
Suman Banerjee

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Research Interests

- Networking and distributed systems
 - Mobile and wireless networking systems, Overlay systems, Traffic classification, Network security

Education

- Ph.D., Computer Science (Aug 2003)
University of Maryland, College Park
- A Cooperative Peer-to-peer Framework to Scale Multi-party Applications
Advisors: Bobby Bhattacharjee and Ashok Agrawala
- M.S., Computer Science (May 1999)
University of Maryland, College Park
- Available Bandwidth Estimation for An End-to-end Network Connection
- B.Tech., Computer Science and Engineering (May 1996)
Indian Institute of Technology, Kanpur, India (Director's Gold Medal Winner)

Employment

- Associate Professor Aug 2009 - present
Dept. of Computer Sciences, University of Wisconsin-Madison
- Assistant Professor Dec 2003 - Aug 2009
Dept. of Computer Sciences, University of Wisconsin-Madison
- Visiting Faculty Researcher Oct - Dec 2003
Intel Research, Cambridge, UK and Dept. of Computer Science, University of Cambridge, UK
- Research intern (May 1999 - December 1999)
Maryland Network Research Corporation, Ashton, MD
Project: Self-organizing network of wireless devices
- Research intern (May 1997 - August 1997)
HP Labs, Palo Alto, CA
Project: Intelligent I/O for Fast Servers

Awards

- 2011 **ACM MobiCom 2011 paper fast-tracked to Transactions of Mobile Computing.**
FLUID: Improving Throughputs in Enterprise Wireless LANs through Flexible Channelization, with co-authors, Shravan Rayanchu, Vivek Shrivastava, Ranveer Chandra.
- 2011 **First prize winner, Wisconsin Governor's Business Plan Competition** for WiRover technology.
- 2009 **ACM MobiCom 2009 best paper award.**
Awarded to the best paper titled: CENTAUR: Realizing the full potential of Centralized WLANs using a Hybrid Data Path, with co-authors, Vivek Shrivastava, Nabeel Ahmed, Shravan Rayanchu, Srinivasan Keshav, Dina Papagiannaki, and Arunesh Mishra.
- 1996 **J.N. Tata Scholarship** for graduate studies.
Awarded by J.N. Tata Endowment for Higher Education, Bombay, India.
- 1996 **Director's Gold Medal Class of 1996, IIT Kanpur.**
Awarded for academic excellence and all-round achievement IIT Kanpur, India.
- 1990-1992 **National Talent Search scholarship, India.**
Awarded by National Council of Education, Research and Training, India.

Grants

- 2011-2014 "A Federated WiMAX Facility for Vehicular Applications and Metro-Scale Experimentation."
PI, NSF Award (GENI program as a sub-contract from BBN).
- 2011-2014 "Building Trustworthy Applications for Mobile Devices."
co-PI, NSF Award (Trustworthy Computing program), PI: Somesh Jha, co-PI: Mike Swift.
- 2011-2014 A Multi-Party Distributed Wall through Dispersed Sensing and Computation.
PI, NSF Award (GENI concept development program).
- 2011-2012 "Enhancing a Metro-Scale Vehicular Testbed for Flexible White Space Networking."
PI, NSF Award (CRI program).
- 2010-2013 "FIA: Collaborative Research: MobilityFirst: A Robust and Trustworthy Mobility-Centric Architecture for the Future Internet."
PI, NSF Award (Future Internet Architecture program).
- 2010-2011 "Logical Localization for Mobile Devices through Ambience Sensing."
PI, NSF Award (NeTS program).
- 2009-2011 "A Programmable Facility for Experimentation with Wireless Heterogeneity and Wide-area Mobility."
PI, NSF Award (GENI program as a sub-contract from BBN).
- 2009-2011 "A Metro-Scale Vehicular Wireless Testbed with Spectrum Awareness and Spectrum Agility."
PI, NSF Award (CRI program), Co-PI: Parmesh Ramanathan.
- 2009 "A Network-assisted Infrastructure for High Definition Media Delivery in Wireless Networks."
PI, Cisco University Research Program Award.
- 2008-2013 "Towards Client-assisted Management in Wireless Networks."
PI, NSF Award (CAREER program).

