

## Y. Charlie Hu

Purdue University  
School of Electrical and Computer Engineering  
1285 Electrical Engineering Building  
West Lafayette, Indiana 47907-1285

Phone: 765-494-9143  
Mobile: 765-337-8990  
Email: ychu@purdue.edu  
Web: <http://engineering.purdue.edu/~ychu>

### RESEARCH AREAS

Mobile Systems, Operating Systems, Distributed Systems, Computer Networks, Experimental Wireless Networking, High Performance Computing.

### EDUCATION

1997                    **Harvard University**  
Ph.D. in Computer Science  
Thesis: Efficient Data Parallel Implementations of Highly Irregular Problems  
Advisor: S. Lennart Johnsson

1992                    **Yale University**  
M.S. and M.Phil. in Computer Science

1989                    **University of Science and Technology of China**  
B.S. in Computer Science

### EMPLOYMENT

2014–present        Co-Founder and CEO, Mobile Enerlytics, LLC

2011–present        Full Professor of Electrical and Computer Engineering, Purdue University

2011–present        Full Professor of Computer Science (by courtesy), Purdue University

10/2008–12/2008    Visiting Researcher, Networking Research Group, Microsoft Research, Redmond

9/2008                Consulting Researcher, Microsoft Research, Redmond

2007–2011          Associate Professor of Computer Science (by courtesy), Purdue University

2007–2011          Associate Professor of Electrical and Computer Engineering, Purdue University

2003–2007          Assistant Professor of Computer Science (by courtesy), Purdue University

2002–2007          Assistant Professor of Electrical and Computer Engineering, Purdue University

1999–2001          Co-founder and Senior Developer, iMimic Networking, Inc.

1997–2001          Research Scientist, Systems Group, Rice University  
(Supervisor and Mentors: Willy Zwaenepoel, Alan Cox, Peter Druschel)

1993–1997          Research/Teaching Fellow, Harvard University

1989–1992          Research/Teaching Assistant, Yale University

### PRESS COVERAGE (SELECTED)

1. On research finding “Hush: Extending battery life by 16% by intelligently suppressing app background activities” (ACM MobiCom 2015)
  - IBN Live: New tool shuts down non-useful smartphone apps to reduce energy drain, double battery life (September 16, 2015)
  - Zee News: New tool shuts non-useful apps to cut energy drain (September 16, 2015)
  - GCN: Software slows smartphone power drain (September 16, 2015)
  - Deccan Herald: New tool shuts non-useful apps to cut energy drain (September 16, 2015)
  - BGR (india): New tool claims to reduce energy drain by 16% in apps (September 16, 2015)
  - Bangladesh News: New tool shuts non-useful apps to cut energy drain (September 16, 2015)
  - Business Standard: New tool shuts non-useful apps to cut energy drain (September 16, 2015)
  - Can-India News: New tool shuts non-useful apps to cut energy drain (September 16, 2015)
  - JewoCity: Android tool trades rarely-used apps for longer battery life (September 16, 2015)

- India.Com: New tool shuts non-useful apps to cut energy drain (September 16, 2015)
  - The Statesman: New tool shuts non-useful apps to cut energy drain (September 16, 2015)
  - The Economic Times: Say goodbye to low battery (September 16, 2015)
  - Ledger Gazette: New Tool Can Improve Android Battery Life by Killing Background Apps (September 15, 2015)
  - Tech Worm: Get extra 16% smartphone battery life with this code (September 15, 2015)
  - Mobile World Live: Researchers cut app battery drain (September 15, 2015)
  - The Hans India: New tool can improve android battery life by killing background apps (September 15, 2015)
  - Dispatch Times: Android tool trades rarely-used apps for longer battery life (September 15, 2015)
  - Bulletin Leader: Purdue researchers develop HUSH smartphone tool that shuts off apps to save (September 15, 2015)
  - Christian Post: Save 16 percent more of your battery with the new Android app (September 15, 2015)
  - Daily Mail: 'Hush' kills unused apps to boost your battery: Free tool tracks how you use your phone to save energy (September 15, 2015)
  - Science Alert: This code can help you get an extra 16% smartphone battery life (September 15, 2015)
  - BBC: Tool tackles power-hungry Android apps (September 14, 2015)
  - Intl. Business Times: Android smartphone software tool found to cut battery drain (September 14, 2015)
  - Express (UK): Hush: The free app that SLASHES battery drain on Android smartphones (September 14, 2015)
  - Tech Times: Android Battery Drain Problems? Purdue's HUSH Will Help You Out (September 14, 2015)
  - The Telegraph (UK): New smartphone tool kills apps to save Android battery life (September 14, 2015)
  - DataQuest (India): New tool reduces smartphone battery drain by 16 percent by intelligently suppressing background activities (September 13, 2015)
  - Daily Parkistan: New tool to tackle power-hungry Android apps (September 14, 2015)
  - ZDNet: How to tackle power-hungry Android apps and improve battery life for free (September 14, 2015)
  - Yahoo! News: Android smartphone software tool found to cut battery drain (September 14, 2015)
  - The Register: Boffins tell sleep-talking Android apps to SHUT UP (September 13, 2015)
  - SlashDot: Purdue 'HUSH' Tool Promises 16% Battery Life Gain For Wasteful Android Phones (September 12, 2015)
  - Purdue News: New Tool Reduces Smartphone Battery Drain by Intelligently Suppressing Background Activities (September 11, 2015)
  - and 200 more ...
2. On research finding “the first large-scale measurement study of smartphone energy drain in-the-wild” (ACM SIGMETRICS 2015)
- MSN news: Smartphone Battery Drains A Lot Even With Dark Screen (June 25, 2015)
  - Amazon: Smartphone Battery Drains A Lot Even With Dark Screen (June 25, 2015)
  - Yahoo news: Smartphone Battery Drains A Lot Even With Dark Screen (June 25, 2015)
  - Scientific American (podcast): Smartphone Battery Drains A Lot Even With Dark Screen (Christopher Intagliata, June 25, 2015)
3. On “the free eStar app for extending smartphone battery life”
- DECCAN Chronicle: “Here is an app that can extend your smartphone battery life” (December 8, 2014)
  - The Exponent: “Estar App helps users ’install only energy-efficient apps” (October 17, 2014)
  - TechCity: “Prolong Your Battery Life: Install Estar App and Kill Power Sucking apps” (September 26, 2104)
  - FirstPost: “Estar: An app that helps you choose battery-efficient apps” (September 3, 2014)

- Mashable: "Estar: The Ultimate Android App to Master Your Battery Life" (September 2, 2014)
- Business Standard: "Now, app that helps extend smartphone battery life" (September 2, 2014)
- Tech 2 (India): "Estar: An app that helps you choose battery-efficient apps" (September 3, 2014)
- Business Standard: "Now, app that helps extend smartphone battery life" (September 2, 2014)
- BGR" (India): "'Estar' app enhances smartphone battery life" (September 2, 2014)
- Express Computer: "A new smartphone application that can extend battery life" (September 2, 2014)
- HNGN: "Save Your Smartphone Battery With This New App" (September 2, 2014)
- Beauty World News: "App Helps Prolong Smartphone's Battery Life"
- The New Indian Express: "App That Enhances Smartphone Battery Life" (September 2, 2014)
- JC online: "Purdue researcher's app extends smartphone battery life" (September 2, 2014)
- WLFI: "Cell phone app helps save battery life on phone" (August 11, 2014)
- Purdue News: "Free Estar tool rates how quickly mobile apps drain smartphone batteries" (August 1, 2014)
- Purdue Research Park: "Free Estar tool rates how quickly mobile apps drain smartphone batteries" (August 1, 2014)

4. On research finding "Where is the energy spent inside my app? Fine Grained Energy Accounting on Smartphones with Eprof" (EuroSys 2012)

- ABC News: "Your App Is Wasting Battery and Talking About You" (March 27, 2012)
- BBC: "Free Mobile Apps 'Drain Battery Faster'" (March 19, 2012)
- Le Temps (Times of Switzerland): "Are Free Smartphone Apps Draining Your Battery?" (April 16, 2012)
- Scientific American: "Free Apps Drain Energy" (April 10, 2012)
- He Xun (China): "Free Apps Become Battery 'Assassin'" (April 12, 2012)
- TechWeek Europe: "Free Apps Drain Smartphone Batteries: Ads in free apps can eat up to 75 percent of battery power" (March 19, 2012)
- Slashdot: "Free Apps Eat Your Smartphone Battery" (March 19, 2012, 2:32pm)
- and 500 more...

