

# Surendar Chandra

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URL: <http://surendar.chandrabrown.org/>

## Research Interests

Experimental system topics in multimedia, mobile collaboration, storage, sensor systems, security

## Education

- Ph.D., Computer Science, July 2000  
Duke University, Durham, NC  
Dissertation: "Quality Aware Transcoding: An Application Level Technique to Dynamically Adapt Multimedia Content", supervised by Carla Schlatter Ellis.
- M.S., Computer Science, August 1993  
Worcester Polytechnic Institute, Worcester, MA  
Thesis: "Adaptive Resource Management", supervised by Craig Wills.
- B.E., Computer Science and Engineering, May 1988  
Anna University, Madras, India

## Experience

- Industry:
  - Principal Software Engr., EMC Backup Recovery Systems, Santa Clara, CA. *September 2012 -*
  - Visiting Research Scientist, FX Palo Alto Labs., Palo Alto, CA. *August 2010 – August 2012*
  - Software Engineer, Hindustan Computers Ltd., Madras, India. July 1988 – December 1990
  - Software Consultant, Sybase Inc., Emeryville, CA. July 1989 – January 1990
- Academia:
  - Assistant Professor, Comp. Sci. and Engg., Univ. of Notre Dame, August 2002 – July 2009
  - Assistant Professor, Comp. Sci., Univ. of Georgia, August 2000 – August 2002
- Research Internships:
  - IBM T. J. Watson Research Center, June 1997 – August 1998, Summer 1999
  - Glaxo Wellcome Inc., August 1995 – May 1997
  - Xerox Palo Alto Research Center, Summer 1995
  - WPI Center for High Performance Computing, Summer 1992 and 1993

## Honors and Awards

- **National Science Foundation Early CAREER Award (2004)**
- **Senior member of ACM**
- Certificate of appreciation, IEEE Computer Society (conference activity, 2004)
- North Carolina Networking Initiative Graduate Fellowship ('99-'00)
- IBM Research Dissertation Graduate Fellowship ('97-'98)
- Duke University, Department of Computer Science Fellowship ('93-'94)

## Refereed Publications(h-index:15)

### • Journals and book chapters

53. *Surendar Chandra, John Boreczky and Lawrence A. Rowe*, “High Performance Many to Many Intranet Screen Sharing with DisplayCast”. In *ACM Transactions on Multimedia Computing, Communications and Applications (TOMCCAP)* (accepted)
52. *Surendar Chandra*, “Moderated group authoring system for campus-wide wireless workgroups”. In *IEEE Transactions on Mobile Computing*, vol. 11, no. 6, June 2012 (citation: 1<sup>1</sup>)
51. *Surendar Chandra and Xuwen Yu*, “A Trace-Driven Analysis of Wireless Group Communication Mechanisms”. In *ICST Mobile Communications and Applications Journal* (to appear).
50. *Surendar Chandra and William Acosta*, “Implications of the shared filenames and user requested queries on Gnutella performance”. In *Springer Peer-to-Peer Networking & Applications Journal*, vol. 5, no. 1, pp 14–29, 2012.
49. *Surendar Chandra*, “Experiences in Personal Lecture Video Capture”. In *IEEE Transactions on Learning Technologies*, vol. 4, no. 3, pp. 261-274, July-Sept. 2011 (citations: 2)
48. *Surendar Chandra and Xuwen Yu*, “An empirical analysis of serendipitous media sharing among campus-wide wireless users”. In *ACM Transactions on Multimedia Computing, Communications and Applications (TOMCCAP)*, Volume 7(1), Article 6, January 2011. (citation: 3)
47. *Yong Wei, Suchendra M. Bhandarkar and Surendar Chandra*, “A Client-Side Statistical Prediction Scheme for Energy Aware Multimedia Data Streaming”. In *IEEE Transactions on Multimedia*, Volume 8(4), pages 866–874, August 2006. (citations: 19)
46. *Surendar Chandra*, “The Practical Handbook of Internet Computing” (invited), *Chapter 42. Content Adaptation and Transcoding*, Chapman Hall & CRC Press, Baton Rouge, June 2004. (citations: 53)
45. *Surendar Chandra*, “Wireless Network Interface Energy Consumption: Implications for Popular Streaming Formats” (invited). In *ACM Multimedia Systems Journal* 9(2), pages 185–201, Springer-Verlag Heidelberg, August 2003. (citations: 101/2)
44. *Surendar Chandra, Carla Schlatter Ellis and Amin Vahdat*, “Application-Level Differentiated Multimedia Web Services Using Quality Aware Transcoding”. *IEEE JSAC - Special Issue on QoS in the Internet*, Vol 18, No. 12, pages 2544–2565, December 2000. (citations: 89)
43. *Surendar Chandra, Carla Schlatter Ellis and Amin Vahdat*, “Differentiated QoS through Quality Aware Transformation of Web Content”. In *ACM SIGOPS Operating Systems Review*, Volume 34, Issue 2, April 2000.