- 2008-2009 “A Virtualized Vehicular Wireless Testbed with Spectrum Agility.”
PI, NSF Award (CRI program), Co-PI: Parmesh Ramanathan.
- 2008 “Efficient Management Strategies of Large-Scale Wireless Networks.”
PI, Cisco Univeristy Research Program Award.
- 2006-2009 “An Integrated PHY-MAC Approach to Secure Open Access Wireless Networks. ”
PI, NSF Award (CyberTrust program), Co-PI: Akbar Sayeed.
- 2006-2007 “Virtualization Techniques to Multiplex Experiments on a 802.11 Wireless Facility.”
PI, NSF Award (GENI Concept Development program).
- 2005-2008 “An Open Market Architecture for Wide-area Wireless Services.” PI.
PI, NSF Award (NeTS program).
- 2006-2008 “Design for Manageability in the Next Generation Internet.”
co-PI, NSF Award (NeTS program), PI: Paul Barford, co-PI: Cristian Estan.
- 2007 “Optimizing the design of a smart rule cache.”
PI, Cisco Univeristy Research Program Award.
- 2006 “Towards wire-speed traffic classification using a smart rule cache.”
PI, Cisco Univeristy Research Program Award.
- 2006 “Wireless Grids: A Technology for Rural Networking.”
PI, Microsoft Digital Inclusion Award.
- 2005-2008 Resilience Oriented Multicast for Real-time Multimedia.
 co-PI (PI- Sanjay Jha, Univeristy of New South Wales, Australia), Australian Research Council.
- 2002 “Location-Aware Computing.” Student Technical Leader, Advanced E-team grant from National Collegiate Inventors and Innovations Alliance in collaboration with Dingman Center for Entrepreneurship.

The total funding from all above awards between 2005 and now is approximately \$4 million.

Professional Activities

- **Program Chair:**
 - IEEE SECON, 2012.
 - ACM MobiCom, 2010.
 - Workshop on Networking, Systems, and Applications for Mobile Handhelds (MobiHeld), 2009.
 - Workshop on Wireless Mesh Networks (WiMesh), 2008.
 - CoNEXT student workshop, 2007.
 - International Workshop on Foundations of Mobile Computing, 2005.
- **Steering Committee member:** Workshop on Networking, Systems, and Applications for Mobile Handhelds (MobiHeld).
- **Tutorials Chair:**
 - ACM Sigcomm, 2008.
 - ACM Sigmetrics, 2007.
- **Workshops Chair**
 - ACM Sigcomm, 2008.
 - ACM MobiQuitous, 2007.
 - Wireless Internet Conference (WICON), 2006.
 - ACM MobiCom, 2005.
- **Research Demo Chair:** ACM MobiCom and ACM MobiHoc 2007, IEEE SECON 2009.
- **Research Poster Chair:** ACM MobiCom 2009, IEEE SECON 2009.