5. On research finding "What is keeping my phone awake? Characterizing and Detecting No-Sleep Energy Bugs in Smartphone Apps" (ACM MobiSys 2012)

- The Times of India: "See, what's killing your smartphone battery" (June 14, 2012)
- NBC News: "Buggy Apps Killing Your Smartphone Battery" (June 14, 2012)
- Yahoo! News: "Buggy Apps Killing Your Smartphone Battery" (June 14, 2012)
- ACM Tech News: "'No-Sleep Energy Bugs' Drain Smartphone Batteries" (June 18, 2012)
- The Verge: "Android's power management API can lead to 'no-sleep energy bugs,' according to Purdue researchers" (June 18, 2012)
- Android Headlines: "Purdue Researchers Aim to Exterminate 'No-Sleep Energy Bugs'" (June 18, 2012)
- TechNewsDaily: "Buggy Apps Killing Your Smartphone Battery" (June 14, 2012)
- Science Daily: "'No-Sleep Energy Bugs' Drain Smartphone Batteries" (June 13, 2012)
- National Science Foundation News: "No-sleep Energy Bugs" Drain Smartphone Batteries (June 13, 2012)
- and hundreds more...

## HONORS

- Qualcomm Faculty Award, 2017
- IEEE Fellow, 2016

- Purdue PRF Innovator Hall of Fame, 2014
- Google Faculty Research Award, 2012
- Best Student Paper Award, ACM/SIGOPS EuroSys, April 2012
- University Faculty Scholar, Purdue University, 2011-2016
- ACM Distinguished Scientist, 2010
- Purdue University College of Engineering Early Career Research Award, 2009
- Best Paper Award, International Conference on Sensor Technologies and Applications (SENSOR-COMM), Valencia, Spain, October 2007.
- Chicago-Area Purdue Alumni Young Faculty Award, 2004
- NSF CAREER Award, 2003-2008
- Honda Initiation Grant Award, 2002 (selection rate: 3%)
- Nominated by Purdue University President Jischke for the Packard Outstanding Young Investigator Award (2 nominated per university), 2002
- Impressive Entry in 1994 Gordon Bell Prize Competition, with S. Lennart Johnsson, *Computer* 28(1), January 1995
- LINPACK Benchmark World Record, with Thinking Machines Corporation, in the first TOP500 Supercomputers List, June 1993, Jack Dongarra et al. editors.

## INVITED TALKS

1. "Improving Cloud Middlebox Infrastructure for Online Services – A Trilogy", Purdue University, Department of Computer Science, February 2017.
2. "How to Reduce Cellular Energy Drain of Smartphones by 1.8X (and Total Energy Drain by 21%)?", Intel 5G Program, Santa Clara, CA, September 2015.
3. "Smartphone Energy Drain in the Wild: : Analysis, Implications, and Optimization", Intel Labs, Hillsboro, OR, June 2015.
4. "Smartphone Energy Drain in the Wild: : Analysis, Implications, and Optimization", Qualcomm Inc., Santa Clara, CA, June 2015.
5. "Enabling Energy-Centric Mobile App Design", Keynote Address, the 6th Workshop on Power-Aware Computing and Systems (HotPower '14), October 2014.
6. "Energy Dedebugging in Smartphones", Chinese University of Hong Kong, August 2013.
7. "Enabling Energy Efficient App Design for Wireless Networks", Intel PI Workshop on 5G, Santa Clara, CA, September 2013.
8. "Energy Dedebugging in Smartphones", UC Santa Barbara, Institute for Energy Efficiency, February 2013.
9. "Energy Dedebugging in Smartphones", Univ. of Washington, Computer Science Department, July 2012.
10. "Energy Dedebugging in Smartphones", Cambridge University, UK, June 2012.
11. "Energy Dedebugging in Smartphones", Microsoft Research Cambridge, UK, June 2012.
12. "Energy Dedebugging in Smartphones", Imperial College, UK, June 2012.

13. "Energy Dedebugging in Smartphones", Stanford, Computer Science Department, May 2012.
14. "Energy Dedebugging in Smartphones", UC Berkeley, EECS, April 2012.
15. "Energy Dedebugging in Smartphones", MPI for Software Systems, Germany, April 2012.
16. "Energy Dedebugging in Smartphones", Microsoft Research Asia, March 2012.
17. "Energy Dedebugging in Smartphones", Tsinghua University, Computer Science Dept., China, March 2012.
18. "Optimizing Cost and Performance in Online Service Provider Networks", Beijing University, Computer Science Department, China, March 2012.
19. "Optimizing Cost and Performance in Online Service Provider Networks", Eastern Great Lakes Systems and Networking Workshop, Niagara Falls, NY, August 2011.
20. "Optimizing Cost and Performance in Online Service Provider Networks", School of Computer and Communication Sciences, EPFL, Switzerland, April 2011.
21. "Taking Human Out of Spam Detection Loop: A Case for Unsupervised Spam Detection", Narus Inc., February 11, 2011.
22. "Exotic Routing Protocols for Wireless Mesh Networks", Computer Science Department, IUPUI, October 2010.
23. "Optimizing Cost and Performance in Online Service Provider Networks", Computer Science Department, Yale University, June 2010.
24. "Optimizing Cost and Performance in Online Service Provider Networks", Computer Science and Engineering Department, OSU, April 2010.
25. "Optimizing Cost and Performance in Online Service Provider Networks", Computer Science Department, UIUC, April 2010.
26. "Optimizing Cost and Performance in Data Center Networks", Dept. of EECS, Northwestern University, March 2010.
27. "iSPY: Detecting IP Prefix Hijacking on My Own", Microsoft Research, Redmond, WA, December 2008.
28. "Understanding Network Delay Changes Caused by Routing Events and Delay Asymmetry", Microsoft Research, Redmond, WA, September 2008.
29. "Program-Counter-Based Prediction Techniques in Operating Systems", University of Texas, Austin, May 2006.
30. "Program-Counter-Based Prediction Techniques in Operating Systems", IBM Austin Research Lab, May 2006.
31. "Program-Counter-Based Prediction Techniques in Operating Systems", Department of Computer Science, Rice University, January 19, 2006.
32. "Program-Counter-Based Prediction Techniques in Operating Systems", Department of Computer Science, Cornell University, December 2005.
33. "Program-Counter-Based Prediction Techniques in Operating Systems", Department of Computer Science, University of Rochester, December 2005.
34. "Program-Counter-Based Prediction Techniques in Operating Systems", Computer Science and Artificial Intelligence Laboratory (CSAIL), MIT, November 2005.
35. "Program-Counter-Based Prediction Techniques in Operating Systems", Department of Computer Science,

Boston University, November 2005.

