

JOHN W. BYERS

Department of Computer Science, Boston University
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EDUCATION

- B.A.** Computer Science, Economics and Mathematics, Cornell University, May 1991.
Ph.D. Computer Science, University of California at Berkeley, December 1997.
Thesis: *Maximizing Throughput of Reliable Bulk Network Transmissions*
Committee: Michael Luby, Richard Karp, Christos Papadimitriou, Dorit Hochbaum

ACADEMIC APPOINTMENTS

- Professor**, Department of Computer Science, Boston University, 2014 - present.
Fellow, Hariri Institute, Boston University, 2012 - present.
Associate Professor, Department of Computer Science, Boston University, 2005 - 2014.
Associate Chair, Department of Computer Science, Boston University, 2007 - 2009.
Assistant Professor, Department of Computer Science, Boston University, 1999 - 2005.
Visiting Scientist, BBN Research, Cambridge, MA, Fall 2005.
Postdoctoral Researcher, International Computer Science Institute, Berkeley, CA, Spring 1998.
Visiting Researcher, Sandia National Labs, Albuquerque, NM, Summer 1996.

INDUSTRY EXPERIENCE

- Board of Directors**, Cogo Labs (fka Adverplex, Inc.), Cambridge, MA, 2008 - present.
Founding Chief Scientist, Cogo Labs, Cambridge, MA, 2007 - present
Chief Technology Officer, Adverplex, Inc., Wakefield, MA, 2005 (founding) to 2007.
During a leave of absence from B.U., I served as founding CTO at Adverplex, Inc., a data-driven technology start-up which now operates as Cogo Labs, a technology incubator. In 2005-2007, I oversaw the design and implementation of a proprietary platform for optimizing large-scale search engine marketing campaigns for our incubated portfolio companies. Since returning to academia full-time in 2007, I have served in a scientific/advisorial role at Cogo and have focused on research on proprietary algorithmic marketing and data analytics methods. Cogo portfolio companies CourseAdvisor and Autotegrity were respectively acquired in 2007 and 2011 by the Washington Post Corporation [NYSE: GHC] and Automated Data Processing, Inc. [NASDAQ: ADP].
Affiliated Scientist and Technical Advisory Board Member, Digital Fountain, Inc., Fremont, CA, 9/98 (founding) - 9/04.
As a part-time research scientist, I worked with the founding team to develop software and hardware solutions leveraging the advantages of rateless codes for various networking applications, following a line we initiated in academic research. Digital Fountain was acquired by Qualcomm in 2009.
Course Instructor and Educational Consultant, Hewlett Packard Co., Palo Alto, CA, 7/92 - 8/98.

RESEARCH INTERESTS

Computer networking, electronic commerce, and large-scale data analysis.

HONORS AND AWARDS

- 2014 IEEE ICDE Influential Paper Award.** Awarded to our ICDE '04 paper [33] in recognition of “a work which has been highly impactful in the area of sensor networks, and has been shown to be applicable to any setting with multiple data sources that may suffer network failures, such as distributed data centers of today.”
- 2009 ACM SIGCOMM Test of Time Award.** Awarded to our SIGCOMM '98 paper [43] in recognition of “an outstanding paper whose contents are still a vibrant and useful contribution today”.
- Best Paper Award,** 20th IEEE Int'l Conference on Data Engineering (ICDE), April 2004 [33].
- National Science Foundation CAREER Award,** Advanced Networking Research Division, 2001.
- Recognized as an outstanding instructor in the College of Arts and Sciences at B.U.,** 2000.
- California Regents Fellowship, GAANN Fellowship,** U.C. Berkeley, 1992, 1994 - 1996.
- Outstanding Graduate Student Instructor Award,** CS Division of EECS, U.C. Berkeley, 1992.
- Phi Beta Kappa,** Cornell University, 1991.

BROADER IMPACT

Citations: Google Scholar lists 10,430 citations to my work, with a reported h-index of 41, i10-index of 66 (as of 2/27/17). For additional details, please “Search Authors” at Google Scholar for “John W. Byers”.