- **Editor-in-Chief:** Mobile Computing and Communications Review (MC2R) 2008 - ongoing,
- **Area/Associate Editor:** Transactions on Mobile Computing 2009 - ongoing, Computer and Communications Review (CCR) 2008 - 2010, Mobile Computing and Communications Review (MC2R) 2008 - 2010, International Journal on Vehicular Technology (IJVT) 2006 - 2008.
- **Panel organizer:** WICON 2008, and NSF/DOE Research Challenges Workshop, 2008.
- **Area TPC Chair:** Infocom 2011, 2012.
- **Program committee member:**
 - ACM Sigcomm 2009.
 - ACM Mobicom, 2005, 2006, 2007, 2008, 2009, 2010.
 - ACM Sigmetrics, 2007, 2008, 2009.
 - ACM MobiSys, 2009, 2011.
 - IEEE Infocom 2005, 2007, 2008, 2009.
 - Network and Distributed Systems Security (NDSS), 2011.
 - IEEE COMSWARE 2007, 2008, 2009 (name changed to Comsnets).
 - IEEE SECON 2004, 2005, 2006.
 - ACM Conference on Wireless Network Security (WiSec), 2008, 2009, 2010.
 - ACM MobiHoc, 2006.
 - Conference on Future Networking Technologies (CoNEXT), 2006.
 - ACM Workshop on Networking, Systems, and Applications for Mobile Handhelds (MobiHeld), 2009-2011.
 - ACM Workshop on Home Networks (HomeNets), 2010.
 - ACM Workshop on Virtualization in Mobile Computing (MobiVirt), 2008.
 - Wireless Internet Conference (WICON), 2006.
 - ICDCS: International Conference on Distributed Computing Systems, 2006, 2007.
 - ACM Workshop on Wireless Network Testbeds, Experimental evaluation and Characterization (WinTECH), 2007, 2008, 2009.
 - International Workshop on Wireless Traffic Measurements and Modeling, 2005.
 - PAM: Workshop on Passive and Active Measurements, 2005, 2007.
 - International Conference on High Performance Computing (HiPC) 2004
 - International Conference on Parallel Processing (ICPP) 2004
- **NSF Panel Reviewer:** NeTS program - 2011, CPS program - 2010, NetSE program - 2009, CAREER program - 2006, NeTS program - 2006, 2007, 2008, and CyberTrust program - 2005, 2008.
- **Evaluation committee member:**
 - Student poster committee, ACM Sigcomm 2006, 2008.
 - Student best paper award committee, ACM Mobicom 2006, 2007, 2010.
 - Student Research Competition evaluation committee, ACM Mobicom, 2005.

Tutorials

- Performance of Peer-to-Peer Systems.
ACM Sigmetrics, New York, June 2004.
- Mutli-hop Wireless Networks: State-of-the-Art, Research Directions and Future Challenges.
IEEE International Conference on Networks, Sydney, September 28, 2003.

Invited Talks/Panels

- “The Anatomy of a Multi-Player Mobile Game.”
Invited talk, Annual Microsoft Research Networking Summit on Mobile + Cloud services, June 2, 2010.

- “Passive Interference Estimation in Enterprise WLANs,” *Invited talk*, MIT, June 15, 2010.
- “Value-aware Networking for Mobile Media Delivery,”
 - *Keynote talk*, MobiArch Workshop at ACM MobiCom, Sep 24, 2010.
 - *Invited talk*, Connecting the Next Billion Workshop at Agra, India, Aug 29, 2010.
- “Efficient Management and Robust Services for Large-scale Wireless Networks.” *Invited talk*, 3M Corporation, Minneapolis, MN, August 7, 2009.
- “Towards A Client-Assisted Management Approach for Wide-area Wireless Networks.”
 - *Keynote talk*, Wireless Measurements Workshop, Seoul, Korea, June 26, 2009.
 - *Invited talk*, at NAVTEQ Inc., Chicago, IL, June 15, 2009.
- “Designing Robust Enterprise Wireless Networks: High Throughputs, Energy Efficiency, Passive Security, and Rich Media Services.” *Invited talk*, at Microsoft Research, Redmond, WA, March 16, 2009.
- “Towards Efficient Wireless Spectrum Management in Enterprises.” *Invited talks* at:
 - University of Notre Dame, Indiana, October 1, 2008.
 - University of Washington, Seattle, September 30, 2008.
 - HP Laboratories, September, 2008.
 - University of California, Berkeley, September, 2008.
- “Fast Classification for Cheap: How to live with tiny TCAMs.” *Invited talk*, Cisco Systems, San Jose, CA, July 25, 2008.
- “Spectrum Enforcement in a Spectrum-Sharing World.” *Invited talk*, Microsoft Research Cognitive Networking Summit, June 2008.
- “A Client-assisted (and Infrastructure-mediated) approach to Management in Large-scale Wireless Networks.” *Invited talk*, Motorola Labs, Schaumburg, IL, May 14, 2008.
- “NSF-sponsored wireless networking research: Future directions and impact.” *Invited talk*, American Association for Advancement of Sciences, San Francisco, 2007.
- “A Wireless Grid Architecture for Rural Networking.” *Invited talk*, Microsoft Research Latin American Faculty Summit, Chile, May 2007.
- “Client-assisted Management in Wireless Networks,” *Invited talks*, at the NSF-Tekes US-Scandinavian Wireless Networking Collaboration Meeting, Finland and Sweden, May 2007.
- “Mesh networking — New applications and technologies.” *Panelist*, Microsoft Faculty Summit, July 2006.
- “A Client-driven Approach to Management in 802.11 (and other) Wireless Networks,” invited talks at:
 - Northwestern University, June 30, 2007.
 - Intel Research, Pittsburgh, April 17, 2007.
 - Intel Labs, Hillsboro, OR, June 29, 2006.
 - Microsoft Research, Redmond, WA, December 12, 2005.
 - Columbia University, November 21, 2005.
 - Siemens Research Laboratory, Princeton, NJ, November 11, 2005.
- “Efficient Routing through Late Binding in Wireless Meshes,” invited talk at: IEEE 802.11s standards meeting, Orange County, CA, September 21, 2005.
- “Wide-Area Wireless: Where do we do from here?” invited talks at:
 - NEC Laboratories, Princeton, NJ, May 19, 2004.
 - SprintLabs, Burlingame, CA, March 30, 2004.
 - University of Cambridge and Intel Research, Cambridge, UK, December 16, 2003.