36. “Program-Counter-Based Prediction Techniques in Operating Systems”, Department of Computer and Information Science, University of Pennsylvania, August 2005.
37. “Distributed Sharing in Safe Languages”, Intel Americas, Inc., KAI Software, Champaign, IL, May 2002.
38. “Adaptive Order(N) N-body Simulations in HPF”, ACM/IEEE SC97, Tutorial on High Performance Fortran – Practice and Experience, San Jose, CA, November 1997.
39. “Data-Parallel (HPF) Adaptive Anderson’s Methods”, Las Alamos National Laboratory, Las Alamos, NM, February 1997.
40. “Implementing  $O(N)$  N-body Algorithms Efficiently in Data Parallel Languages (High Performance Fortran)”, Las Alamos National Laboratory, Las Alamos, NM, June 1994.

### **GRANTS AND CONTRACTS AWARDED (Total: \$10.6M. As PI: \$6.7M. His Share: \$6.1M.)**

1. PI, **Qualcomm** Tech., Inc., “Qualcomm Faculty Award”, 6/1/2017, \$75,000.
2. PI (with co-PI Samuel Midkiff), **NSF**, “CSR: Small: Extending Smartphone Battery Life via Prescriptive Energy Profiling”, 6/1/2017-5/31/2020, \$475,000.
3. PI (with co-PI Elisa Bertino), **NSF and Intel Corp.**, “ICN-WEN: Collaborative Research: SPLICE: Secure Predictive Low-Latency Information Centric Edge for Next Generation Wireless Network”, 6/1/2017-5/31/2020, \$450,000.
4. PI, **NSF**, “SBIR Phase II: Enabling Technologies for Energy-Centric Mobile App Design to Extend Mobile Device Battery Life”, 4/1/2017-3/31/2020, \$750,000.
5. PI, **Intel Corp.**, “A Day of the Modems Life: Measurement, Analysis, and Power Optimization”, 11/4/2016, \$100,000, Gift.
6. PI, **NSF and Indiana EDC**, “SBIR Phase I: Enabling Technologies for Energy-Centric Mobile App Design to Extend Mobile Device Battery Life”, 1/1/2016-8/30/2016, \$230,000.
7. PI, **Intel Corp.**, “A Unified Framework for Enabling Energy-Efficient Mobile Internet apps and Energy-Efficient Cloud Offloading”, 11/26/2015, \$100,000, Gift.
8. PI, **Intel Corp.**, “A Unified Framework for Enabling Energy-Efficient Mobile Internet apps and Energy-Efficient Cloud Offloading”, 11/26/2014, \$100,000, Gift.
9. PI (with Co-PI Samuel Midkiff). **NSF**, “SHF: Small: Detecting and Mitigating Smartphone Energy Bugs using Compiler and Runtime Analysis”, 9/1/2013 - 8/31/2016, \$499,978.
10. PI, **Intel**, “A Unified Framework for Enabling Energy-Efficient Mobile Internet apps and Energy-Efficient Cloud Offloading”, 11/26/2013, \$100,000, Gift.
11. PI, **Purdue PRF Trask Innovation Fund**, “Critical Prototype Development of *Eprof*: Fine-Grained Smartphone Energy Profiler”, 01/10/2013 - 07/10/2013, \$50,000.
12. PI, **Purdue Innovation & Commercialization Center Fund**, “EProf: Fine-Grained Energy Profiler for Smartphones”, 2/8/2013 - 8/8/2013, \$15,000.
13. PI (with Co-PI Samuel Midkiff). **Google**, “What is keeping my phone awake? Detecting No-Sleep Energy Bugs in Smartphone Apps”, 09/01/2012 - 9/99/9999, \$39,069. (Equally shared)
14. PI, **NSF**, “NetSE: Medium: Collaborative Research: Auditing Internet Content for Credibility, Fairness, and Privacy”, 5/1/2011 - 3/31/2014, \$277,411.

15. Co-PI (with PI Chengkok Koh and Co-PI Jiao Dan), **NSF**, “SHF: Medium: Say 'No' to Extraction – A Transformative Circuit Simulation Paradigm Guided by First Principles”, 4/1/2011 -- 3/31/2015, \$800,000. (25%)
16. Lead PI (with co-PIs Amr Mohammad and Tamer Khattab from Qatar University), **Qatar National Research Fund**, “Wireless Mesh Networking: Experimental Testbed-based Studies of Radio Access, Routing, and Network Resource Allocation”, 9/1/2009 - 8/31/2012, \$1,049,062. (Equally shared)
17. Co-PI (with PI Chih-Chun Wang), **NSF CNS**, “NeTS: Medium: Collaborative Research: Unifying Network Coding and Cross-Layer Optimization for Wireless Mesh Networks: From Theory to Distributed Algorithms to Implementation”, 9/1/2009 - 8/31/2013, \$549,899. (Equally shared)
18. Co-PI (with PI Samuel Midkiff), **NSF CCF**, “SHF: SMALL: Ant: Automatic and Manual Debugging Support for Massively Parallel Programs”, 8/15/2009 - 8/14/2012, \$493,235. (Equally shared)
19. Co-PI (with PI C.S.G. Lee, co-PIs Vijay Raghunathan, and Yung-Hsiang Lu), **NSF CRI**, “CRI: II-NEW: Adaptive Robotic Testbed for Wireless Sensor Networks and Autonomous Systems”, 9/1/2009 - 8/31/2012, \$347,300. (Equally shared)
20. PI, “Internet Traffic Characterization”, **Narus Inc.**, San Jose, CA, 9/1/2009 - 99/99/9999, \$25K.
21. Co-PI (with PI Chengkok Koh), **Semiconductor Research Corporation**, “Superlinear Speedup: Placement with Multi-Core Computing”, 7/1/2008 - 6/30/2011, \$300K. (Equally shared)
22. Co-PI (with PI Vijay Pai, co-PIs Rudolf Eigenmann, Vijay Raghunathan, and Mithuna Thottethodi), **NSF CRI**, “CRI: IAD: Accelerator-Based High-Performance Computing”, 2/1/2008 - 1/31/2011, \$570K. (Equally shared)
23. Co-PI (with PI Sanjay Rao), University Research Program, **Cisco Systems**, “Comparing DHTs for Conferencing Applications”, 11/2007 - 99/99/9999, \$100K. (Equally shared)
24. PI (with co-PI B. Jung, Y. Lu, and Dimitrios Peroulis), **NSF CNS**, “NOSS: AIDA: Autonomous Information Dissemination in Randomly Deployed Sensor Networks”, 9/1/2007 - 8/31/2010, \$600K. (Equally shared)
25. Co-PI (with PI Ness Shroff, co-PI Xiaojun Lin), **NSF CNS**, “NeTS-NBD: A High-Performance Control Plane for Mesh Networks: Theory and Implementation”, 9/1/2006 - 8/31/2009, \$735K. (Equally shared)
26. PI, 2005 Research Grant, Purdue Research Foundation. “MAP: Mesh Networks at Purdue”, 2/1/2005 - 1/31/2006, \$13,776.
27. PI (with co-PI Chengkok Koh), **Intel Corporation**, Equipment Donation, “Distributed Systems and Networking Lab”, Fall 2004, \$52,111. (Equally shared)
28. PI, **NSF ANI Special Projects in Networking Research**, “Collaborative Research: Safari: A scalable architecture for ad hoc networking and services”, 1/1/2004 - 12/31/2007, \$361K.
29. PI, **NSF CAREER Award**, “CAREER: A Peer-to-Peer Framework for Decentralized Resource Administration and Management in Grid Computing”, 2/1/2003 - 1/31/2008, \$461K.
30. PI (with co-PI Jan Vitek), **NSF ITR-small**, “Partage: An Open Peer-to-Peer Infrastructure for Cycle Sharing”, 7/1/2003 - 6/30/2006, \$245K. (Equally shared)
31. PI (with co-PI George Lee and Yung Lu; George Lee was PI for year 1 and year 2), **NSF IIS**, “Distributed Energy Efficient Robots”, 8/15/2003 - 8/14/2006, \$423K. (Equally shared)
32. PI, University Research Program, **Cisco Systems**, “Caching Protocol and Data Traffic in Peer-to-Peer Overlay Networks”, 12/09/2002 - 99/99/9999, \$47K.
33. PI, Honda Initiation Grant, Honda R&D Americas, “When Cars Begin to Talk: Improving Personal Mobility via Peer-to-Peer Communication”, 1/1/2003 - 12/31/2003, \$50K.