Courses: The institutions listed below have taught graduate courses in networking, algorithms, or electronic commerce where at least one of my publications was required reading (partial list): Carnegie-Mellon, Cornell, Dartmouth, Duke, Georgia Tech, Harvard, IIT Delhi, MIT, Princeton, Stanford, U.C. Berkeley, U.C. San Diego, U.C. Santa Barbara, U. Illinois at Urbana-Champaign, U. Maryland, U. Mass at Amherst, U. North Carolina, University of Southern California, U. Texas at Austin, U. Washington, U. Wisconsin, Washington U. at St. Louis, Yale.

Media Mentions: My recent work on Airbnb’s potential for disruptive impact in the hotel industry [1,20,48] received wide coverage in the popular press. Highlights include being featured in a piece in *The Economist* (4/26/14), on Bloomberg TV, and coverage in a front-page article in the *New York Times* (1/31/15). My earlier work on the reputation of Groupon merchants as viewed through the lens of reviewers on Yelp [23, 25] was also widely covered. I was quoted in another front-page article in the *New York Times*, in a piece in NPRs “Morning Edition”, on Bloomberg TV, and was a featured panelist in a 30-minute live segment on WBUR.

SELECTED PROFESSIONAL ACTIVITIES

- Technical Program Committee Co-Chair, ACM Internet Measurement Conference 2016, Santa Monica, CA, October 2016.
- Technical Program Committee Co-Chair, ACM SIGCOMM 2011, Toronto, Canada, August 2011.
- Associate Editor, *IEEE/ACM Transactions on Networking*, 2003-2006.
- General Co-Chair, ACM Internet Measurement Conference 2012, Boston, MA, November 2012.
- ACM SIGCOMM Awards Chair, 2007 - 2008.
- National Science Foundation Proposal Review Panelist. (Frequently from 2000-2016).
- General Chair, Fourth International Workshop on Networked Group Communication (NGC), Boston, MA, October 2002.
- Co-organizer, DIMACS Workshop on Internet and WWW Measurement, Mapping and Modeling, DIMACS Center @ Rutgers University, Piscataway, NJ, February 13-15, 2002.

Co-organizer, BU/NSF Workshop on Internet Measurement, Instrumentation, and Characterization, Boston University, Boston, MA, August 30, 1999.

Other notable journal refereeing: Journal of the ACM, IEEE/ACM Transactions on Networking, IEEE Journal on Selected Areas in Communications (JSAC), SIAM Journal on Computing, Management Science, IEEE Transactions on Computers, IEEE Transactions on Multimedia, IEEE Transactions on Parallel and Distributed Systems, ACM Transactions on Internet Technology, Computer Communications, Computer Networks.

MAJOR PROGRAM COMMITTEES

Technical Program Committee Member, ACM SIGCOMM (2003, 2004, 2006, 2011, 2013, 2015, 2017).

Technical Program Committee Member, ACM Internet Measurement Conference (2016, 2017).

Technical Program Committee Member, USENIX NSDI (2006, 2010, 2012).

Technical Program Committee Member, ACM STOC (2013).

Technical Program Committee Member, ACM Electronic Commerce (2013).

Technical Program Committee Member, ACM WSDM (2012).

Technical Program Committee Member, ACM PODC (2012).

Technical Program Committee Member, ACM CoNEXT (2010).

Technical Program Committee Member, IEEE Infocom (2005, 2009).

Technical Program Committee Member, IEEE ICNP (2002, 2003, 2004, 2005).

Technical Program Committee Member, HotNets IV (2005).

Technical Program Committee Member, ACM SPAA (2004).

Technical Program Committee Member, ACM SIGMETRICS (2001).

UNIVERSITY AND DEPARTMENTAL SERVICE AT BOSTON UNIVERSITY

BU Entrepreneurship Advisory Council, 2016-present.