### • Conferences and other refereed venues

42. *Surendar Chandra, Patrick Chiu and Maribeth Back*, “Towards portable, high definition multi-camera video capture using smartphones for tele-immersion”. In *IEEE International Symposium on Multimedia (ISM 2013)*, Anaheim, CA, December 2013 (acceptance rate: 25%)
41. *Chelhwon Kim, Patrick Chiu and Surendar Chandra*, “Dewarping Book Page Spreads Captured with a Mobile Phone Camera”. In *Camera-Based Document Analysis and Recognition (CBDAR 2013)*, Washington DC, August 2013
40. *Surendar Chandra and Maribeth Back*, “Faunus: a flexible middleware for specifying and managing multimodal, multiparty collaborations”. In *ACM/IFIP/USENIX Middleware*, Montreal, Canada, December 2012 (acceptance: 27%)

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<sup>1</sup>Google scholar: <http://scholar.google.com/citations?user=6SV908UAAAAJ>

39. Surendar Chandra, Jacob Biehl, John Boreczky, Scott Carter and Lawrence A. Rowe, "Understanding screen contents for building a high performance, real time screen sharing system". In *ACM Multimedia 2012*, Nara, Japan, October 2012 (acceptance: 20%, citation: 2)
38. Surendar Chandra and Lawrence A. Rowe, "DisplayCast: a High Performance Screen Sharing System for Intranets". In *ACM Multimedia 2012*, Nara, Japan, October 2012 (citations: 2)
37. Surendar Chandra and Xuwen Yu, "An analysis of distributed and asynchronous wireless group communication mechanisms" (invited). In *Fourth IEEE WoWMoM Workshop on Autonomic and Opportunistic Communications (AOC 2010)*, Montréal, Canada, June 2010
36. Surendar Chandra, "Wireless Network Interface Energy Conservation for Bottlenecked First Mile Networks". *ACM 20th International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV '10)*, Amsterdam. June 2010 (acceptance: 41%) (citations: 2)
35. Surendar Chandra and William Acosta, "Using query transformation to improve Gnutella search performance". *IEEE Seventh International Workshop on Hot Topics in Peer-to-Peer Systems (HotP2P '10)*, Atlanta, GA, April 2010
34. Xuwen Yu and Surendar Chandra, "Designing an Asynchronous Group Communication Middleware for Wireless Users". *ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWIM 09)*, pages 274–279, Tenerife, Canary Islands, Spain, October 2009. (acceptance: 30%) (citations: 5)
33. Surendar Chandra and Nathan Regola, "flockfs, a moderated group authoring system for wireless workgroups". *ICST/IEEE Sixth Annual International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (MobiQuitous 09)*, Toronto, Canada, July 2009. (acceptance: 22%)
32. Ashish Gehani and Surendar Chandra, "Parameterized Access Control: From Design To Prototype". *ICST/ACM Security and Privacy for Communication Networks (SECURECOMM '08)*, Istanbul, Turkey, September 2008. (citation: 2)
31. William Acosta and Surendar Chandra, "On the need for query-centric unstructured peer-to-peer overlays". *IEEE Fifth International Workshop on Hot Topics in Peer-to-Peer Systems (HotP2P '08)*, Miami, FL, April 2008. (citation: 8)
30. Xuwen Yu and Surendar Chandra, "Delay tolerant collaborations among campus-wide wireless users". *IEEE INFOCOM '08: Mini-symposium*, Phoenix, AZ, April 2008. (acceptance: 27%, citations: 7)
29. William Acosta and Surendar Chandra, "Exploiting the Properties of Query Workload and File Name Distributions to Improve P2P Synopsis-based Searches". *IEEE INFOCOM '08: Mini-symposium*, Phoenix, AZ, April 2008. (acceptance: 27%, citations: 5)
28. William Acosta and Surendar Chandra, "Understanding the Practical Limits of the Gnutella P2P System: An Analysis of Query Terms and Object Name Distributions". In *Fifteenth ACM/SPIE Multimedia Computing and Networking (MMCN '08)*, San Jose, CA, January 2008. (acceptance: 26%, citations: 13)
27. Xuwen Yu and Surendar Chandra, "Campus-wide asynchronous lecture distribution using wireless laptops". In *Fifteenth ACM/SPIE Multimedia Computing and Networking (MMCN '08)*, San Jose, CA, January 2008. (acceptance: 42%, citation: 2)
26. Adam Lusch, Adele Fleury and Surendar Chandra, "Do Nintendo handhelds play nice? An analysis of its wireless behavior". In *6th ACM Annual Workshop on Network and Systems Support for Games (Netgames '07)*, pages 87–92, Melbourne, Australia, September 2007. (citations: 1)
25. Ashish Gehani and Surendar Chandra, "Parameterizing Access Control for Heterogeneous Peer-to-Peer Applications". In *3rd IEEE Security and Privacy in Communication Networks (SECURECOMM '07)*, Nice, France, September 2007. (acceptance: 26%, citation: 2)