34. PI, 2003 Research Grant, Purdue Research Foundation. “Transparent Query caching in Peer-to-Peer Overlay Networks”, 2003 - 2005, \$27,978 (\$13,263 + \$14,715).
35. PI, Intel Corporation, Equipment Donation, “Achieving Hardware DSM Performance on Commodity PC Clusters”, August 2002, \$9,976.

## PUBLICATIONS

**Publication Citations** (Google Scholar): 13000+

**H-Index** (Google Scholar): 52

### Patents

- “14/313,890: System and Methods of Detecting Power Bugs”, Y. Charlie Hu, Samuel Midkiff, Abhinav Pathak, Abhilash Jindal. US patent, issued on 11/22/2016.
- “13/859,499: System and Method for Power and Energy Modeling in Computing Devices using System Call Tracing”, Y. Charlie Hu, Abhinav Pathak. US Patent, allowed 6/25/2015.
- “13/859,690: System and Method for Energy Usage Accounting in Software Applications”, Y. Charlie Hu, Abhinav Pathak. filed on 4/9/2013.

### Books

1. *ACM MobiCom 2016 Conference Proceedings*. Yingying Chen, Marco Gruteser, Y. Charlie Hu, Karthik Sundaresan (Eds.). MobiCom’16, New York City, NY, USA, October 3-7, 2016. ACM 2016, ISBN 978-1-4503-4226-1.
2. *ACM SIGCOMM 2014 Conference Proceedings*. Fabian E. Bustamante, Y. Charlie Hu, Arvind Krishnamurthy, Sylvia Ratnasamy (Eds.). SIGCOMM’14, Chicago, IL, USA, August 17-22, 2014. ACM 2014, ISBN 978-1-4503-2836-4.

### Journal Articles (in reverse chronicle order)

1. A. B. M. Alim Al Islam, Mohammad Sajjad Hossain, Vijay Raghunathan, Y. Charlie Hu. Backpacking: Energy-Efficient Deployment of Heterogeneous Radios in Multi-Radio High-Data-Rate Wireless Sensor Networks. In *IEEE Access*, Vol. 2, pp 1281-1306, 2014.
2. A.-J. Su, Y. C. Hu, A. Kuzmanovic, and C.-k. Koh. How to Improve Your Google Ranking: Myths and Reality. In *ACM Transactions on the Web*, 25 pages, Volume 8 (2), Article 8, March 2014.
3. Jing Feng, Yung-Hsiang Lu, Byunghoo Jung, Dimitrios Peroulis, and Y. Charlie Hu. Energy-Efficient Data Dissemination Using Beamforming in Wireless Sensor Networks. In *IEEE Transactions on Sensor Networks*, Vol 9(3), 31 pp, 2013.
4. Dimitrios Koutsonikolas, Y. Charlie Hu, and Chih-Chun Wang. *Pacifier*: High-Throughput, Reliable Multicast without “Crying Babies” in Wireless Mesh Networks. In *ACM/IEEE Transactions on Networking (ToN)*, pp. 1375–1388, Vol. 20 (5), October 2012.
5. Dimitrios Koutsonikolas, Chih-Chun Wang, and Y. Charlie Hu. Efficient Network Coding Based Opportunistic Routing Through Cumulative Coded Acknowledgments. In *ACM/IEEE Transactions on Networking (ToN)*, 14 pp., 2011.
6. Stephen Cauley, Venkataramanan Balakrishnan, Y. Charlie Hu, and Cheng-Kok Koh. A Parallel Branch-and-Cut Approach for Detailed Placement. In *ACM Transactions on Design Automation of Electronic Systems (TODAES)*, Vol. 16 (2), pp. 1-19, March 2011.



7. Ravish Khosla, Sonia Fahmy, Y. Charlie Hu, and Jennifer Neville. Prediction Models for Long-Term Internet Prefix Availability. In *Computer Networks (Elsevier) Journal (COMNET)*, 2011.
8. Dimitrios Koutsonikolas and, Y. Charlie Hu. On the Feasibility of Fast Bandwidth Estimation in Wireless Access Networks. In *ACM Wireless Networks*, Vol.17(6), pp. 1561-1580, July 2011.
9. Zheng Zhang, Ying Zhang, Y. Charlie Hu, Z. Morley Mao, and Randy Bush. iSPY: Detecting IP Prefix Hijacking on My Own, In *ACM/IEEE Transactions on Networking (ToN)*, Vol. 18 (6), pp. 1815–1828, December 2010.
10. Dimitrios Koutsonikolas, Saumitra M. Das, Y. Charlie Hu, and Ivan Stojmenovic. Hierarchical geographic multicast routing for wireless sensor networks. In *Wireless Networks*, Vol. 16(2), pp. 449-466, February 2010.
11. Sabyasachi Roy, Himabindu Pucha, Zheng Zhang, Y. Charlie Hu, and Lili Qiu. Overlay Node Placement: Analysis, Algorithms and Impact on Applications, In *ACM/IEEE Transactions on Networking (ToN)*, Vol. 17 (4), pp. 1298-1311, August 2009.
12. Dimitrios Koutsonikolas and Y. Charlie Hu. Exploring the Design Space of Reliable Multicast Protocols for Wireless Mesh Networks. In *Ad Hoc Networks (Elsevier) Journal (AdHoc)*, Vol. 7 (5), pp. 932-954, July 2009.
13. Sabyasachi Roy, Dimitrios Koutsonikolas, Saumitra Das, and Y. Charlie Hu. High-Throughput Multicast Routing Metrics in Wireless Mesh Networks. In *Ad Hoc Networks (Elsevier) Journal (AdHoc)*, Vol. 6 (6), pp. 878-899, August 2008.
14. Saumitra M. Das, Himabindu Pucha and Y. Charlie Hu. Distributed Hashing for Scalable Multicast in Wireless Ad Hoc Networks. In *IEEE Transactions on Parallel and Distributed Systems (TPDS)*, Vol. 19(3), pp. 347-362, March 2008.
15. Dimitrios Koutsonikolas, Saumitra Das, and Y. Charlie Hu. An Interference-Aware Fair Scheduling for Multicast in Wireless Mesh Networks. In *Journal of Parallel and Distributed Computing (JPDC), Special Issue on Wireless Mesh Networks*, Vol. 68 (3), pp. 372-386, March, 2008.
16. Saumitra M. Das, Y. Charlie Hu, C. S. George Lee, and Yung-Hsiang Lu. Mobility-Aware Ad Hoc Routing Protocols for Networking Mobile Robot Teams. In *Journal of Communications and Networks*, Vol. 9 (3), pp. 296-311, September 2007.
17. Yongguo Mei, Changjiu Xian, Saumitra Das, Y. Charlie Hu and Yung-Hsiang Lu. Sensor Replacement using Mobile Robots. In *Elsevier Journal of Computer Communications, Special Issue on Sensor-Actuator Networks (SANETs)*, Vol. 30 (13), pp. 2615-2626, September, 2007.
18. Dimitrios Koutsonikolas, Saumitra M. Das, and Y. Charlie Hu. Path Planning of Mobile Landmarks for Localization in Wireless Sensor Networks. In *Elsevier Journal of Computer Communications, Special Issue on Sensor-Actuator Networks (SANETs)*, Vol. 30 (13), pp. 2577-2592, September, 2007.
19. Saumitra M. Das, Himabindu Pucha and Y. Charlie Hu. On the Scalability of Location Services for Geographic Wireless Ad Hoc Routing. In *Computer Networks (Elsevier) Journal (COMNET)*, Vol. 51 (13), pp. 3693-3714, September 2007.
20. Himabindu Pucha, Saumitra M. Das, and Y. Charlie Hu. The Performance Impact of Traffic Patterns on Routing Protocols in Mobile Ad Hoc Networks. In *Computer Networks (Elsevier) Journal (COMNET)*, Vol. 51 (12), pp. 3595-3616, August 2007.
21. Saumitra M. Das, Himabindu Pucha, and Y. Charlie Hu. Mitigating the Gateway Bottleneck via Transparent Cooperative Caching in Wireless Mesh Networks. In *Ad Hoc Networks (Elsevier) Journal, Special Issue on Wireless Mesh Networks*, Vol. 5 (6), pp. 680-703, August 2007.
22. Dimitrios Koutsonikolas, Saumitra Das, Y. Charlie Hu, Yung-Hsiang Lu, and C.S. George Lee. CoCoA: Coordinated Cooperative Ad-Hoc Localization for Multi-Robot Teams. In *Ad Hoc and Sensor Wireless Networks Journal (AHSWN)*, Vol. 3(4), pp. 331-352, 2007.
23. Rongmei Zhang and Y. Charlie Hu. Assisted Peer-to-Peer Search with Partial Indexing. In *IEEE Transactions*