Academic Program Review, Internal Committee Member for review of BU/ECE Dept., 2016.

Appointment, Promotion & Tenure (APT) Committee, College of Arts & Sciences, AY 2014-2015.

Associate Chair, Computer Science Department, 2007 - 2009.

Director of Graduate Studies, Computer Science Department, 2012 - 2013.

Chair, Computer Science Faculty Search Committee, 2001, 2002, 2016.

College of Arts & Sciences Academic Conduct Committee, 1999 - 2004.

Member, Computer Science Faculty Search Committee, 2000, 2004, 2005, 2007, 2009, 2017.

Computer Science Graduate Student Admissions Committee, 2001 - 2004, 2012.

Faculty Advisor Committee, UROP Program, 2012 - 2013.

Computer Science Website Committee, 2010-2012.

Computer Science Space Committee, 2011-2013.

Computer Science Curriculum Committee, 2000.

Computer Science Department Colloquium Coordinator, 1999 - 2000.

DOCTORAL STUDENTS ADVISED

Cody Doucette, 4th year Ph.D. student, currently enrolled.

Qiaobin Fu, 3rd year Ph.D. student, currently enrolled.

Harshal Chaudhari, 3rd year Ph.D. student, currently enrolled. Co-advised by Evimaria Terzi.

Michel Machado, Ph.D., May 2014, "*Linux XIA: An Interoperable Meta Network Architecture*," B.U. Dept. of Computer Science. Current position: Chief Scientist, Digirati and Visiting Researcher, BUCS.

Chong Wang, Ph.D., December 2012, "*Modeling Content Provider Networks from an Economic Perspective*," B.U. Dept. of Computer Science. Current position: R&D Engineer, LinkedIn.

Georgios Zervas, Ph.D., August 2011, "*Data-Driven Analysis of Electronic Commerce Systems*," B.U. Dept. of Computer Science. Current position: Assistant Professor, Marketing Department, Questrom School of Management, Boston University.

Gu-In Kwon, Ph.D., December 2004, "*Scalable Architectures for Multicast Content Distribution*," B.U. Dept. of Computer Science. Current position: Associate Professor, Inha University, South Korea.

Jeffrey Considine, Ph.D., December 2004, "*Schedule Oblivious Data Management*," B.U. Dept. of Computer Science. Current position: Chief Scientist, Cogo Labs, Cambridge, MA.

Khaled A. Harfoush, Ph.D., November 2001, "*A Framework for End-to-End Characterization of Metric-Induced Network Topologies*," B.U. Dept. of Computer Science. Co-advised by Azer Bestavros. Current position: Associate Professor of Computer Science, North Carolina State University.

DOCTORAL STUDENTS, EXAMINING COMMITTEE MEMBER

Davide Proserpio, Ph.D., May 2016, "*The Impact of Digital Information on Industries and Markets*," B.U. Dept. of Computer Science. Committee chair and research mentor. Current position: Assistant Professor of Marketing, University of Southern California (Marshall).

Flavio Esposito, Ph.D., May 2013, "*A Policy-Based Architecture for Virtual Network Embedding*," B.U. Dept. of Computer Science. Second reader.

Andrej Cvetkovski, Ph.D., May 2013, "*Graph Embeddings for Low-Stretch Greedy Routing*," B.U. Dept. of Computer Science. Third reader.

Gonca Gürsun, Ph.D., March 2013, "*Inferring Hidden Features in the Internet*," B.U. Dept. of Computer Science. Third reader.

Karim Mattar, Ph.D., December 2010, "*Policy Routing Dynamics: Theory and Applications*," B.U. Dept. of Computer Science. Committee chair.

Vijay Erramilli, Ph.D., December 2008, "*Forwarding in Mobile Opportunistic Networks*," B.U. Dept. of Computer Science. Third reader.

Georgios Smaragdakis, Ph.D., August 2008, "*Overlay Network Creation and Maintenance with Selfish Users*," B.U. Dept. of Computer Science. Third reader.

