towsley, J. Kurose, "Improving Reliable Multicast Using Active Parity Encoding Services (APES)," *Proc. IEEE Infocom 1999* (New York, NY, March 1999).
- M. Yajnik, S.B. Moon, J. Kurose, D. Towsley, "Measurement and Modeling of the Temporal Dependence in Packet Loss," *Proc. IEEE Infocom 1999* (New York, NY, March 1999).
- S. Sahu, V. Firoiu, D. Towsley, J. Kurose, "Traffic Models and Admission Control for Variable Bit Rate Continuous Media Transmission with Deterministic Service," *Proc. SPIE'98 Performance and Control of Network Systems*, (Boston, November 1998), pp. 86-97.
- J. Padhye, V. Firoiu, D. Towsley, J. Kurose, "Modeling TCP Throughput: A Simple Model and its Empirical Validation," *Proc. ACM Sigcomm 1998* (Vancouver, CA, September 1998).
- J. Padhye, J. Kurose, "An Empirical Study of Client Interactions with a Continuous-Media Courseware Server," *Proc. IEEE NOSSDAV'98* (Cambridge, UK, July 1998).
- L. Gao, J. Kurose, D. Towsley, "Efficient Schemes for Broadcasting Popular Videos," *Proc. IEEE NOSSDAV'98* (Cambridge, UK, July 1998).
- S. Kaser, J. Kurose, D. Towsley, "A Comparison of Server-Based and Receiver-Based Local Recovery Approaches for Scalable Reliable Multicast," *Proc. IEEE Infocom 1998*, (San Francisco, April 1998).
- S. Bhattacharyya, J. Kurose, D. Towsley, R. Nagarajan, "Efficient Multicast Flow Control using Multiple Multicast Groups," *Proc. IEEE Infocom 1998*, (San Francisco, April 1998).

- R. Ramjee, T. LaPorta, J. Kurose, D. Towsley, "User Agent Migration policies in Multimedia Wireless Networks," *Proc. IEEE Infocom 1998*, (San Francisco, April 1998).
- S. Sen, J. Dey, J. Kurose, J. Stankovic, D. Towsley, "CBR transmission of VBR stored video," *SPIE Symposium on Voice Video and Data Communications: Multimedia Networks: Security, Displays, Terminals, Gateways*, (Dallas, TX, Nov. 1997).
- S. Kasera, J. Kurose, D. Towsley, "Scalable Reliable Multicast Using Multiple Multicast Groups," *1997 ACM Sigmetrics Conference*, April 1997.
- E. Nahum, J. Kurose, D. Towsley, "On the Caching Behavior of Network Protocols," *1997 ACM Sigmetrics Conference*, 1997.
- J. K. Dey, S. Sen, J. Kurose, D. Towsley, J. Salehi, "Playback Restart In Interactive Streaming Video Applications," *IEEE Conference on Multimedia Computing and Systems*, (Ottawa, Canada, June 1997).
- S. Sahu, Z. Zhang, J. Kurose, and D. Towsley, "On the Efficient Retrieval of VBR Video in a Multimedia Server," *IEEE Conference on Multimedia Computing and Systems*, (Ottawa, Canada, June 1997).
- J. Rexford, S. Sen, J. Dey, W. Feng, J. Kurose, J. Stankovic, D. Towsley, "Online Smoothing of Live, Variable-Bit-Rate Video," *Proc. International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV)*, St. Louis, MO, May 1997.
- M. Stern, B. Woolf, and J. Kurose, "Intelligence on the Web?," *Proc. of Artificial Intelligence in Education*, 1997.
- M. Stern, J. Steinberg, H.I. Lee, J. Padhye, J. Kurose, "MANIC: Multimedia Asynchronous Networked Individualized Courseware," *Proc. of Educational Multimedia and Hypermedia*, 1997.
- M. Yamamoto, J. Kurose, D. Towsley, H. Ikeda, "A Delay Analysis of Sender-Initiated and Receiver-Initiated Reliable Multicast Protocols," *Proc. IEEE Infocom'97*, (Kobe Japan, April 97).
- V. Firoiu, D. Towsley, J. Kurose, "Efficient Admission Control for EDF Schedulers," *Proc. IEEE Infocom'97*, (Kobe Japan, April 97).