24. William Acosta and Surendar Chandra, "Improving Search Using a Fault-Tolerant Overlay in Unstructured P2P Systems". In *International Conference on Parallel Processing (ICPP'07)*, XiAn, China, September 2007. (acceptance: 27%, citations: 13)
23. Surendar Chandra, Ashish Gehani and Xuwen Yu, "Automated Storage Reclamation Using Temporal Importance Annotations". In *27th IEEE International Conference on Distributed Computing Systems (ICDCS 2007)*, pages 12–24, Toronto, June 2007. (acceptance: 13%, citations: 3)
22. Surendar Chandra, "Lecture video capture for the masses". In *ACM 12th Annual conference on Innovation and Technology in Computer Science Education (iTiCSE 2007)*, pages 276–280, Dundee, Scotland, June 2007. (acceptance: 28%, citation: 27)
21. Chris Boehnen, Allison Regier, Deborah Thomas, Surendar Chandra and Patrick Flynn, "Mosaicing videos to stream over multiple independent channels". In *17th ACM Workshop on Network and Operating Systems Support for Digital Audio & Video (NOSSDAV '07)*, pages 3–8, Urbana-Champaign, IL, June, 2007. (acceptance: 33%, citation: 1)
20. William Acosta and Surendar Chandra, "Trace Driven Analysis of the Long Term Evolution of Gnutella Peer-to-Peer Traffic". In *Eighth Passive and Active Measurement conference (PAM 2007)*, Louvain-la-neuve, Belgium, April 2007. (acceptance: 26%, citations: 30)
19. Surendar Chandra and Xuwen Yu, "Share with Thy Neighbors". In *ACM/SPIE Multimedia Computing and Networking (MMCN '07)*, San Jose, January 2007. (acceptance: 25%, citations: 6)
18. Ashish Gehani and Surendar Chandra, "PAST: Probabilistic Authentication of Sensor Timestamps". In *22nd Annual Computer Security Applications Conference*, pages 439–448, Miami, FL, December 2006. (acceptance: 26%, citation: 4)
17. Srinivas Sridharan, Brett Keck, Richard C. Murphy, Surendar Chandra and Peter M. Kogge, "Thread Migration to Improve Synchronization Performance". In *IEEE/ACM Workshop on Operating System Interference In High Performance Applications (OSIHPA '06)*, (held in conjunction with PACT '06), Seattle, WA, September 2006. (citations: 20)
16. Peng Xue and Surendar Chandra, "Revisiting multimedia streaming in mobile ad hoc networks". In *ACM Network and Operating Systems Support for Digital Audio and Video (NOSSDAV '06)*, Newport, RI, USA, May 2006. (acceptance: 31%, citation: 6)
15. Ashish Gehani, Surendar Chandra and Gershon Kedem, "Augmenting Storage with an Intrusion Response Primitive to Ensure the Security of Critical Data". In *ACM Symposium on Information, Computer and Communications Security (ASIACCS '06)*, pages 114–124, Taipei, Taiwan, March 2006. (acceptance: 17%, citation: 7)
14. Michael Gundlach, Sarah Doster, Hajjin Yan, David K. Lowenthal, Scott A. Watterson and Surendar Chandra, "Dynamic, Power-Aware Scheduling for Mobile Clients Using a Transparent Proxy". In *International Conference on Parallel Processing (ICPP '04)*, pages 557–565, Montreal, Canada, August 2004. (acceptance: 34%) (citations: 20)
13. Yong Wei, Surendar Chandra and Suchendra M. Bhandarkar "A Statistical Prediction-based Scheme for Energy Aware Multimedia Data Streaming". In *IEEE Wireless Communications and Networking Conference (WCNC '04)*, Atlanta, GA, March 2004. (acceptance: 30%) (citations: 16)
12. Surendar Chandra, "Energy Conservation in Ad Hoc Multimedia Networks using Traffic-Shaping Mechanisms". In *SPIE Multimedia Computing and Networking '04 - (MMCN '04)*, pages 40–54, San Jose, CA, January 2004. (acceptance: 23%) (citations: 5)
11. Surendar Chandra, "Beacon: A Peer-to-Peer System to Teach Ubiquitous Computing". *ACM SIGCSE Technical Symposium on Computer Science Education*, pages 257–261, Reno, NV, February 2003. (acceptance: 32%) (citations: 6)