Hany Morcos, Ph.D., August 2008, "*Service Provisioning in Mobile Networks Through Coordinated Distributed Resource Management*," B.U. Dept. of Computer Science. Committee chair.

Scott W. Russell, Ph.D., December 2007, "*Communication and Query Privacy: Intrusion-Resilient Secure Channels and Private Database Queries*," B.U. Dept. of Computer Science. Committee chair.

John Rachlin, Ph.D., November 2006, "*Multi-Node Graphs and Their Application to Bioinformatics*," B.U. Dept. of Computer Science. Committee member.

Vishal Sood, Ph.D., August 2006, "*Interacting Particle Systems on Graphs*," B.U. Dept. of Physics. Committee member.

Anukool Lakhina, Ph.D., May 2006, “*Network-Wide Traffic Analysis: Methods and Applications*,” B.U. Dept. of Computer Science. Second reader.

Shudong Jin, Ph.D., May 2003, “*Protocol Support for Scalable and Efficient Media Data Streaming*,” B.U. Dept. of Computer Science. Second reader.

Liang Guo, Ph.D., April 2003, “*Size-Aware Scheduling of TCP Flows*,” B.U. Dept. of Computer Science. Third reader.

Prithwish Basu, Ph.D., April 2003, “*A Task-Based Approach for Modeling Distributed Applications on Mobile Ad Hoc Networks*,” B.U. Dept. of Electrical and Computer Engineering. Third reader.

Alberto Medina, Ph.D., March 2003, “*Practical Estimation of Internet Traffic Demands*,” B.U. Dept. of Computer Science. Second reader.

Jun Liu, Ph.D., August 2002, “*Characterizing Network Elements and Paths Using Packet Loss Behavior*,” B.U. Dept. of Computer Science. Third reader.

Paul Barford, Ph.D., June 2000, “*Modeling, Measurement and Performance of World Wide Web Transactions*,” B.U. Dept. of Computer Science. Second reader.

SUPERVISION OF POSTDOCTORAL STUDENTS AND VISITING RESEARCHERS

Michel Machado, Postdoctoral Researcher, Boston University, 2014-2015. Current position: CTO of Digirati Internet, Rio de Janeiro, Brazil.

Guido Marchetto, Visiting Researcher, Boston University, 2008-2009. Current position: Assistant Professor, Dept. of Control and Computer Engineering, Politecnico di Torino.

Nikos Laoutaris, Marie Curie Postdoctoral Fellow, Boston University, 2005-2007. Current position: Senior Researcher, Telefonica I+D, Barcelona.

Boulat Bash, Visiting Researcher, Boston University, 2004-2005.

SUPERVISION OF MASTERS AND UNDERGRADUATE STUDENTS

Masters: John Peterson, Manish Sharma, Marwan Fayed, Stan Rost, Yuri Vaysman, Dmitriy Zavin, Igor Stubailo, Yazdan Shaghghi, Min Guo.

Senior Honors Thesis: Ryan Mahon, David Blumstein, Stan Rost.

Undergraduate Research: Cody Doucette, Yvette Tsai, Nam Chu Hoai.

SELECTED INVITED COLLOQUIA

Institutes: DIMACS, Hariri Institute, Institute for Mathematics and its Applications (IMA), Institute for Pure and Applied Mathematics (IPAM), Korea Development Institute (KDI), Mathematical Sciences Research Institute (MSRI), Radcliffe Institute.

Industry: AT&T Laboratories, BBN Technologies, Bell Labs (Lucent), Cisco Systems, Intel Research, NEC Research Institute, Nortel Networks, Sprint Labs, Technicolor Research, Telefonica Research.

Universities: Boston University, Carnegie-Mellon University, Duke University, Harvard University, Tufts University, Université Pierre et Marie Curie, Laboratoire d’Informatique (LIP6), Universidad Carlos III de Madrid (UC3M), University of California at Berkeley, University of Maryland, University of Massachusetts at Amherst, University of North Carolina at Chapel Hill, University of Washington, University of Wisconsin, Williams College.