- F. LoPresti, Z. Zhang, D. Towsley, J. Kurose, "Source Time Scale and Optimal Buffer/Bandwidth Trade-off for Regulated Traffic in an ATM Node," *Proc. IEEE Infocom'97*, (Kobe Japan, April 97).
- M. Yajnik, J. Kurose, D. Towsley, "Packet Loss Correlation in the Mbone Multicast Network," *IEEE Global Internet Conf.*, (London, Nov. 1996).
- C. Casetti, J. Kurose, D. Towsley, "An Adaptive Algorithm for Measurement-based Admission Control in Integrated Services Packet Networks," *Int. Workshop on Protocols for High Speed Networks*, (Sophia Antipolis, Oct. 1996).
- J. Salehi, Z. Zhang, J. Kurose, D. Towsley, "Supporting Stored Video: Reducing Rate Variability and End-to-End Resource Requirements through Optimal Smoothing," *1996 ACM Sigmetrics Conference. Best paper award recipient*.
- D. Yates, E. Nahum, J. Kurose, D. Towsley, "Networking Support for Large Scale Multiprocessor Servers," *1996 ACM Sigmetrics Conference*.
- J. Salehi, J. Kurose and D. Towsley, "The Effectiveness of Affinity-Based Scheduling in Multiprocessor Networking," *Proc. IEEE Infocom'96*, (San Francisco, CA March 1996), pp. 215-213.

- J. Salehi, J. Kurose, D. Towsley, "The Performance Impact of Scheduling for Cache Affinity in Parallel Network Processing," *1995 High Performance Computing and Communications Conference* (Pentagon City, VA, Aug. 1995).
- E. Nahum, D. Yates, J.F. Kurose, D. Towsley, "Performance Issues in Parallelized Network Protocols," *Proc. 1994 Operating System Design and Implementation (OSDI) Conference*, (Monterey, CA, Nov. 1994), pp. 125-137.
- J. Dey Sircar, J. Salehi, J.F. Kurose, D. Towsley, "Providing VCR-like Capabilities in Large-Scale Video Servers," *Proc. ACM Multimedia'94*, Oct 1994.
- Z. Zhang, D. Towsley, J.F. Kurose, "Statistical Analysis of Generalized Processor Sharing Scheduling Discipline," *Proc. ACM SIGCOMM'94*, (London UK, Sept. 1994).
- H. Schulzrinne, J.F. Kurose, D. Towsley, "An Evaluation of Scheduling Mechanisms for Providing Best Effort Real-Time Communication in Wide Area Networks," *Proc. IEEE Infocom'94*, June 1994, pp. 1352-1361.
- R. Ramjee, J. Kurose, D. Towsley, H. Schulzrinne, "Adaptive Playout Mechanisms for Packetized Audio Applications in Wide-Area Networks," *Proc. IEEE Infocom'94*, June 1994, pp. 680-688.
- R.H. Hwang, J.F. Kurose, D. Towsley, "MDP Routing in ATM Networks Using the Virtual Path Concept," *Proc. IEEE Infocom'94*, June 1994, pp. 1509-1519.
- S. Pingali, J.F. Kurose, D. Towsley, "A Comparison of Sender-initiated and Receiver-initiated Reliable Multicast Protocols," *Proc. 1994 ACM Sigmetrics Conf.*, May 1994. Best presentation award recipient.
- D. Yates, J.F. Kurose, D. Towsley, M. Hluchyj, "On Per-Session End-to-End Delay Distributions and The Call Admission Problem for Real-Time Applications with QOS Requirements," *Proc. 1993 ACM SIGCOMM'93*, (San Francisco, Sept. 1993).
- J. Dey, J.F. Kurose, D. Towsley, C.M. Krishna, M Girkar, "On Scheduling Real-time Tasks with Increasing Rewards with Increasing Service (IRIS) Characteristics," *Proc. 1993 ACM Sigmetrics Conference*, May 1993, pp. 217-228.
- R. Nagarajan, J.F. Kurose, D. Towsley, "Allocation of Local Quality of Service Constraints to meet End-to-End Requirements," *Proc. of IFIP Workshop on the Performance Analysis of ATM Systems*, Jan. 1993 (Martinique).