10. *Surendar Chandra and Amin Vahdat*, "Application-specific network management for energy-aware streaming of popular multimedia formats". In *USENIX Annual Technical Conference*, pages 329–342, Monterey, CA, June 2002. (acceptance: 23%) (citations: 139)
9. *Surendar Chandra*, "Wireless Network Interface Energy Consumption Implications of Popular Streaming Formats". In *SPIE Multimedia Computing and Networking - 2002 (MMCN '02)*, Vol 4673, pages 85–99, San Jose, CA, January 2002. (acceptance: 27%, citation: 101/2)
8. *Raghunath Gannamaraju and Surendar Chandra*, "Palmist: A Tool to log Palm System Activity". In *IEEE 4th Annual Workshop on Workload Characterization (WWC4)*, pages 111–119, Austin, TX, December 2001. (acceptance: 50%) (citation: 2)
7. *Surendar Chandra, Ashish Gehani, Carla Schlatter Ellis and Amin Vahdat*, "Transcoding Characteristics of Web Images". In *SPIE Multimedia Computing and Networking - 2001 (MMCN '01)*, Vol 4312, pages 135–149, San Jose, CA, January 2001. (citations: 72)
6. *Surendar Chandra, Carla Schlatter Ellis and Amin Vahdat*, "Managing the Storage and Battery Resources in an Image Capture Device (Digital Camera) using Dynamic Transcoding". In *Third ACM International Workshop on Wireless and Mobile Multimedia (WoWMoM'00)*, pages 73–82, Boston, MA, August 2000. (citations: 15)
5. *Surendar Chandra, Carla Schlatter Ellis and Amin Vahdat*, "Differentiated Multimedia Web Services Using Quality Aware Transcoding". In *Nineteenth Annual Joint Conference of the IEEE Computer And Communications Societies (INFOCOM '00)*, pages 961-969, Tel Aviv, Israel, March 2000. (acceptance: 26%) (citations: 115)
4. *Surendar Chandra and Carla Schlatter Ellis*, "JPEG Compression Metric as a Quality Aware Image Transcoding". In *Second Usenix Symposium on Internet Technologies and Systems (USITS '99)*, pages 81–92, Boulder, CO, October 1999. (acceptance: 33%) (citations: 121)
3. *Surendar Chandra, Carla Schlatter Ellis and Amin Vahdat*, "Multimedia Web Services for Mobile Clients Using Quality Aware Transcoding". In *Second ACM International Workshop on Wireless and Mobile Multimedia (WoWMoM'99)*, pages 99-108, Seattle, WA, August 1999. (acceptance: 38%) (citations: 37)
2. *Craig E. Wills and Surendar Chandra*, "Adaptive Resource Management". In *IEEE Modeling, Analysis, and Simulation of Computer and Telecommunication Systems (MASCOTS)*, pages 173–177, Durham, NC, January 1995. (citations: 1)
1. *David Finkel and Surendar Chandra*, "NetCp - A Project Environment for an Undergraduate Computer Networks Course". In *Twenty-fifth annual ACM Technical Symposium on Computer Science Education*, pages 174–177, Phoenix, AZ, March 1994. (citations: 8)