PATENTS

- Generating High Weight Encoding Symbols Using a Basis*, with A. Haken, M. Luby, G. Horn, D. Hernek, and M. Mitzenmacher. Issued as U.S. Patent 6,411,223, June 25, 2002.
- On Demand Encoding with a Window*, with M. Luby, G. Horn, J. Persch, A. Haken, and M. Mitzenmacher. Issued as U.S. Patent 6,486,803, November 26, 2002.
- Multi-output Packet Server with Independent Streams*, with M. Luby, R. Vainish, L. Rasmussen, D. Kushi, S. Simu, A. Perrig, R. Attias, M. Walfish, and D. Hernek. Issued as U.S. Patent 8,185,809, May 22, 2012. Continuation filing issued as U.S. Patent 8,671,673, March 11, 2014.

FUNDED GRANTS AND EXTERNAL SUPPORT

- NSF Special Projects - CISE (\$405,794 (BU portion), \$6.1M (total award size))** 5/1/14 – 10/30/17
Principal Investigator, “FIA-NP: Collaborative Research: Deployment-Driven Evaluation and Evolution of the eXpressive Internet Architecture” (CNS-1345307), joint with CMU (lead PI: Peter Steenkiste), Duke (PI: Bruce Maggs), and U. Wisconsin (PI: Aditya Akella).
- NSF EAGER Award (\$299,992)** 9/1/13 - 2/28/15
“Holistic Security for Cloud Computing: Architecture for Modular System and Network Design,” co-PI. One of five EAGERS funded to provide partial support for our large team working on holistic security at BU and MIT, led by PI Ran Canetti.
- MA Green High-Performance Computing Center (\$50,000 (BU portion))** 1/15/13
“Designing Cloud and Big Data Platforms for Data-intensive Scientific Applications,” co-PI, led by PI Orran Krieger at BU.
- Hariri Institute (\$26,500)** 1/1/13
“To Tweet or to Yelp: Understanding and Shaping Online Consumer Feedback,” Principal Investigator, with co-PI Georgios Zervas.
- Google Research Award (\$26,500 (BU portion), \$53,000 (total award size))** 8/15/12
“Accountability and Choice in Online Consumer Feedback,” with Joan Feigenbaum (Yale) and Georgios Zervas.
- NSF Special Projects - CISE (\$476,385 (BU portion), \$7.1M (total award size))** 9/1/10 – 8/31/14
Principal Investigator, “FIA: Collaborative Research: A Content and Service Friendly Architecture with Intrinsic Security and Explicit Trust,” (CNS-1040800 and CNS-1345434), joint with CMU (lead PI: Peter Steenkiste) and U. Wisconsin (PI: Aditya Akella).
- NSF Networking Technology and Systems (NeTS) (\$395,000)** 9/1/05 – 8/31/09
Principal Investigator, with co-PI A. Bestavros, “NeTS-NBD: Expressive Resource Specification and Discovery in Configurable Networks,” (CNS-0520166).
- NSF Information Technology Research (\$1,665,497)** 1/1/03 – 6/30/07
Co-Principal Investigator, with A. Bestavros, A. Kfoury, I. Matta and R. West, “ITR: Internet Flows as First-Class Values: Support for Dynamic, Flexible Internet Services,” (ANI-0205294).
- NSF Research Infrastructure Award (\$1,247,395)** 8/1/02 – 7/31/07
Senior Personnel, with A. Bestavros, M. Betke, S. Sclaroff, M. Crovella, G. Kollios, I. Matta, G. Itkis, A. Kfoury, L. Reyzin, R. West and H. Xi, “SENSORIUM: Research Infrastructure for Managing Spatio-Temporal Objects in Video Sensor Networks,” (EIA-0202067).
- Sprint Advanced Technology Lab (\$80,000)** 7/1/02
Co-Principal Investigator with M. Crovella, A. Bestavros and I. Matta. Gift to fund BU-CS Networking Research.
- U.S. - Israel Binational Science Foundation (\$44,850)** 8/1/01 - 7/31/03
Principal U.S. Investigator with D. Raz (Technion), “Global Throughput Maximization via Fair Local Resource Allocation,” (Proposal #2000182).