- R. Hwang, J.F. Kurose, D. Towsley, "State Dependent Routing for Multi-Rate Loss Networks," *IEEE Globecom Conference*, (Dec. 1992).
- R. Hwang, J.F. Kurose, D. Towsley, "The effect of processing delay and QOS requirements in high speed networks," *Proc. IEEE INFOCOM'92* (Florence Italy, May 1992), pp. 190—169.
- R. Nagarajan, J.F. Kurose, "On Defining, Computing, and Guaranteeing Quality-of-Service in High-Speed Networks," *IEEE INFOCOM'92* (Florence Italy, May 1992), pp. 2016-2025.
- H.G. Schulzrinne, J.F. Kurose, D. Towsley, "Loss correlation for queues with bursty input streams," *IEEE Int. Conference on Communications*, June 1992.
- J.F. Kurose, "On Computing Per-Session Performance Bounds in High-Speed Multi-Hop Computer Networks," *Proc. ACM Sigmetrics / IFIP Performance'92*, pp. 128-139.
- S. Pingali and J.F. Kurose, "On Scheduling Two Classes of Real-Time Traffic with Correlated Deadlines," *IEEE Globecom '91 Conference*, Phoenix AZ.

- R. Gordon, J.F. Kurose, P. Loewner, E. MacNair, H. Wang, "Error Detection and Display for Graphical Modeling Environments," *1991 Winter Simulation Conference*, Phoenix AZ, Dec., 1991.
- H.G. Schulzrinne, J.F. Kurose, "Distribution of the Loss Period for Some Queues in Continuous and Discrete Time," *Proc. IEEE INFOCOM'91*, pp. 1446-1455.
- K. Ohtski, K. Tekamura, J.F. Kurose, H. Okada, and Y. Tezuka, "A High Speed Packet Switch Architecture with MultiChannel Bandwidth Allocation," *Proc. IEEE INFOCOM'91*, pp. 155-164.
- R. Simha, J.F. Kurose, "A Stochastic Approximation Approach to the Call Setup Problem in High Speed Networks," *Proc. IEEE INFOCOM'91*, pp. 597-607.
- S. Singh and J.F. Kurose, "Electing Leaders Based on Performance: The Delay Model," *11th IEEE/ACM Int. Conf. on Distributed Computing Systems*, pp. 464-471.
- R.H. Hwang and J.F. Kurose, "On Virtual Circuit Routing and Re-Routing in Packet-Switched Networks," *1991 IEEE Int. Conf. on Communications*, pp. 318-323.
- R. Nagarajan, J.F. Kurose, D. Towsley, "Approximation Techniques for Computing Packet Loss in Finite-Buffered Voice Multiplexers," *Proc. IEEE INFOCOM'90*, pp. 947-955.
- H. Schulzrinne, J.F. Kurose, D. Towsley, "Congestion Control by Selective Packet Dropping for Real-Time Traffic in High-Speed Networks," *Proc. IEEE INFOCOM'90*, pp. 543-550.
- R. Gordon, E. MacNair, K. Gordon, J.F. Kurose, "Hierarchical Modeling in a Graphical Simulation System," *Proc. 1990 Winter Simulation Symposium*. Also as IBM Research Report RC-15641, Yorktown Heights, NY, March, 1990.
- A. Aggarwal, K. Gordon, J.F. Kurose, R. Gordon, E. MacNair, "Animating Simulations in RESQME," *Proc. 1989 Winter Simulation Conference* (Dec. 1989 NY,NY). Also as IBM Research Report RC-14680, Yorktown Heights, NY, June 1989.
- R. Simha and J.F. Kurose, "Stochastic Approximation Schemes for a Load Balancing Problem," *27th Allerton Conf. on Communication, Control and Computing*.(Sept. 1989, Allerton, IL).
- R. Chipalkatti, J.F. Kurose, and D. Towsley, "Scheduling Policies for Real-time and Non-real-time Traffic in a Statistical Multiplexer," *Proc. IEEE INFOCOM'89*, (April 1989, Ottawa Canada), pp. 774-783.