- **Miscellaneous publications**

- *Surendar Chandra, Jacob Biehl, John Boreczky, Scott Carter, Laurent Denoue and Larry Rowe*, "Understanding screen contents for effective screencasting". Poster in *ACM MMSys '12*, Chapel Hill, NC, February 22-24, 2012.
- *Surendar Chandra and Nathan Regola*, "Moderated group authoring among weakly connected workgroups". Poster in *ICST/IEEE Mobiquitous '09*, Toronto, Canada, July 13-16, 2009.
- *Surendar Chandra and Nathan Regola*, "Moderated collaboration to modify shared files among wireless users". Refereed Work-In-Progress and Poster in the *USENIX FAST '09*, San Francisco, CA, February 24 - 27, 2009.
- *Xuwen Yu and Surendar Chandra*, "Google services are not necessarily the answer for group communication among mobile users". Refereed Work-In-Progress in *ACM Mobisys 2008*, Breckenridge, CO, June 19, 2008.

- Surendar Chandra, “Contemporary Operating Systems are not ready for Peer Computing: Peer systems should be treated as second class citizens”. Refereed poster in *ACM Symposium on Operating Systems Principles (SOSP '07)*, Stevenson, WA, October 14-17, 2007.
- Surendar Chandra, Ashish Gehani and Xuwen Yu, “Diamonds are forever, files are not”. Refereed Work-In-Progress in *USENIX Conference on File and Storage Technologies (FAST '07)*, San Jose, CA, February 2007.
- William Acosta and Surendar Chandra, “Unstructured Peer-to-Peer Networks - Next Generation of Performance and Reliability”. Refereed poster in *IEEE INFOCOM*, March 2005. (citations: 8)
- David Salyers, Xiaolong Li, Aaron Striegel and Surendar Chandra, “Wireless Stealth Multicast: Bandwidth Conservation for Last-Mile Wireless Clients”. Refereed poster in *IEEE Infocom*, March 2005. (citation: 1)
- Surendar Chandra, Carla Schlatter Ellis and Amin Vahdat, “Differentiated QoS through Quality Aware Transformation of Web Content”. Refereed poster in *17th ACM Symposium on Operating Systems Principles (SOSP)*, December 1999.

## Non-refereed publications

- Surendar Chandra, “Making Sense of Multiple Technologies: Book review”. *IEEE Multimedia*, Vol 9, No 2, pages 77–87, April 2002.

- **Publicly released artifacts**

- DisplayCast: a High Performance Intranet Screen Sharing System (<https://github.com/DisplayCast>)
- Quality aware JPEG transcoder (<http://surendar.chandrabrown.org/publications.html>)
- NetCP - educational Computer Networks project environment (<http://surendar.chandrabrown.org/source/netcp.tgz>)
- flockfs - <http://flockfs.sourceforge.net/>
- GDB video tutorial - YouTube: 42K access
- **Lecture videos in YouTube, Google video, iTunes U, podcast and web**
  - \* YouTube: 406K access
  - \* **Undergrad Operating Systems - Spring 2006:**
    - Podcast subscriptions: 4,091<sup>2</sup>
    - Downloaded video/audio by nd.edu users: 4,672 and from elsewhere: 221,734
    - Google video: 35,730 (as of May 3, 2008)
  - \* **Multimedia Systems - Fall 2006:**
    - Podcast subscriptions: 1,685
    - Downloaded video/audio by nd.edu users: 1,287 and from elsewhere: 52,573
    - Google video: 16,850 (as of May 3, 2008)
  - \* **Undergrad Operating Systems - Spring 2007:**
    - Podcast subscriptions: 3,425
    - Downloaded video/audio by nd.edu: 4,234 and from elsewhere: 252,735
    - Google video: 22,177 (as of May 3, 2008)
  - \* **Networked Sensor Systems - Fall 2007:**
    - Podcast subscriptions: 242
    - Downloaded video/audio by nd.edu: 872 and from elsewhere: 90,487
    - Google video: 840 (as of May 3, 2008)

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<sup>2</sup>unique IP address as of May 3, 2008