- NSF Faculty Early Career Development Award (\$482,467)** 6/1/01 - 5/31/06
Principal Investigator, "CAREER: Flexible Strategies for Internet Content Distribution," (ANI-0093296).
- NSF Special Projects in Networking Award (\$1,210,768)** 6/1/00 - 5/31/04
Co-Principal Investigator with A. Bestavros and M. Crovella, "Diagnosis and Control of Network Variability at Massively Accessed Servers," (ANI-9986397).
- NSF Advanced Networking Award (\$11,494)** 8/15/99 - 2/15/00
Co-Principal Investigator with A. Bestavros and M. Crovella, "BU/NSF Workshop on Internet Measurement, Instrumentation and Characterization," (ANI-9985484).

TEACHING

- Business Analytics for Data-Driven Decision Making, DI 602X.** Together with Chris Dellarocas and Andrei Lapets, we are introducing a new online course for the BU MicroMasters program on EdX to launch in early 2018].
- Electronic Commerce, CS 591.** Introduced a new graduate/upper-division elective that considers an interdisciplinary approach to studying the novel technological foundations of firms engaging in or facilitating electronic commerce. Students read and discuss papers in computer science, economics and marketing that consider topics including auction and market design, reputation and recommendation systems, and advertising networks. A supervised semester-long, measurement-driven research project of the students' choosing is the capstone of the course.
- Computer Networks, CS 455/655.** Redesigned and modernized the senior-level / introductory graduate-level networking course. Student projects include the design of a reliable, congestion-controlled file transfer protocol on top of UDP, and implementation of a link-state unicast and multicast routing protocol.
- Introduction to Algorithms, CS 330.** I teach our undergraduate majors a rigorous version of the required undergraduate Algorithms course, currently following the Kleinberg-Tardos text.
- Algorithmic Aspects of Computer Networking, CS 591.** Introduced a new graduate course that considers recent and not-so-recent theoretical advances that have had a significant impact on computer networking in the past five years. Students read and discuss papers on both the theory and practical applications of topics such as Bloom filters, consistent hashing, information dispersal, and spectral methods.
- Combinatoric Structures, CS 131.** Updated the introductory course in discrete mathematics for our undergraduate majors. Standard topics include: logic, proof techniques, mathematical induction, recurrences, counting, combinatorics, and some basic probability.
- Introduction to Computer Science II (Data Structures), CS 112.** Updated the second semester of our introductory sequence for majors, covering the material in an introductory data structures course: linear data structures, sorting, searching, trees, and basic graph algorithms.
- A Critical Look at Network Protocols, CS 591.** Introduced a new graduate course that surveys fifty classic papers across computer networking and prepares Ph.D. students both to conduct research in networking and to write their doctoral written exam. Semester-long student projects in both this course and the one listed above have ultimately led to a number of student publications.
- Software Job Skills.** At Hewlett-Packard, I taught a full-time seventeen-week retraining program in Computer Science for engineers who typically had only a small amount of previous software exposure. In this whirlwind tour, we taught (bright and motivated) students the C programming language and data structures in about eight weeks, followed by brief, but in-depth samples of assembly language programming, operating systems, networking, software engineering, and web programming. The class culminated in a two week software engineering project involving all students.