- R.F. Gordon, E.A. MacNair, K.J. Gordon and J.F. Kurose, "High-Level Building Blocks for Simulating Manufacturing Systems," *Proc. 1988 European Simulation Multiconference*, (June 1988, Nice, France), pp. 52-57. Also as IBM Research Report RC-13554, Yorktown Heights, NY, March 1988.
- A. Bhargava, J.F. Kurose and D. Towsley, "A Hybrid Media Access Protocol for a Fiber Optic Ring Network," *Proc. 1988 IEEE Int. Conference on Communications*, (June 1988, Philadelphia), pp. 278-284.
- A. Bhargava, J.F. Kurose. D. Towsley and G. Van Leemput, "Performance Comparison of Error Control Schemes in High-Speed Computer Communication Networks," *Proc. IEEE INFOCOM'88*, (April 1988, New Orleans), pp. 694-703.
- J.F. Kurose, A. Shrivastava and D. Towsley, "Stack Algorithm for Random Multiple Access Networks with Asymmetric Noisy Feedback," *Proc. 1987 IEEE Int. Conference on Communications*, (Dec. 1987, Tokyo), pp. 15.5.1-15.5.6.
- J.F. Kurose and R. Simha, "Second Derivative Algorithms for Resource Sharing in Distributed Computer Systems," *Proc. 7th Int. Conference on Distributed Computer Systems*, (Sept. 1987, Berlin FRG), pp. 56-63.

- R. Simha, J Kurose and D. Towsley, "Optimal Single Path Routing in Computer Networks," *20th Midwest Symposium on Circuits and Systems*, (Aug.1987, Syracuse, NY), pp. 113-119.
- R. Gordon, E. MacNair, K. Gordon, and J.F. Kurose, "A Visual Programming Approach to Manufacturing Modeling," *Proc. 1987 Winter Simulation Conference*, (Dec. 1987, Atlanta, GA) pp. 465-471.
- J.F. Kurose and S. Singh, "A Study of Quasi-Dynamic Load Balancing in Soft Real-Time Distributed Computer Systems," *IEEE 1986 Real Time Symposium*, (Dec. 1986, New Orleans, LA), pp. 201-208.
- R. Gordon, E. MacNair, P. Welch, K. Gordon and J.F. Kurose, "Examples of Using the REsearch Queueing Package Modeling Environment (RESQME)," *Proc. 1986 Winter Simulation Conference*, (Dec. 1986, Washington, DC), pp. 494-503.
- J.F. Kurose, K. Gordon, R. Gordon, E. MacNair and P. Welch, "A Graphics-Oriented Performance Analysis Workstation Environment for RESQ," *Proc. ACM/IEEE Fall Joint Computer Conference*, (Nov. 1986, Dallas, TX), pp. 719-728. Also as IBM Research Report RC 11803, March, 1986.
- J.F. Kurose and C. Shen, "GENESIS: Constructs for Performance Modeling of Multiple Access Networks and Protocols," *Proc. 1986 IEEE Int. Conference on Communications*,(June 1986, Toronto), pp. 8.5.1-8.5.6.
- J.F. Kurose and S. Singh "A Decentralized Algorithm for Optimum Static Load Balancing in Distributed Systems," *Proc. IEEE INFOCOM'86*,(April 1986, Miami), pp. 458-467.
- J.F. Kurose and R. Simha, "A Microeconomic Approach to Optimal File Allocation," *6th Int. Conference on Distributed Computing Systems*, (May 1986, Boston),pp. 28-35.
- J.F. Kurose, M. Schwartz and Y. Yemini, "A Microeconomic Approach Towards Optimizing Channel Sharing in Multiaccess Networks," *5th Int. Conference on Distributed Computing Systems*, (May 1985, Denver), pp. 70-79.
- J.F. Kurose, M. Schwartz, and Y. Yemini, "Controlling Time Window Protocols for Time-Constrained Communication in a Multiple Access Environment," *Proc. Eighth Data Communications Symposium*, (Oct. 1983, Falmouth MA), pp. 75-84.
- J.F. Kurose and M. Schwartz, "A Family of Window Protocols for Time Constrained Applications in CSMA Networks," *Proc. IEEE INFOCOM'83*, (April 1983, San Diego), pp. 405-413.