- \* **Undergrad Operating Systems - Spring 2008:**
  - Podcast subscriptions: 119
  - Downloaded video/audio by nd.edu: 5,448 and from elsewhere: 43,046
  - Google video: 6,243 (as of May 3, 2008), YouTube: 59,521
- \* **Graduate Operating Systems - Fall 2008:**
  - Downloaded video/audio by nd.edu: 267 and from elsewhere: 436
  - YouTube: 42,779
- \* **Multimedia Systems - Spring 2009:**
  - YouTube: 18,872

## Grants and Sponsored Programs (\$1.37M)

- VMware Academic Program. *VMware Technology Network Subscription* donation for research.
- ND Faculty Research Program. *On the feasibility of temperature aware storage systems*, Jan 2007 - Dec 2007 (\$10,000)
- National Science Foundation. *CAREER: Scalable Self Managing Multimedia Storage*, Feb 2005 - Jan 2010 (\$463,229)
- Defense Intelligence Agency (DIA-MASINT). *Hydra: A Robust and Self Managing Video Sensing System for Retrospective Surveillance*, (PI Surendar Chandra, co-PI Pat Flynn) Mar 2005-Mar 2006 (\$ 238,414)
- HP Mobility Technology for Teaching grant, (PI John Uhran, Co-PI Steve Silliman, Surendar Chandra, Jeff Talley, Michael Lemmon), May 2004 (\$90,000) with additional software donation from Microsoft
- HP Philanthropy and Education. *Server resources for Experimental Systems Lab*, (PI Surendar Chandra), Apr 2004 (\$110,316) with additional \$1,000 supplement (acceptance: 12%)
- Yamacraw Research Initiative, State of Georgia. *An Integrated Scalable Client-Server System for Energy Aware Computing*, (PI's Surendar Chandra and David Lowenthal. Co-PIs Benjamin Bishop, Suchendra Bhandarkar and Scott Watterson), Sep 2000-Jul 2003 (\$460,296)

## Invited Lectures and Addresses

- *Secure ubiquitous storage*, ONR, August 2009
- *flockfs: a moderated group authoring system for wireless workgroups*: Portland State University, Portland, OR, April 2009
- *Automated Storage Management using Temporal Importance Annotations, NSF Bridges to Engineering Research 2020*, North Carolina A&T, Greensboro, NC, March 2008
- *Mobile group communication systems*: IBM T. J. Watson Research Center, NY, January 2008; Texas A&M University, TX, November 2007; University of North Carolina at Chapel Hill, NC, November 2007; University of California at Davis, CA, October 2007; Purdue University, IN, October 2007; University of California at Santa Cruz, CA, October 2007; FX Palo Alto Labs, CA, October 2007; University of California at Santa Barbara, CA, October 2007; University of California at Irvine, CA, September 2007
- *Podcasting - How does it work and can I use it in my course?* (with Chris Clark), Kaneb Center for teaching and learning, University of Notre Dame, IN, March 2007
- *Getting in touch with the real world*, panelist, ACM/SPIE MMCN, January 2007

- *Collaborative Multimedia Storage in a Campus Environment*, Multimedia Workshop (held in conjunction with ACM Multimedia TPC meeting), Microsoft Research, Redmond, WA, June 2006
- *Roles for Optical and Wireless in Tomorrow's Broadband Service Networks*, academic panel, IEEE Broadnets, October 2005
- *Wireless Broadband*, industry panel with Craig J. Mathias (Farpoint), Dev Gupta (NewLANS), Fanny Mlinarsky (Azimuth), Pierre Humblet (Airvana) and Asa Kalavade (Tatara), IEEE Broadnets, October 2005
- *Hydra: A robust and self managing video sensing system for retrospective surveillance*, National Consortium for MASINT Research, Pacific Northwest National Lab., Sequim, WA, August 2005
- *Efficiently searchable overlay for multimedia sensor storage*, Michigan State, MI, April 2005
- *Multimedia Sensor Research*: Western Michigan University, MI, April 2005; DIA MASINT consortium meeting, Maui, HI, March 2005
- *Energy Aware Mobile Multimedia*: HP Labs, Palo Alto, CA, March 2004; Stanford University, CA, March 2004
- *Energy Aware Mobile Information Access* Yamacraw Industry Affiliates Board, October 2001
- *Towards Energy Aware Mobile Multimedia*: Intel Multimedia Research laboratory, San Jose, CA, March 2001; Ricoh Innovations laboratory, Palo Alto, CA, March 2001
- *North Carolina Networking Initiative (NCNI) Symposium, February 2000*
- *Round table discussion with IBM Fellows on trends in Computer Technology*, IBM T. J. Watson Research Center, August 1999