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81. M. Krasniewski, P. Varadharajan, B. Rabeler, S. Bagchi, Y. C. Hu. TIBFIT: Trust Index Based Fault Tolerance for Arbitrary Data Faults in Sensor Networks. In *Proceedings of The International Conference on Dependable Systems and Networks (DSN-2005)*, Yokohama, Japan, June 28 - July 1, 2005. (acceptance rate: 21%)
82. Ali R. Butt, Chris Gniady, and Y. Charlie Hu. The Performance Impact of Kernel Prefetching on Buffer Cache Replacement Algorithms. *Proceedings of the ACM International Conference on Measurement & Modeling of Computer Systems (SIGMETRICS '05)*, pp. 157–168, Banff, Canada, June 6-10, 2005. (acceptance rate: 13%)
83. Shuo Yang, Ali R. Butt, Y. Charlie Hu, and Samuel P. Midkiff. Trust but Verify: Monitoring Remotely Executing Programs for Progress and Correctness. *Proceedings of ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP'05)*, pp. 196–205, Chicago, IL, June 15-17, 2005. (acceptance rate: 31%)
84. H. Pucha, S. M. Das, and Y. C. Hu. Symmetrical Fairness in Infrastructure Access in Multi-Hop Ad Hoc Networks. *Proceedings of the 25th IEEE International Conference on Distributed Computing Systems (ICDCS)*, Columbus, Ohio, June 6-9, 2005. (acceptance rate: 14%)
85. R. Zhang and Y. C. Hu. HYPER: A Hybrid Approach to Efficient Content-based Publish/Subscribe. *Proceedings*



of the 25th IEEE International Conference on Distributed Computing Systems (ICDCS), Columbus, Ohio, June 6-9, 2005. (acceptance rate: 14%)

86. D. Koutsonikolas, H. Pucha, S. M. Das, Y. C. Hu. On Optimal TTL Sequence-Based Route Discovery in MANETs. *Proceedings of 2nd International Workshop on Wireless Ad Hoc Networking (WWAN)*, Columbus, Ohio, June 6-9, 2005.
87. R. Zhang, A. R. Butt, and Y. C. Hu. Topology-Aware Peer-to-Peer On-demand Streaming. *Proceedings of 2005 IFIP Networking Conference*, Waterloo, Ontario, Canada, May 2-6, 2005. (acceptance rate: 24.7%)
88. S. Das, Y. C. Hu, C.S. G. Lee, and Y.-H. Lu. An Efficient Group Communication Protocol for Mobile Robots. *Proceedings of IEEE 2005 International Conference on Robotics and Automation*, pp. 88–93, Barcelona, Spain, April 18-22, 2005.
89. S. Das, Y. C. Hu, C.S. G. Lee, and Y.-H. Lu. Efficient Unicast Messaging for Mobile Robots. *Proceedings of IEEE 2005 International Conference on Robotics and Automation*, 6pp., Barcelona, Spain, April 18-22, 2005.
90. Y. Mei, Y.-H. Lu, Y. C. Hu, and C.S. G. Lee. Deployment Strategy for Mobile Robots with Energy and Timing Constraints. *Proceedings of IEEE 2005 International Conference on Robotics and Automation*, pp. 2827-2832, Barcelona, Spain, April 18-22, 2005.
91. S. M. Das, H. Pucha, and Y. C. Hu. MicroRouting: A Scalable and Robust Communication Paradigm for Sparse Ad Hoc Networks. In *Proceedings of the 5th IEEE International Workshop on Algorithms for Wireless, Mobile, Ad Hoc and Sensor Networks (WMAN)*, Denver, CO, April 4-8, 2005. (acceptance rate: 21.6%)
92. R. Zhang and Y. C. Hu. Assisted Peer-to-Peer Search with Partial Indexing. In *Proceedings of IEEE INFOCOM 2005*, Miami, FL, March 13-17, 2005. (acceptance rate: 17%)
93. S. M. Das, H. Pucha, and Y. C. Hu. Performance Comparison of Scalable Location Services for Geographic Ad Hoc Routing. In *Proceedings of IEEE INFOCOM 2005*, Miami, FL, March 13-17, 2005. (acceptance rate: 17%)
94. Chris Gniady, Ali. R. Butt, and Y. Charlie Hu. Program Counter Based Pattern Classification in Buffer Caching. In *Proceedings of the 6th Symposium on Operating Systems Design and Implementation (OSDI '04)*, pp. 395–408, San Francisco, CA, December 6-8, 2004. (acceptance rate 14%)
95. S. M. Das, H. Pucha, and Y. C. Hu. Ekta: An Efficient DHT Substrate for Distributed Applications in Mobile Ad Hoc Networks. *Proceedings of the 6th IEEE Workshop on Mobile Computing Systems and Applications (WMCSA 2004)*, pp. 163–173, English Lake District, UK, December 2-3, 2004. (acceptance rate 25%)
96. A. R. Butt, T. Johnson, Y. Zheng, and Y. C. Hu. Kosha: A Peer-to-Peer Enhancement for the Network File System. *Proceedings of IEEE/ACM SC2004*, Pittsburgh, PA, November 6-12, 2004. (acceptance rate: 30%)
97. A. R. Butt, N. Malhotra, S. Patro, and Y. C. Hu. On the Equivalence of Forward and Reverse Query Caching in Peer-to-Peer Overlay Networks. *Proceedings of the 9th International Workshop on Web Caching and Content Distribution (WCW)*, Beijing, China, October 18-20, 2004. (acceptance rate: 30%)
98. H. Pucha, S. M. Das, and Y. C. Hu. The Performance Impact of Traffic Patterns on Routing Protocols in Mobile Ad Hoc Networks. *Proceedings of the 7th ACM/IEEE International Symposium on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM)*, Venice, Italy, October 4-6, 2004. (acceptance rate 27%)
99. H. J. Chang, C.S. G. Lee, Y.-H. Lu, and Y. C. Hu. A Computational Efficient SLAM Algorithm Based on Logarithmic-Map Partitioning. In *Proceedings of IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 1041–1046, Sendai, Japan, September 28 - October 2, 2004.
100. Y. Mei, Y.-H. Lu, Y. C. Hu, and C.S. G. Lee. Determining the Fleet Size of Mobile Robots with Energy Limitations. In *Proceedings of IEEE/RSJ International Conference on Intelligent Robots and Systems*

(IROS), pp. 1420–1425, Sendai, Japan, September 28 - October 2, 2004.