- “Media Streaming using Overlays: From Myth to Reality,” invited talk at:
 - Microsoft Research, Cambridge UK, December 9, 2003.
- “A Cooperative Framework to Scale Multi-party Applications,” invited talks at:
 - University of New South Wales, Sydney, September 26, 2003.
 - IIT Delhi, India, August 22, 2003.
 - IIT Kanpur, India, August 21, 2003.
 - Lucent Technologies, Holmdel, NJ, July 14, 2003.
 - University of Cambridge, UK, February 28, 2003.
- “Scaling Distributed Applications using End-host Cooperation,” invited talk at:
 - Columbia University, November 6, 2002.
 - Georgia Institute of Technology, October 26, 2001.
- “Future of Ad-hoc Wireless Networks.”
 - Panelist*, ACM MobiHoc 2002, June 2002.

Teaching Experience

- Course Instructor, Department of Computer Sciences, University of Wisconsin, Madison
 - CS 838 and CS/ECE 707 - Mobile and Wireless Networking: Fall 2009, Fall 2008, Fall 2007, Fall 2006, Spring 2006.
 - CS 740 - Advanced Computer Networks: Fall 2004, Fall 2005.
 - CS 640 - Introduction to Computer Networks: Spring 2009, Spring 2008, Spring 2004, Spring 2005.
 - CS 638 - Topics in Undergraduate Computing - Mobile Phone Programming: Spring 2010.
- Teaching Assistant, Department of Computer Science, University of Maryland, College Park
 - CMSC 417 - Computer Networking: Spring 1998, Spring 2000.
 - CMSC 624 - Advanced Database Implementation: Fall 1998.
 - CMSC 150 - Discrete Mathematics: Spring 1997.
 - CMSC 102 - Introduction to Information Technology: Fall 1996.

Graduate students

Graduated students:

- Qunfeng Dong, Ph.D. (CS) completed May 2007, first job as Assistant Professor, Suzhou Institute of Advanced Study, University of Science and Technology, China
- Vivek Shrivastava, Ph.D. (CS) completed August 2010, first job at Nokia Research Center, Palo Alto, USA
- Dheeraj Agrawal, M.S. (CS) completed December 2007, first job at Cisco Systems.
- Ashutosh Shukla, M.S. (CS) completed May 2007, first job at Google.
- Kevin Springborn, M.S. (CS) completed May 2007, first job at Nemean Networks.