## Professional memberships

- Senior member of ACM (SIG-OPS, SIG-Mobile and SIG-Multimedia)
- USENIX (since 1999)

## Professional External Service

- **Journal editorial board**
  - **Editor** - Springer Wireless Networks 2012 -
  - **Area editor** - ICST Transactions on Ubiquitous Environments 2009 -
  - **Guest co-editor** - ACM/Springer Verlag Multimedia Systems Journal 2005, 2006
- **Conference organizing committee**
  - **TPC co-chair** - ACM MoVid 2014
  - **TPC Area co-chair - Media Transport and Sharing** - ACM Multimedia 2011
  - **TPC co-chair** - ACM/SPIE - Multimedia Computing and Networking (MMCN '05, MMCN '06)
  - **Panel chair**
    - \* *Hot Research Topics in Mobile Video*, ACM MoVid 2012. Panelists: Kevin Almeroth (UC Santa Barbara), Landon Cox (Duke), Klara Nahrstedt (Illinois), Nitya Narasimhan (Motorola).
    - \* *Power Aware P2P Multimedia Systems*, ACM/SPIE MMCN 2004. Panelists: Carsten Griwodz (Oslo), Rajesh Gupta (UCSD) and Alan Smith (Berkeley).



- **Session chair** - ACM MMSYS '12, ICST/IEEE Mobiquitous '09, IEEE INFOCOM '08, ACM Multimedia '06 and '03, IEEE Broadnets '04, ACM/SPIE MMCN '04 and '02, ACM WSNA '02
- **Doctoral symposium** - ACM MM '13, ACM MM '12, ACM MM '11
- **Registration chair** - IEEE Mobile Data Management (MDM 2004)
- **Publicity chair** - IEEE SECON 2004, Trusted Internet Workshop 2003, ACM WSNA 2002
- **Tutorials co-chair** - IEEE Broadnets 2004

- **Technical program committees**

- 2013: ACM Multimedia, ACM NetGames, USENIX ICAC, ICCCN13-SCDN, IEEE ANTS
- 2012: ACM MMSys, ACM Multimedia, ACM NOSSDAV, IEEE ICDCS, ACM/USENIX/IFIP Middleware, ACM NetGames, ACM MoVid, IEEE ICEBE, IEEE ANTS
- 2011: ACM MMSys, ACM Multimedia, ACM NOSSDAV, IEEE ICDCS, IEEE PerCom, COMSNETS, IEEE ICEBE, IEEE ANTS, IEEE PPcloud
- 2010: ACM MMSys, ACM Multimedia, ACM NOSSDAV, IEEE ICDCS, IEEE PerCom, COMSNETS, ACM MoVid, IEEE ANTS, IEEE ICEBE
- 2009: ACM Multimedia, ACM/SPIE MMCN, ACM NOSSDAV, IEEE ICDCS, IEEE INFOCOM, IEEE WoWMoM, COMSNETS, ARES, SIGMAP, WASA, IEEE ICEBE, IEEE ANTS
- 2008: ACM Multimedia ACM/SPIE MMCN, ACM NOSSDAV, IEEE ICDCS, IEEE INFOCOM, PAM, Netgames, IEEE WoWMoM, IEEE ICC, ARES, ICCCN, IEEE ICEBE
- 2007: ACM Multimedia, ACM/SPIE MMCN, ACM NOSSDAV, SPIE Multimedia on Mobile, IEEE WCNC, ARES, IEEE ICC, IWCMC, ICCCN, Chinacom, IEEE Broadnets, ICPP, Sensorcomm, IEEE ICEBE, IEEE Globecom
- 2006: ACM Multimedia, ACM/SPIE MMCN, SPIE Multimedia on Mobile, IEEE MDM, WSN, IEEE SECON, Broadnets, IEEE ICCCN, Chinacom
- 2005: ACM/SPIE MMCN, ACM NOSSDAV, SPIE Multimedia on Mobile, IEEE ICME, IEEE SECON, ICETE, Broadnets, IEEE ICEBE, IEEE MASS, TIW
- 2004: IEEE MDM, ACM/SPIE MMCN, IEEE SECON, Broadnets
- 2003: ACM Multimedia, ACM/SPIE MMCN, IEEE ICC, ACM WSNA, TIW
- 2002: ACM WSNA