101. X. Ren, Z. Pan, R. Eigenmann, and Y. C. Hu. Peer-to-Peer Decentralized and Hierarchical Software Application Discovery in the iShare Internet Sharing System. *Proceedings of the 17th International Conference on Parallel and Distributed Computing Systems (PDCS-2004)*, San Francisco, CA, September 15-17, 2004.
102. A. R. Butt, X. Fang, Y. C. Hu, and S. Midkiff. Java, Peer-to-Peer, and Accountability: Building Blocks for Distributed Cycle Sharing. *Proceedings of the 3rd USENIX Virtual Machines Research and Technology Symposium (VM '04)*, San Jose, CA, May 6-7, 2004.
103. H. J. Chang, C.S. G. Lee, Y.-H. Lu and Y. C. Hu. Energy-Time-Efficient Adaptive Dispatching Algorithms for Ant-Like Robot Systems. *Proceedings of IEEE 2004 International Conference on Robotics and Automation*, pp. 3294-3299, April 26 - May 1, 2004, New Orleans, LA.
104. Y. Mei, Y.-H. Lu, C.S. G. Lee and Y. C. Hu. Energy-Efficient Motion Planning for Mobile Robots. *Proceedings of IEEE 2004 International Conference on Robotics and Automation*, pp. 4344–4349, April 26 - May 1, 2004, New Orleans, LA.
105. S. Das, Y. C. Hu, C.S. G. Lee, and Y.-H. Lu. Supporting Many-to-One Communication in Mobile Multi-robot Ad Hoc Sensing Networks. *Proceedings of IEEE 2004 International Conference on Robotics and Automation*, pp. 659–664, April 26 - May 1, 2004, New Orleans, LA.
106. C. Gniady, Y. C. Hu, and Y.-H. Lu. Program Counter Based Techniques for Dynamic Power Management. *Proceedings of the 10th International Symposium on High-Performance Computer Architecture (HPCA-10)*, pp. 24-35, Madrid, Spain. February 14-18, 2004. (acceptance rate: 18%)
107. Ali R. Butt, R. Zhang, and Y. C. Hu. A Self-Organizing Flock of Condors. *Proceedings of SC '2003*, Phoenix, AZ, November 15-21, 2003. Nominated for the Best Student Paper of SC 2003 Award. (acceptance rate: 29%)
108. R. Zhang and Y. C. Hu. Anycast in Locality-Aware Peer-to-Peer Overlay Networks. *Proceedings of the 5th International Workshop on Networked Group Communications (NGC'03)*. pp. 34–46, 2003 University of Federal Armed Forces Munich (UniBw Munich), Germany, September 16-19, 2003. (acceptance rate: 33%)
109. R. Zhang and Y. C. Hu. Borg: a Hybrid Protocol for Scalable Multicast in Peer-to-Peer Networks. *Proceedings of the 13th International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV)*, pp. 172–179, June 1-3, 2003. (acceptance rate: 30%)
110. R. Zhang, Y. C. Hu, and P. Druschel. Optimizing Routing in Structured Peer-to-Peer Overlay Networks Using Routing Table Redundancy. *Proceedings of the 9th International Workshop on Future Trends of Distributed Computing Systems (FTDCS 2003)*, pp. 315–321, San Juan, Puerto Rico, May 28-30, 2003.
111. Y. C. Hu, S. M. Das, and H. Pucha. Exploiting the Synergy between Peer-to-Peer and Mobile Ad Hoc Networks. *Proceedings of the USENIX HotOS-IX: Ninth Workshop on Hot Topics in Operating Systems*, pp. 37–42, Lihue, May 18-21, 2003. (acceptance rate: 13%)
112. Sunil Patro and Y. C. Hu. Transparent Query Caching in Peer-to-Peer Overlay Networks. *Proceedings of the 17th International Parallel and Distributed Processing Symposium (IPDPS)*, Nice, France, April 22-26, 2003. (acceptance rate: 29%)
113. M. Castro, P. Druschel, Y. C. Hu, and A. Rowstron. Exploiting network proximity in distributed hash tables. In *Proceedings of FuDiCo 2002: International Workshop on Future Directions in Distributed Computing*, University of Bologna Residential Center Bertinoro (Forli), Italy, June 3–7, 2002.
114. Y. C. Hu, D. A. Rodney, and P. Druschel, Design and Scalability of NLS, a Scalable Naming and Location Service. *Proceedings of IEEE INFOCOM 2002*, pp. 1218–1227, New York, NY, June 2002.

(acceptance rate: 20%)

115. Y. C. Hu, A. Cox, and W. Zwaenepoel. Improving Fine-Grained Irregular Shared-Memory Benchmarks by Data Reordering, in *Proceedings of SC '2000*, Dallas, TX, November 2000. (acceptance rate: 35%)
116. Y. C. Hu, W. Yu, A. Cox, D. Wallach, and W. Zwaenepoel. Runtime Support for Distributed Sharing in Typed Languages, in *Proceedings of LCR2000: the Fifth Workshop on Languages, Compilers, and Run-time Systems for Scalable Computers*, pp. 192-206, Rochester, NY, May 2000.
117. E. de Lara, Y. C. Hu, A. Cox, and W. Zwaenepoel. The Effect of Contention on the Scalability of Page-Based Software Shared Memory Systems, in *Proceedings of LCR2000: the Fifth Workshop on Languages, Compilers, and Run-time Systems for Scalable Computers*, pp. 155-169, Rochester, NY, May 2000,
118. Y. C. Hu, H. Lu, A. Cox, and W. Zwaenepoel. OpenMP for Networks of SMPs, in *Proceedings of the 13th International Parallel Processing Symposium*, pp. 302-310, San Juan, Puerto Rico, April 1999,
119. A. Cox, E. de Lara, Y. C. Hu, and W. Zwaenepoel. A Performance Comparison of Homeless and Home-based Lazy Release Consistency Protocols in Software Shared Memory, *Proceedings of the 5th Intl. Symposium on High-Performance in Computer Architecture (HPCA'99)*, pp. 279-283, Orlando, FL, January 1999. (acceptance rate: 32%)
120. G. Jin and Y. C. Hu. An Evaluation of High Performance Fortran Compilers using the HPFBench Benchmark Suite. P. Amestoy, P. Berger, M. Dayde, I. Duff, V. Fraysse, L. Giraud and D. Ruiz, (eds), *EuroPar'99 Parallel Processing*. LNCS 1685, Springer-Verlag, 1999.
121. H. Lu, Y. C. Hu, and W. Zwaenepoel. OpenMP on Networks of Workstations, in *Proceedings of SC '98*, Orlando, FL, November 1998. (acceptance rate: 20%)
122. Y. C. Hu. Optimal All-to-Some Personalized Communication on Hypercubes, in *Proceedings of the 12th International Parallel Processing Symposium (IPPS '98)*, Orlando, FL, March 1998, pp. 36-40. (acceptance rate: 36%)
123. Y. C. Hu, S. L. Johnsson and S.-H. Teng. High Performance Fortran for Highly Irregular Problems, in the *Proceedings of the 6th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP '97)*, pp. 13-24, Las Vegas, Nevada, June 1997, (acceptance rate: 30%)
124. Y. C. Hu, S. L. Johnsson, D. Kehagias and N. Shalaby. A Data Parallel Fortran Benchmark Suite, in *Proceedings of the 11th International Parallel Processing Symposium (IPPS '97)*, Geneva, Switzerland, April 1997. (acceptance rate: 37.6%)
125. Y. C. Hu, S. L. Johnsson and S.-H. Teng. A Data-Parallel Adaptive  $N$ -Body Method, in *Proceedings of the 8th SIAM Conference on Parallel Processing for Scientific Computing – Parallel  $N$ -body solver minisymposia*, Minneapolis, MN, March 1997.
126. Y. C. Hu, S. L. Johnsson. On the Accuracy of Anderson's Fast  $O(N)$ -Body Algorithm, in *Proceedings of the 8th SIAM Conference on Parallel Processing for Scientific Computing*, Minneapolis, MN, March 1997.
127. Y. C. Hu, S.-H. Teng and S. Lennart Johnsson. A Data-Parallel Implementation of the Geometric Partitioning Algorithm, in *Proceedings of the 8th SIAM Conference on Parallel Processing for Scientific Computing*, Minneapolis, MN, March 1997.
128. Y. C. Hu and S. L. Johnsson. A Data-Parallel Implementation of Hierarchical  $N$ -Body Methods, in *Proceedings of Supercomputing '96*, Philadelphia, PA, November 1996. (acceptance rate: 31%)