Current students:

- Shravan Rayanchu, (CS), (PhD prelims passed)
- Sayandeep Sen, (CS) (PhD prelims passed)
- Yadi Ma, (CS) (PhD prelims passed)
- Joshua Hare, (CS) (qualifiers passed)
- Jongwon Yoon, (CS) (qualifiers passed)
- Ashish Patro (CS)
- Tan Zhang (ECE)

Other student mentoring

- Shravan Rayanchu was nominated for and was awarded an **Microsoft PhD Fellowship** (2009)
- Vivek Shrivastava was nominated for and was awarded an **IBM PhD Fellowship** (2009) Fellowship (2006-2009)
- Vladimir Brik was nominated for and won the **DHS Graduate Student Fellowship** (2006-2009)
- Shravan Rayanchu secured the **first place** in ACM Sigmobility Student Research Competition 2007 (held at ACM Mobicom 2007)
- Vivek Shrivastava secured the **first place** in ACM Sigmobility Student Research Competition 2006 (held at ACM Mobicom 2006)

Other university and departmental activities

Departmental committee roles

- Industrial Affiliates, 2008-2010 (role included starting the Epic RAship program)
- Distinguished Lecture Series, 2007-2008
- CS Curriculum Committee, 2006-2007
- CS Admissions Committee, 2005-2006
- Faculty recruiting, 2004, 2004-2005

Publications — Book Chapters and Journals

- J-1. Network Coding-Aware Routing in Wireless Networks.
Sudipta Sengupta, Shravan Rayanchu, Suman Banerjee.
ACM/IEEE Transactions on Networking, Volume 18, Issue 4, August 2010.
- J-2. SWARM: The Power of Structure in Community Wireless Mesh Networks.
Saumitra Das, Konstantina Papagiannaki, Suman Banerjee, Y.C. Tay.
ACM/IEEE Transactions on Networking, Preprint made available on November 2010.
- J-3. Low-coordination wake-up algorithms for multiple connected-covered topologies in sensor networks.
Rajagopal Iyengar, Koushik Kar, Suman Banerjee.
International Journal on Sensor Networks, Volume 5, Number 1, 2009.
(Extended version of MobiHoc 2005 [C-28] paper.)
- J-4. Load Balancing in Large-Scale RFID Systems.
Qunfeng Dong, Vivek Shrivastava, Dheeraj Agrawal, Ashutosh Shukla, Suman Banerjee, Koushik Kar.
Computer Networks, Volume 52, Number 9, March 2008.
(Extended version of Infocom 2007 [C-46] paper.)
- J-5. Routing Algorithms for Energy Efficient Reliable Packet Delivery in Multi-hop Wireless Networks.
Suman Banerjee, Archan Misra.
Chapter in book titled **Mobile, Wireless and Sensor Networks: Technology, Applications and Future Directions**, by John Wiley and Sons. 2005.
(Extended version of Mobihoc 2002 [C-39] and MWCN 2004 [C-53] papers.)
- J-6. A Mobile Bazaar for Wide-Area Wireless Services.
Rajiv Chakravorty, Sulabh Agarwal, Suman Banerjee, Ian Pratt.
WINET Special Issue, Volume 13, Number 6, December 2007.
(Extended version of Mobicom 2005 [C-26] paper.)

- J-7. Resilient Overlays using Multicast.
Suman Banerjee, Seungjoon Lee, Bobby Bhattacharjee, Aravind Srinivasan.
ACM/IEEE Transactions of Networking, Vol 14, No. 2, April 2006.
(Extended version of Sigmetrics 2003 [C-36] paper.)
- J-8. OMNI: An Efficient Overlay Multicast Infrastructure for Real-time Applications.
Suman Banerjee, Christopher Kommareddy, Koushik Kar, Bobby Bhattacharjee, Samir Khuller.
Special Issue of **Computer Networks** on Overlay Distribution Structures and their Applications, Volume 50, Issue 6, April 2006.
(Extended version of Infocom 2003 [C-37] paper.)
- J-9. Weighted Coloring based Channel Assignment in WLANs.
Arunesh Mishra, Suman Banerjee, William Arbaugh.
ACM Mobile Computing and Communications Review, July 2005.
- J-10. Efficient Peer Location on the Internet.
Suman Banerjee, Christopher Kommareddy, Bobby Bhattacharjee.
Computer Networks, Volume 45, 2004.
(Extended version of Global Internet 2002 [C-63] paper.)
- J-11. Scalable Secure Group Communication over IP Multicast.
Suman Banerjee, Bobby Bhattacharjee.
JSAC Special Issue on Network Support for Group Communication, Vol. 20, No. 8, October 2002.
(Extended version of ICNP 2001 [C-40] paper.)
- J-12. Rover: Enabling Scalable Location-Aware Computing.
Suman Banerjee, Ronald Larsen, A. Udaya Shankar, Ashok Agrawala et. al.
IEEE Computer Magazine, October 2002.
- J-13. Energy Efficient Reliable Communication for Multi-hop Wireless Networks.
Suman Banerjee, Archan Misra.
Accepted for publication to **Journal of Wireless Networks (WINET)**.
(Extended version of Mobihoc 2002 [C-39], WCNC 2003 [C-62], and WiOpt 2003 [C-64] papers.)