- J.F. Kurose and Y. Yemini, "The Specification and Verification of a Connection Establishment Protocol Using Temporal Logic," *Protocol Specification, Testing, and Specification*, C. Sunshine (ed.), North-Holland, 1982, pp. 43-62.
- Y. Yemini and J.F. Kurose, "Towards the Unification of the Functional and Performance Analysis of Protocols," *Protocol Specification, Testing, and Specification*, C. Sunshine (ed.), North-Holland, 1982, pp. 189-196.
- C.H. Sauer, E.A. MacNair and J.F. Kurose, "RESQ: Past, Present and Future," *National Computer Conference*, (June 1982). Also as IBM Research Report RC-9123, Yorktown Heights, NY, Nov. 1981.

PATENTS

- US patent 6278716, Multicast with proactive forward error correction, August 21, 2001.
- US Patent 6009077, Flow admission control for a router, December 28, 1999.

COMPLETED PHD STUDENTS AND POST-DOCS, NEXT JOB

Supratik Bhattacharyya (Co-chair), Sprint Advanced Technology Labs
Weifeng Chen (Co-chair), John Jay College, CUNY
Timur Friedman (Co-chair), Univ. Paris VI
Zihui Ge (Co-Chair), AT&T Research
Majid Ghaderi, Postdoc, U. Calgary
Yang Guo, Postdoc, Thomson Research
D. Gyllstrom (Chair), Akamai
Simon Heimlicher, Postdoc, ETH
Ren Hung Hwang (Chair), National Chen Chung U., Taiwan,
Sharad Jaiswal (Chair), Lucent Bell Labs
Ping Ji (Co-chair), John Jay College, CUNY,
Sneha Kasera (Co-chair), Univ. Utah
Ramin Khalili, Postdoc, EPFL, Switzerland
Victoria Manfredi (Chair), Wesleyan University
Vishal Misra, Postdoc, Columbia U.
Ramesh Nagarajan (Chair), Lucent Bell Labs
Sue Moon (Co-chair), Korea Advanced Inst. Of Science and Technology (KAIST)
Jitendra Padhye (Co-chair), Microsoft Research
Sridhar Pingali (Chair), Sapient Corp.
Ramachandran Ramjee (Co-chair), Lucent Bell Labs
Elisha Rosensweig (Chair), Alcatel
Dan Rubenstein (Co-chair), Columbia University
Sambit Sahu (Co-chair), IBM Research
Henning Schulzrinne (Chair), Columbia U.
Anand Seetharam (Chair), Cal. State Monterey
Suresh Singh (Chair), Portland State U.
Kyoungwon Suh (Co-chair), Illinois State University
Rahul Simha (Chair), George Washington University
Bing Wang,(Co-Chair), University of Connecticut
Maya Yajnik, (Chair) Telcordia
Sookhyun Yang (Chair), Akamai
David Yates (Chair), Bentley College
Wei Wei (Co-chair), United Technologies
Chun Zhang (Co-chair), IBM Research
Ellen Zhang (Co-chair), Fordham University

RESEARCH GRANTS

- “NeTS: Small: Protecting Privacy While Providing Utility in Published Network Mobility Traces Using Differential Privacy,” NSF, J. Kurose (PI), G. Miklau (Co-I), \$478, 372, 9/14 – 8/17. Kurose removed as PI 12/2014 before taking CISE AD position at NSF.
- “NeTS: Large: Collaborative Research: Location-Independent Networks: Evaluation Strategies and Studies,” NSF, J. Kurose (PI), A. Venkataramani (co-I), joint with K. Sollins, D. Clark, W. Lehr (MIT), \$700, 851, 9/14 – 8/17. Kurose removed as PI 12/2014 before taking CISE AD position at NSF.

- “FIA-NP: Collaborative Research: The Next-Phase MobilityFirst Project - From Architecture and Protocol Design to Advanced Services and Trial Deployments,” NSF, \$1.3M, A. Venkataramani (PI), J. Kurose (co-I), 6/14 – 5/16. Kurose removed as Co-I 12/2014 before taking CISE AD position at NSF.
- “Hazard SEES: Next Generation, Resilient Warning Systems for Tornadoes and Flash Floods,” B. Philips (PI), J. Kurose (Senior Personnel), NSF, \$ 2,998,921, 10/2013 – 9/2017. Kurose removed as Senior Personnel 12/2014 before taking CISE AD position at NSF.