## Refereed Conference Posters and Abstracts

1. Abhilash Jindal, Abhinav Pathak, Y. Charlie Hu, and Sam Midkiff. On Death, Taxes, and Sleep Disorder Bugs in Smartphones Poster, *ACM SOSOP*, November 3-6, 2013.

2. Rohan Gandhi, Dimitrios Koutsonikolas, and Y. Charlie Hu. Multicasting MDC Videos To Receivers with Different Screen Resolution (abstract). In *ACM HPDC/SIGMETRICS 2011 Student Research Posters*, San Jose, California, June 8, 2011.
3. Dimitrios Koutsonikolas, Chih-Chun Wang, and Y. Charlie Hu. Designing Coded Feedback for Efficient Network Coding Based Opportunistic Routing. Poster, *ACM MobiCom 2009*, 1st place in ACM Student Research Competition. Beijing, China, September 20-25, 2009.
4. Dimitrios Koutsonikolas, Y. Charlie Hu, and Chih-Chun Wang. High-Throughput, Reliable Multicast without "Crying Babies" in Wireless Mesh Networks. Poster, *ACM SIGCOMM CoNEXT 2008 Student Workshop*, Madrid, Spain, December 9, 2008.
5. Dimitrios Koutsonikolas, Y. Charlie Hu, Chih-Chun Wang. XCOR: Synergistic Interflow Network Coding and Opportunistic Routing. Poster, *ACM MobiCom*, 3rd place in ACM Student Research Competition. San Francisco, CA, September 14-19, 2008.
6. Abhinav Pathak, Ali Jafri, and Y. Charlie Hu. Building Spam-Aware High Performance Mail Servers. Poster, *ACM SOSP 2007*, Stevenson, WA, October 14-17, 2007.
7. Sabyasachi Roy, Abhinav Pathak, Y. Charlie Hu. Mitigating the Impact of Spams by Internet Content Pollution. Poster, *ACM SIGCOMM*, August 28-30, 2007.
8. Abhinav Pathak, Himabindu Pucha, Ying Zhang, Y. Charlie Hu, and Z. Morley Mao. Characterizing Internet Delay Asymmetry. Poster, *ACM SIGCOMM*, August 28-30, 2007.
9. Dimitrios Koutsonikolas, Saumitra M. Das, Sabyasachi Roy, and Y. Charlie Hu. Towards High-Throughput and Fair Multicast in Wireless Mesh Networks. *IEEE INFOCOM 2007 Student Posters*, May 8, 2007.
10. Saumitra M. Das, Yunnan Wu, Ranveer Chandra, Y. Charlie Hu. The Case for Conditional Link Metrics and Routing. Poster, *USENIX NSDI*, April 11-13, 2007.
11. Mitigating the Gateway Bottleneck via Transparent Cooperative Caching in Wireless Mesh Networks. Saumitra M. Das, Himabindu Pucha, and Y. Charlie Hu. Poster, *ACM MobiCom*, Los Angeles, CA, September 29, 2006. (Also accepted into ACM Student Research Competition)
12. Himabindu Pucha, Saumitra Das, and Y. Charlie Hu. Ekta+: Opportunistic Multiplexing in a Wireless DHT. Poster paper, *ACM MobiCom International Workshop on Decentralized Resource Sharing in Mobile Computing and Networking (MobiShare 2006)*, pp. 69–71, Los Angeles, CA, September 29, 2006.
13. Shuo Yang, Ali R. Butt, Y. Charlie Hu, and Samuel P. Midkiff. Lightweight Monitoring of the Progress of Remotely Executing Computations. Poster, *IEEE/ACM SC2005*, Seattle, WA, November 12-18, 2005.
14. Himabindu Pucha and Y. Charlie Hu. Overlay TCP: Ending End-to-End Transport for High Throughput. Poster, *ACM SIGCOMM*, Philadelphia, PA, August 22-26, 2005.
15. Himabindu Pucha, Y. Charlie Hu, Ming Zhang, and Randy Wang. MutantX: Mutating Tree-Based Overlay Multicast Protocols to Optimize Throughput. Poster, *the 2nd Symposium on Networked Systems Design and Implementation (NSDI)*, Boston, MA, May 2-4, 2005.
16. Saumitra M. Das, Himabindu Pucha and Y. Charlie Hu. Distributed Hashing for Scalable Multicast in Wireless Ad Hoc Networks. Poster, *the 2nd Symposium on Networked Systems Design and Implementation (NSDI)*, Boston, MA, May 2-4, 2005.
17. Sabyasachi Roy, Y. Charlie Hu (Advisor). On the Cost and Quality Tradeoff in Constructing Minimum-Energy Broadcast Trees in Wireless Ad Hoc Networks. Abstract, *IEEE INFOCOM 2005 Student Workshop*, Miami, FL, March 14, 2005.
18. Rongmei Zhang, Ali R. Butt, and Y. Charlie Hu. Topology-Aware Peer-to-Peer On-Demand Streaming. Student Poster, *the 12th IEEE International Conference on Network Protocols (ICNP)*, Berlin, Germany, October 5-8, 2004.

19. Himabindu Pucha, Saumitra M. Das and Y. Charlie Hu. How to Implement DHT in Mobile Ad Hoc Networks? Student poster, *the 10th ACM International Conference on Mobile Computing and Network (MobiCom 2004)*, Philadelphia, PA, September 26-October 1, 2004.
20. Ali Raza Butt, Xing Fang, Y. Charlie Hu, Sam Midkiff and Jan Vitek. An Open Peer-to-Peer Infrastructure for Cycle-Sharing. Work-in-Progress, *the 19th ACM Symposium on Operating Systems Principles (SOSP'03)*, Bolton Landing (Lake George), NY, October 19-22, 2003.