Publications — Highly selective conferences

- C-1. Can they hear me now?: A case for a client-assisted approach to monitoring wide-area wireless networks.
Sayandeep Sen, Jongwon Yoon, Joshua Hare, Justin Ormont, Suman Banerjee.
Internet Measurement Conference (IMC), November 2011.
- C-2. Airshark: Detecting Non-WiFi RF Devices using Commodity WiFi Hardware.
Shravan Rayanchu, Ashish Patro, Suman Banerjee.
Internet Measurement Conference (IMC), November 2011.
- C-3. FLUID: Improving Throughputs in Enterprise Wireless LANs through Flexible Channelization.
Shravan Rayanchu, Vivek Shrivastava, Suman Banerjee, Ranveer Chandra.
ACM MobiCom, September, 2011.
- C-4. FERMI: A FEmtocell Resource Management System for Interference Mitigation in OFDMA Networks.
Mustafa Yasir Arslan, Jongwon Yoon, Karthikeyan Sundaresan, Srikanth V. Krishnamurthy, Suman Banerjee.
ACM MobiCom, September, 2011.

- C-5. PIE in the Sky: Online Passive Interference Estimation for Enterprise WLANs.
Vivek Shrivastava, Shravan Rayanchu, Suman Banerjee, Konstantina Papagiannaki.
Conference on Networking Systems, Design and Implementation (NSDI), April 2011.
- C-6. Fingerprinting 802.11 Rate Adaptation Algorithms.
Mariyam Mirza, Paul Barford, Xiaojin Zhu, Suman Banerjee, Michael Blodgett.
IEEE Infocom, April 2011.
- C-7. Application-aware Virtual Machine Migration in Data Centers.
Vivek Shrivastava, Petros Zerfos, Kang-won Lee, Hani Jamjoom, Yew-Huey Liu, Suman Banerjee.
IEEE Infocom, April 2011.
- C-8. Design and Implementation of an "Approximate" Communication System for Wireless Media Applications.
Sayandeep Sen, Shresha Srinath, Steve Schmitt, Suman Banerjee.
ACM Sigcomm, August 2010.
- C-9. Leveraging Parallelism for Multi-dimensional Packet Classification on Software Routers.
Yadi Ma, Suman Banerjee, Shan Lu, Cristian Estan.
ACM Sigmetrics, June 2010.
- C-10. Scalable WiFi Media Delivery through Adaptive Broadcasts.
Sayandeep Sen, Neel Kamal Madabhushi, Suman Banerjee.
NSDI, April 2010.
- C-11. SWARM: The Power of Structure in Community Wireless Mesh Networks.
Saumitra Das, Dina Papagiannaki, Suman Banerjee, Y.C. Tay.
ACM CoNEXT, November 2009.
- C-12. CENTAUR: Realizing the Full Potential of Centralized WLANs using a Hybrid Data Path, (**Best paper award winner.**)
Vivek Shrivastava, Nabeel Ahmed, Shravan Rayanchu, Suman Banerjee, Dina Papagiannaki, Srinivasan Keshav, Arunesh Mishra.
ACM MobiCom, September 2009.
- C-13. Exploiting "Approximate Communication" for Mobile Media Applications.
Sayandeep Sen, Steve Schmitt, Mason Donahue, Suman Banerjee.
ACM HotMobile, February 2009.
- C-14. Avoiding File System Micromanagement with Range Writes.
Ashok Anand, Sayandeep Sen, Andrew Krioukov, Florentina Popovici, Aditya Akella, Andrea A. Dusseau, Remzi A. Dusseau, Suman Banerjee.
Operating Systems Design and Implementation (OSDI), December 2008.
- C-15. Measurement Study of a Commercial-grade Urban WiFi Mesh.
Vladimir Brik, Shravan Rayanchu, Sayandeep Sen, Vivek Shrivastava, Suman Banerjee.
Internet Measurement Conference (IMC), October 2008.
- C-16. 802.11n Under the Microscope.
Vivek Shrivastava, Shravan Rayanchu, Jongwon Yoon, Suman Banerjee.
Internet Measurement Conference (IMC), October 2008.
- C-17. Wireless Device Identification with Radiometric Signatures.
Vladimir Brik, Suman Banerjee, Marco Gruteser, Sangho Oh.
ACM Mobicom, September 2008.