- “Mobile Infrastructure-assisted Ad-hoc Network (MIANET): Phase 2,” DARPA/BAE, J. Kurose, PI, \$237K, 6/13 – 6/14.
- “Mobile Infrastructure-assisted Ad-hoc Networks” DARPA/BAE, J. Kurose, PI, \$115,000, 9/12 – 3/13.
- “Analysis and Design of Best-Effort Content-Caching Networks,” NSF, J. Kurose, PI, \$299,999, 9/11 – 8/15. Kurose removed as PI 12/2014 before taking CISE AD position at NSF.
- “Designing a Smarter and Greener Electric Grid: A Sensor-data Driven Approach,” NSF, J. Kurose (PI), P. Shenoy, \$424,000, 9/1/2011 – 8/14.
- “PC3: US-India Program for Pervasive Communications and Computing Collaboration,” NSF, J. Kurose, PI, \$99,800, 2/11-9/14.
- “FIA: Collaborative Research: MobilityFirst: A Robust and Trustworthy Mobility-Centric Architecture for the Future Internet”, NSF, A. Venkataramani (PI), J. Kurose (Co-I), D. Towsley (co-I), \$7.5M (UMass portion \$1.8M), 9/10 – 8/14.
- “RR-03-011, Extramural Research Facilities Construction,” National Institutes of Health, J. Kurose (PI), \$7.1M, 9/09 – 6/14.
- “Sensor Virtualization and Slivering in an Outdoor Wide-Area Wireless GENI Sensor/Actuator Network Testbed,” J. Kurose (PI), D. Ganesan, P. Shenoy, M. Zink, BBN Technologies, \$490K, 9/2008 – 9/2011.
- “Green Computing,” P. Shenoy (PI), R. Adrion, J. Kurose, UMass President’s Office, S&T Initiative, \$200K, 9/09 – 9/11.
- “PIANO/IAMANET,” T. Wolf (PI), J. Kurose, D. Towsley (Co-I), DARPA/BAE, \$471K, 12/07-5/09.
- “Underwater Sensor Networks,” B. Levine (PI), J. Kurose (Co-I), NSF CRI , \$70K, 5/07 – 5/09.
- “Center for Underwater Sensor Networks,” B. Levine (PI), P. Shenoy, J. Kurose (Co-I), UMass President’s Office, S&T Initiative, \$200K, 9/07-8/08.
- Gift for Research, NEC Corporation, \$35K, 9/08.
- “Disruption Tolerant Underwater Acoustic Networks,” B. Levine (PI), J. Kurose (co-I), ONR, \$32K, 1/07-9/07.
- “International Technology Alliance,” IBM Army/UK MOD , D. Towsley (PI), J. Kurose (Co-I), \$3.7M, 9/06 – 8/16. (UMass portion : \$247K/yr)
- “CONCERTO/CBMANET” BAE/ DARPA, 6/06 - 3/07 \$170K (initial increment)
- Integrated Computing Education and Research, (ICER), National Science Foundation, J. Kurose (PI) \$74K 8/05 – 10/07.
- “Postcards from the Edge,” National Science Foundation, J. Kurose (PI), joint with D. Raychaudhuri, S Paul, R. Yates (Rutgers), \$249K (UMass share), 8/06 - 9/10
- “Center for Collaborative Adaptive Sensing of the Atmosphere (CASA),” NSF Engineering Research Center Program, with D. McLaughlin PI (UMass), S. Cruz-Pol (U. Puerto Rico), K. Droegemeier (U. Oklahoma), J. Kurose (UMass), V. Chandrasekar (Colorado State), renewal for three additional year, \$4M/year, 9/08 – 9/11.
- “NeTS-NBD: Network X-ities - Foundations and Applications,” J. Kurose, PI, D. Towsley co-I, NSF, \$675,000 Total Award Period Covered: 9/1/05-8/31/10.
- “CNS-MRI: Acquisition of a Laboratory Testbed for Networked Embedded Systems and Sensor Research,” P. Shenoy PI, Co-I: D. Ganesan, J. Kurose, NSF, \$370,979, 9/1/05-8/31/08
- IBM Faculty Development Award , IBM, \$30,000, 8/05 – 7/06.