- **Grant panels**

- Defense Intelligence Agency (DIA-MASINT)
- NSF - Global Environment for Network Innovations (GENI)
- National Research Foundation, Singapore
- National Science Foundation (twice in '04, twice in '05, twice in '06, thrice in '07, twice in '09, once in '10)
- Natural Sciences and Engineering Research Council of Canada (NSERC)
- Office of Research, National University of Singapore
- Science & Engineering Research Council (SERC) in Singapore
- US Civilian Research and Development Foundation (CRDF)

- **Reviewer** ACM, IEEE, USENIX conferences and journals. e.g., OSDI, SOSP, Mobicom, Mobisys

## Institutional Service

- Member, University iTunes U Advisory Group, 2008-2009
- Department seminar coordinator, 2006-2008
- Member, WWW committee, 2006-2007
- Member, Faculty recruiting committee, 2000-2001, 2002-2003
- Member, Graduate studies committee, 2003-2006
- Notre Dame PI for Planetlab Consortium ([www.planet-lab.org](http://www.planet-lab.org)) (July 2003 - July 2009) (donated and maintained servers, planetlab{1,2,3,4}.cse.nd.edu, in lieu of access (to ND community) to over 399 sites spread across the world for wide area experimentation purposes)
- USENIX University Liaison ([www.nd.edu/~usenix/](http://www.nd.edu/~usenix/)) (2001 - ) (coordinate student conference travel scholarships, maintain USENIX and SAGE proceedings and publications for ND community (electronic and print))
- Faculty advisor, ASHA, 2001-2002
- Student representative, Systems lab committee, 1994-1996
- Creator USENET newsgroup soc.college.teaching-asst, 1993

## Teaching and Course Development

Lecture materials, including audio/video of recent course offerings, are available online at <http://surendar.chandrabrown.org/teach/>.

- Operating Systems (CSE 30341): Spr '06, Spr '07, Spr '08 (core junior level course)
- Graduate Operating Systems (CSE 542): Fall '02, Fall '03, Fall '04, Fall '08 (core graduate course)
- Computer Networks (CSE 364): Spr '05
- Graduate Computer Networks (CSE 498N/598N): Spr '02, Spr '03, Spr '04
- Networked Sensor Systems (CSE 40484/60484): Fall '07 (developed an one-time graduate-level)
- Multimedia Systems (CSE 40373/60373): Fall '06, Spr '09 (developed the course)
- Distributed Storage (CSE 70481): Fall '05 (developed an one-time graduate-level)
- Ubiquitous Computing (CSCI 4770/6770): Spr '01, Spr '02 (developed a graduate-level course)

## Research supervision

- **Visitors:** Prof. Cheul Woo Ro, Silla University, Korea (Jul '06 - Jul '07)
- **Postdoctoral associate:** Dr. Ashish Gehani (Mar '05 - Jun '06)
- **Ph.D. dissertation:**
  - Xuwen Yu (Ph.D., June 2009)  
Thesis: “A Comprehensive Analysis of the Behavior of Wireless Group Communication Systems” (Member of Technical Staff, VMware)
  - William Felix Acosta Negrin (Ph.D., July 2008)  
Dissertation: “Improving Search in Unstructured Peer-to-Peer Systems” (Asst. Professor, University of Toledo)

- **M.S. theses: (Notre Dame does not offer terminal MS degree)**

- Nathan Regola (M.S., January 2009)  
Thesis: “Flockfs: A Moderated Collaboration System for Weakly Connected Workgroups” (continuing Ph.D. at Notre Dame)
- William Acosta (M.S., May 2005)  
Thesis: “Constructing Efficient and Fault-Tolerant Unstructured Peer-to-Peer Networks”
- Raghunath Gannamaraju (M.S., Nov 2001)  
Thesis: “Palmist: A Tool to Log Palm System Activity” (Current position: Senior Technical Specialist, NXP Semiconductors, Bangalore, India)

- **Minority mentoring**

- Female African-American: Summer Ugrad Research Program (Summer 2002)
- Vietnamese-American: Building Bridges (2003-2007)
- Filipino-American: Building Bridges (2004-2008)
- Hispanic: McNair Scholar (Summer 2004)
- African-American: McNair Scholar (Summer 2005)

## References

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