## Highly Cited Technical Reports

1. M. Castro, P. Druschel, Y. C. Hu, and A. Rowstron. Exploiting network proximity in peer-to-peer overlay networks. Technical report MSR-TR-2002-82, Microsoft Research, 2002. (cited 288 times Google Scholar)

## STUDENT ADVISING

### Ph.D. Students Graduated (17)

1. Chris Gniady, 2005 (Associate Professor, University of Arizona, NSF CAREER Award 2009)
2. Ali R. Butt, 2006 (Full Professor, Virginia Tech, NSF CAREER Award 2008)
3. Shuo Yang, 2006 (co-supervised with Prof. Midkiff) (Google, Inc.)
4. Rongmei Zhang, 2006 (Google, Inc.)
5. Saumitra Das, 2007 (QualComm Research and Development, Bay Area)
6. Himabindu Pucha, 2007 (IBM Almaden Research Lab)
7. Zheng Zhang, 2009 (Knight Capital Group, Inc.)
8. Dimitris Koutsoniklas, 2010 (Associate Professor, University of Buffalo, SUNY)
9. Abhinav Pathak, 2012 (Apple, Inc.)
10. Di Xie, 2013 (Microsoft Corp.)
11. Pawan Prakash, 2013 (co-advised with Prof. Ramana Kompella, Startup)
12. Advait Dixit, 2014 (co-advised with Prof. Ramana Kompella, Startup)
13. S. M. Iftekhharul Alam, 2015 (co-advised with Prof. Sonia Fahmy, Intel Labs)
14. Rohan Gandhi, 2016 (postdoc, CMU)
15. Ning Ding, 2017 (Apple, Inc.)
16. Xiaomeng Chen, 2017 (Apple, Inc.)
17. Abhilash Jindal, 2017 (Mobile Enerlytics, LLC)

### M.S. Students Graduated (3)

1. Sunil Patro, May 2003 (Microsoft Corp.)
2. Himabindu Pucha, Dec. 2003 (Purdue ECE Ph.D. Program)
3. Sabyasachi Roy, July 2007 (VMware, Inc.)

## Current Ph.D. Students (5)

1. Akshay Jajoo
2. Jiayi Meng
3. Pranab Dash (incoming RA, Fall 2017)
4. Sibendu Paul (incoming RA, Fall 2017)
5. Zeqi Lai (visiting student, TsingHua University)

## Student Awards

1. Ahbinav Pathak, Intel PhD Fellowship, 2011-2012.
2. Dimitrios Koutsonikolas, 1st place in ACM Student Research Competition of ACM MobiCom, 2009.
3. Dimitrios Koutsonikolas, 3rd place in ACM Student Research Competition of ACM MobiCom, 2008.
4. Himabindu Pucha, Google Anita Borg Memorial Scholarship, 2006. (first ever from Purdue)

## TEACHING (links to classes are available from my web page.)

Course	Title	Taught
ECE595	Introduction to Operating Systems (new course I created)	Spring 2017
ECE 469	Operating Systems Engineering	Spring 2002, Spring 2003, Spring 2005, Spring 2006, Spring 2007, Spring 2009, Spring 2010, Spring 2011, Spring 2013, Spring 2014, Spring 2015
ECE 673	Distributed Computing Systems	Fall 2002, Fall 2003, Fall 2004, Fall 2005, Fall 2006, Fall 2007, Fall 2010, Fall 2011, Fall 2012, Fall 2014, Fall 2016

## PROFESSIONAL SERVICE

### Technical Program Chair

- 2018 Program Co-Chair, European Conference on Computer Systems (EuroSys)
- 2016 Program Co-Chair, ACM International Conference on Mobile Systems, Applications, and Services (MobiCom)
- 2015 Program Co-Chair, ACM HotPower: 2015 Workshop on Power-Aware Computing and Systems
- 2009 Program Vice-Chair, 21st Intl. Symposium on Computer Architecture and High Performance Computing
- 2007 Program Vice-Chair, IEEE International Conference on Distributed Computing Systems (ICDCS)
- 2005 Program Co-Chair, the 2nd Intl. Workshop on Mobile Peer-to-Peer Computing
- 2004 Program Co-Chair and Co-Founder, the 1st International Workshop on Mobile Peer-to-Peer Computing
- 2004 Program Vice-Chair, IEEE International Conference on Parallel Processing (ICPP)

### Conference Chair

- 2014 General Co-Chair, ACM SIGCOMM
- 2013 Publication Chair, ACM SIGCOMM
- 2012 Publicity Chair, ACM SIGMETRICS

### Technical Program Committee Member (past 10 years)

2017	MobiCom	ACM International Conference on Mobile Computing and Networking
	MobiSys	ACM International Conference on Mobile Systems, Applications, and Services
2016	OSDI	USENIX Symposium on Systems Design and Implementation
	ASPLOS (ext)	ACM International Conference on Architecture Support for Programming Languages and Operating Systems
	EuroSys	European Conference on Computer Systems
	INFOCOM	Advisory TPC
	MobiSys (ext)	ACM International Conference on Mobile Systems, Applications, and Services
2015	MobiCom	ACM International Conference on Mobile Computing and Networking
	MobiSys (ext)	ACM International Conference on Mobile Systems, Applications, and Services
	ASPLOS (ext)	ACM International Conference on Architectural Support for Programming Languages and Operating Systems
	SIGMETRICS	ACM International Conference on Measurement & Modeling of Computer Systems
2014	EuroSys	European Conference on Computer Systems
	MobiSys (ext)	ACM International Conference on Mobile Systems, Applications, and Services
2013	EuroSys	European Conference on Computer Systems
	SIGMETRICS	ACM International Conference on Measurement & Modeling of Computer Systems
	CoNEXT	ACM Conference on emerging Networking EXperiments and Technologies
2012	SIGMETRICS	ACM International Conference on Measurement & Modeling of Computer Systems
	CoNEXT	ACM Conference on emerging Networking EXperiments and Technologies
	INFOCOM	IEEE INFOCOM
	ICDCS	IEEE International Conference on Distributed Computing Systems
	COMSNETS	International Conference on Communication Systems and Networks
2011	SIGMETRICS	ACM International Conference on Measurement & Modeling of Computer Systems
	INFOCOM	IEEE INFOCOM
	ICDCS	IEEE International Conference on Distributed Computing Systems
	SECON	ACM International Conference on Mobile Systems, Applications, and Services
	COMSNETS	International Conference on Communication Systems and Networks
2010	INFOCOM	IEEE INFOCOM
	ICDCS	IEEE International Conference on Distributed Computing Systems
	COMSNETS	International Conference on Communication Systems and Networks
	ChinaCom	International Conference on Communications and Networking in China
2009	SIGMETRICS	ACM International Conference on Measurement & Modeling of Computer Systems
	INFOCOM	IEEE INFOCOM
	ICDCS	IEEE International Conference on Distributed Computing Systems
	CoNEXT	ACM Conference on emerging Networking EXperiments and Technologies
	COMSNETS	International Conference on Communication Systems and Networks
	ChinaCom	International Conference on Communications and Networking in China
2008	SIGMETRICS	ACM International Conference on Measurement & Modeling of Computer Systems
	INFOCOM	IEEE INFOCOM
	ICDCS	IEEE International Conference on Distributed Computing Systems
	ICPP	International Conference on Parallel Processing

## UNIVERSITY SERVICE

2015-2018 University Grievance Hearing Committee

2016-2017	ECE External Review Self-Study Committee
2014-2015	Provost-level Big-Data Cluster Hiring Committee Co-Chair
2013-2014	Provost-level Big-Data Cluster Hiring Committee Co-Chair
2012-2014	ECE Computer Engineering Area Chair
2011	ECE Computer Engineering Faculty Hiring Committee
2010	ECE Computer Engineering Curriculum Reform Committee
2008	ECE Computer Engineering Faculty Recruiting Committee
2005	ECE Computer Engineering Faculty Recruiting Committee
2004	ECE Computer Engineering Faculty Recruiting Committee
2004-2017	ECE Graduate Admission Committee
2002-2003	ECE Undergraduate Curriculum Committee