- “ITR: Hyperion – next generation measurement infrastructure and application use,” NSF, \$2.7M, 9/15/03-8/31/08, PI, with 5 others.
- Plan for the Blackstone River EFF and the next Generation Cyberinfrastructure, Co-PI, D. Reckhow (PI), NSF, \$86000, 8/04 – 7/05.
- “Gift for Research,” Sprint Corp., PI, \$25K, 6/04 (student support).
- “Gift for Research,” Nortel, PI, \$15K, 6/04 (student support) .
- “Measurement-in-the-Middle,” PI, with D. Towsley, National Science Foundation, \$380K, 5/03 – 5/506.
- “Student Travel Grant: IMC 2004,” PI, NSF, \$15K.
- “Center for Collaborative Adaptive Sensing of the Atmosphere (CASA),” NSF Engineering Research Center Program, with D. McLaughlin (UMass), J. Colom (U. Puerto Rico), K. Droegemeier (U. Oklahoma), S. Rutledge (Colorado State), Co-PI, approx \$17M, 9/03 – 9/08.
- “Gift for Research,” Sprint Corp., PI, \$70K, 6/02 – 6/03.
- “Travel grants for the ACM Sigcomm Workshop on Computer Networking: Curriculum Designs and Educational Challenges,: \$20K, NSF, PI, 6/02 – 12/02 (travel grants to be awards to participants).
- “NSF workshop in Networking Research Testbeds,” NSF, \$54.5K. I was asked to organize a by-invitation NSF workshop on research testbeds (I am serving as the general chair, and lead a small program committee). The \$54.5K is to cover all attendee costs.
- “Infrastructure to Support Research on Mixed Wired/Wireless Information Systems,” with D. Towsley, M. Adler, A. Ganz, D. Goeckel, P. Shenoy, NSF, \$1.394M (including UMass cost share), 9/00-8/05.
- “Commonwealth Information Technology Initiative,” with C. Marrett, J. Goldstein and 4 others, \$6.531M (\$1.690M in year 1), Massachusetts Board of Higher Education, 7/00- 6/03.
- “Scalable Quality of Service Control for the Next Generation Internet: Fundamental Challenges and Effective Solutions,” with Z. Zhang, L. Gao, R. Guerin, D. Towsley, NSF ITR, \$1,882,115, 9/00 – 8/05.
- “Proxy Services in Wide Area Networks,” with D. Towsley, P. Shenoy, L. Gao, J. Rexford, NSF, \$1,010,263, 9/99 – 8/02.
- “A Fluid Methodology for Complex, Large Scale Networks,” with W. Gong, D. Towsley, NSF, \$631K, 9/98-8/01.
- “Creating a Flexible Undergraduate Program in Computer Science: Curriculum, Educational Technology, and Pedagogy,” with R. Adrion, NSF, 732K, 10/00-8/02, (with UMass cost share).
- “Curriculum Development and Infrastructure for an Advanced Systems Laboratory,” PI with 7 others, NSF, \$704K (with UMass cost share), 9/00-9/03.
- “NSF-CNPq: Application Level Adaptation and Control for Retrieval and Delivery of Continuous Media Over the Internet,” with D. Towsley, R. Muntz, L. Golubchik, NSF, \$59K, 10/00 – 9/03.
- “Specialized Active Network Technologies for Distributed Simulation,” PI with D. Towsley, DARPA, \$704K, 8/99 – 7/02.
- “Fluid Methods for Modeling Large, Heterogeneous Networks,” with W. Gong, D. Towsley, DARPA, \$970K, 4/00 – 4/03.
- “Gift for Research,” Intel Corp., PI with P. Shenoy, D. Towsley, \$120K, 6/99 – 6/01.
- “Gift for Research,” Sprint Corp., PI with D. Towsley, \$120K, 6/99 – 6/01.
- “A High Performance Connection for Research and Education,” with J. Dubach, W.R. Adrion, D. Blazis, NSF, \$700K (including UMass match), 3/98-2/99.
- “Smoothing and Congestion Control Algorithms for Stored Continuous Media,” PI, with D. Towsley, NSF, \$251,987, 9/98-8/01.