- C-18. Loss-Aware Network Coding for Unicast Wireless Sessions: Design, Implementation, and Performance Evaluation.
Shravan Rayanchu, Sayandeep Sen, Jianming Wu, Suman Banerjee, Sudipta Sengupta.
ACM Sigmetrics, June 2008.
- C-19. Diagnosing Wireless Packet Losses in 802.11: Separating Collision from Weak Signal.
Shravan Rayanchu, Arunesh Mishra, Dheeraj Agrawal, Sharad Saha, Suman Banerjee.
IEEE Infocom, April 2008.
- C-20. Understanding the Limitations of Fine-Grained Power Control in Indoor Wireless LANs.
Vivek Shrivastava, Arunesh Mishra, Dheeraj Agrawal, Suman Banerjee, Tamer Nadeem.
Internet Measurement Conference, November 2007.
- C-21. Interference Mitigation in Enterprise WLANs using Speculative Scheduling.
Nabeel Ahmed, Vivek Shrivastava, Suman Banerjee, Dina Papagiannaki, S. Keshav.
ACM Mobicom, September 2007.
- C-22. Packet Classification without TCAMs: A few Registers (and a bit of logic) is enough.
Qunfeng Dong, Suman Banerjee, Jia Wang, Dheeraj Agrawal.
ACM Sigmetrics, June 2007.
- C-23. An Analysis of Wireless Network Coding for Unicast Sessions: The Case for Coding-Aware Routing.
Shravan Rayanchu, Sudipta Sengupta, Suman Banerjee.
IEEE Infocom, April 2007.
- C-24. VoIP on Wireless Meshes: Models, Algorithms and Evaluation.
Anand Kashyap, Samrat Ganguly, Samir Das, Suman Banerjee.
IEEE Infocom, April 2007.
- C-25. Towards an Architecture for Efficient Spectrum Slicing.
Suman Banerjee, Arunesh Mishra, Vladimir Brik, Vivek Shrivastava, Victor Bahl.
ACM HotMobile, February 2007.
- C-26. Towards Secure Localization Using Wireless Congruity.
Arunesh Mishra, Shravan Rayanchu, Ashutosh Shukla, Suman Banerjee.
ACM HotMobile, February 2007.
- C-27. Achieving Good End-to-End Service Using Bill-Pay.
Cristian Estan, Aditya Akella, Suman Banerjee.
ACM Hotnets, November 2006.
- C-28. Distributed Channel Management in Uncoordinated Wireless Environments.
Arunesh Mishra, Dheeraj Agrawal, Vivek Shrivastava, Suman Banerjee, Samrat Ganguly.
ACM Mobicom, September 2006.
- C-29. Packet Classifiers in TCAMs can be Smaller.
Qunfeng Dong, Suman Banerjee, Jia Wang, Dheeraj Agarwal, Ashutosh Shukla.
ACM Sigmetrics, June 2006.
- C-30. Partially-overlapped Channels not considered Harmful.
Arunesh Mishra, Vivek Shrivastava, Suman Banerjee, William Arbaugh.
ACM Sigmetrics, June 2006.
- C-31. A Client-driven Approach to Channel Management in WLANs.
Arunesh Mishra, Vladimir Brik, Suman Banerjee, William Arbaugh, Aravind Srinivasan.
IEEE Infocom, April 2006.