- “A Fluid Simulation Methodology for Complex, Large Scale Networks,” with W. Gong, D. Towsley, NSF, \$ 631,606, 9/98-8/01.
- “Active and High Confidence Networks,” PI with D, Towsley, DARPA (subcontract with TASC), \$ 463,129, 8/1/97-7/31/00

- "NSF Supplement for Educational Activity," with R. Adrion, \$20K, 6/97 - 6/98.
- "Graduate Student Support for Research in Multicasting" AT&T, \$24K, 1/97-12/97
- "Real-Time Internet Applications - Traffic Characterization," GTE, with D. Towsley, \$24,200, 9/96 - 8/97.
- "Multicast Implementation Study," PI, with D Towsley and researchers, at TASC, DARPA, \$1.6M 9/95 - 8/98.
- "Infrastructure to Support Research on Networked Multimedia Information Systems," PI (with 6 co-PIs), NSF, \$2.3M (including UMass match), 8-95 - 7/00.
- "Multimedia Communication in Wide-Area Networks," with D. Towsley, NSF, \$450K, 9/95 - 8/98.
- "Simulations of Integrated Communications Systems," with D. Towsley and researchers from AT&T, Bellcore, College of William and Mary, Rutgers. NSF Grand Challenges, \$153K (UMass portion only), 3 years.
- "Prototyping the ECS Fault Management Application Service," with P. Cohen, \$198K, 10/95 - 9/96.
- "Graduate Student Support for Research in Wireless Networks," AT&T, \$24K, 2/95 - 12/95.
- "Internet-based multimedia distance learning software," PI, with D. Towsley and H. Liu (UMass/Dartmouth), \$3.5K, 1 year.
- "Design and Analysis Techniques for Future High-Speed Networks," with D. Towsley, National Science Foundation, \$245K, 3/92 - 2/95.
- "The Effective Use of Multiprocessors for High Performance Network Protocols," with D. Towsley, DARPA, \$747K, 7/92 - 7/95.
- "University Partnership in Research," Motorola Codex, \$73K, 5/92 - 8/95.
- "Using Shared Memory Multiprocessors in High-Performance Networks Protocol Processing," PI (with D. Towsley), National Science Foundation, \$340K, 7/92 - 12/95.
- "Fault-Tolerance and Performance in Real-Time Systems," with D. Towsley and C.M. Krishna, National Science Foundation, \$235K, 8/92 - 1/95.
- "Problems in Survivable Multi-media Networks Office of Naval Research," PI (with D. Towsley and C. Cassandras), \$164K, 1/90 - 9/91.
- "Design and Evaluation of Scheduling Policies for Real-Time and Non-Real-Time Traffic in Communication Networks," PI (with D. Towsley and C. Cassandras), ARPA, \$445K, 8/88 - 12/92.
- "Grant for International Cooperative Research" Japanese Government," \$30K, 6/88 - 6/92.
- "Design and Analysis of Scheduling Policies for Real-Time Computing Systems," with C.M. Krishna and D. Towsley, Office of Naval Research \$563K, 9/87 - 9/92.
- "Telecommunications System Analysis," US Dept. of Transportation, PI, with 5 others, \$13K, 3/87 - 12/88.
- "Resource Contention Management in Parallel Systems," with C. Cassandras and D. Towsley, \$63K, 5/87 - 12/87.
- "Load Balancing in Distributed Computer Systems," with D. Towsley and C.M. Krishna, National Science Foundation, \$159K. 9/87 - 8/89.
- "Problems in Survivable Multi-Media Networks Office of Naval Research," with D. Towsley and C. Cassandras, \$343K, 2/87 - 1/90.
- "The RESQ Modeling Environment," IBM, \$232K, 8/86 - 10/93.
- "Faculty Development Award," IBM, \$60K, 9/85 - 6/91.
- "Graphical Modeling Environments," IBM, \$60K, 11/85 - 8/86
- "Young Faculty Grant," GE Foundation, \$20K, 6/85 - 12/87.
- "Faculty Research Grant," University of Massachusetts, \$2.5K, 6/85 - 3/86.
- "Decentralized Microeconomic Approach to Optimal Resource Allocation in Computer Networks," NSF, \$70K 6/85 - 11/87.