- C-32. MobiStream: Error-resilient Video Streaming in Wireless WANs using Virtual Channels.
Rajiv Chakravorty, Suman Banerjee, Samrat Ganguly.
IEEE Infocom, April 2006.
- C-33. Throughput Optimization and Fair Bandwidth Allocation in Multi-hop Wireless LANs.
Qunfeng Dong, Suman Banerjee, Benyuan Liu.
IEEE Infocom, April 2006.
- C-34. A Fast Content-based Data Distribution Infrastructure.
Samrat Ganguly, Sudeept Bhatnagar, Akhilesh Saxena, Rauf Izmailov, Suman Banerjee.
IEEE Infocom, April 2006.
- C-35. Eliminating handoff latencies in 802.11 WLANs using multiple radios: Applications, experience, and evaluation.
Vladimir Brik, Arunesh Mishra, Suman Banerjee.
Internet Measurement Conference (IMC), November 2005.
- C-36. Exploiting partially overlapped channels in wireless networks: Turning a peril into an advantage.
Arunesh Mishra, Eric Rozner, Suman Banerjee, William Arbaugh.
Internet Measurement Conference (IMC), November 2005.
- C-37. Efficient Probabilistic Packet Marking.
Qunfeng Dong, Suman Banerjee, Micah Adler, Kazu Hirata.
International Conference on Network Protocols (ICNP), November 2005.
- C-38. MoB: A Mobile Bazaar for Wide-area Wireless Services.
Rajiv Chakravorty, Suman Banerjee, Sulabh Agarwal, Ian Pratt.
ACM Mobicom, August 2005.
- C-39. Minimum Energy Reliable Paths Using Unreliable Wireless Links.
Qunfeng Dong, Suman Banerjee, Micah Adler, Archan Misra.
ACM Mobihoc June 2005.
- C-40. Low-coordination Topologies for Redundancy in Sensor Networks.
Rajagopal Iyengar, Koushik Kar, Suman Banerjee.
ACM Mobihoc, June 2005.
- C-41. Efficient Geographic Routing in Multihop Wireless Networks.
Seungjoon Lee, Bobby Bhattacharjee, Suman Banerjee.
ACM Mobihoc, June 2005.
- C-42. Fast Replication in Content Distribution Overlays.
Samrat Ganguly, Sudeept Bhatnagar, Akhilesh Saxena, Suman Banerjee, Rauf Izmailov.
IEEE Infocom, 2005.
- C-43. Exploiting Diversity to Enhance Multimedia Streaming Over Cellular Links.
Julian Chesterfield, Rajiv Chakravorty, Ian Pratt, Suman Banerjee, Pablo Rodriguez.
IEEE Infocom, 2005.
- C-44. Debugging DHCP Performance.
Vladimir Brik, Jesse Stroik, Suman Banerjee.
Internet Measurement Conference (IMC), October 2004.
- C-45. Performance Optimizations for Wireless Wide-area Networks: Comparative Study and Experimental Evaluation.
Rajiv Chakravorty, Suman Banerjee, Julian Chesterfield, Pablo Rodriguez, Ian Pratt.
ACM Mobicom, Sept 2004.

- C-46. MAR: A Commuter Router Infrastructure for the Mobile Internet.
Rajiv Chakravorty, Julian Chesterfield, Pablo Rodriguez, Ian Pratt, Suman Banerjee.
ACM Mobisys, June 2004.
- C-47. The Case for a Multi-hop Wireless Local Area Network.
Seungjoon Lee, Suman Banerjee, Bobby Bhattacharjee.
IEEE Infocom, March 2004.
- C-48. Resilient Multicast using Overlays.
Suman Banerjee, Seungjoon Lee, Bobby Bhattacharjee, Aravind Srinivasan.
ACM Sigmetrics, June 2003.
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