REFEREED JOURNAL PUBLICATIONS

1. G. Zervas, D. Proserpio, and J. W. Byers, "The Rise of the Sharing Economy: Estimating the Impact of Airbnb on the Hotel Industry," Accepted to the Journal of Marketing Research (JMR), November 2016. To appear.
2. D. Naylor, M. Mukerjee, P. Agyapon, R. Grandl, R. Kang, M. Machado, S. Brown, C. Doucette, H.-C. Hsiao, D. Han, T. Kim, H. Lim, C. Ovon, D. Zhou, S. Lee, Y.-H. Lin, C. Stuart, D. Barrett, A. Akella, D. Anderson, J. W. Byers, L. Dabbish, M. Kaminsky, S. Kiesler, J. Peha, A. Perrig, S. Seshan, M. Sirbu, and P. Steenkiste, "XIA: Architecting a More Trustworthy and Evolvable Internet," *ACM SIGCOMM Computer Communication Review (CCR)*, 44(3), pp. 50-57, July 2014.
3. G. Smaragdakis, N. Laoutaris, V. Lekakis, A. Bestavros, J. W. Byers, and M. Rousopoulos. "Selfish Overlay Network Creation and Maintenance," *IEEE/ACM Transactions on Networking* 19(6), pp. 1624-37, December 2011.
4. G. Smaragdakis, N. Laoutaris, P. Michiardi, A. Bestavros, J. W. Byers and M. Rousopoulos. "Distributed Network Formation for n-way Broadcast Applications," *IEEE Transactions on Parallel and Distributed Systems*, 21(10), pp. 1427-41, October 2010.
5. J. Considine, M. Hadjieleftheriou, F. Li, J. W. Byers and G. Kollios, "Robust Approximate Aggregation in Sensor Data Management Systems," *ACM Transactions on Database Systems*, 34(1), pp. 1-35, April 2009.
6. K. Harfoush, A. Bestavros and J. W. Byers, "Measuring Capacity Bandwidth of Targeted Path Segments," *IEEE/ACM Transactions on Networking*, 17(1), pp. 80-92, February 2009.
7. J. W. Byers, G.-I. Kwon, M. Luby and M. Mitzenmacher, "Fine-Grained Layered Multicast using STAIR," *IEEE/ACM Transactions on Networking*, 14(1), pp. 81-93, March 2006.
8. J. W. Byers, J. Considine, G. Itkis, M. C. Cheng and A. Yeung, "Securing Bulk Content Almost for Free," *Computer Communications*, 29(3), Special Issue on Internet Security, pp. 280-290, February 2006.
9. A. Bestavros, J. W. Byers, and K. Harfoush, "Inference and Labeling of Metric-Induced Network Topologies," *IEEE Transactions on Parallel and Distributed Systems*, 16(11), pp. 1053-1065, November 2005.
10. J. W. Byers, J. Considine, M. Mitzenmacher, and S. Rost, "Informed Content Delivery Across Adaptive Overlay Networks," *IEEE/ACM Transactions on Networking*, 12(5), pp. 767-780, October 2004.
11. G.-I. Kwon and J. W. Byers, "Leveraging Single Rate Schemes in Multiple Rate Multicast Congestion Control Design," *IEEE Journal on Selected Areas in Communications, Special Issue on Design, Implementation and Analysis of Communication Protocols*, 22(10), pp. 1975-1986, December 2004.
12. Y. Bartal, J. W. Byers and D. Raz, "Fast, Distributed Approximation Algorithms for Positive Linear Programming with Applications to Flow Control," *SIAM Journal on Computing* 33(6), pp. 1261 - 1279, August 2004.
13. A. Lakhina, J. W. Byers, M. Crovella, and I. Matta, "On the Geographical Location of Internet Resources," *IEEE Journal on Selected Areas in Communications, Special Issue on Internet and WWW Measurement, Mapping and Modeling*, 21(6), pp. 934-948, August 2003.
14. M. Fayed, P. Krapivsky, J. W. Byers, M. Crovella, D. Finkel, and S. Redner, "On the Emergence of Highly Variable Distributions in the Autonomous System Topology," *ACM SIGCOMM Computer Communication Review (CCR)*, 33(2), pp. 41-50, April 2003.
15. J. W. Byers, M. Luby and M. Mitzenmacher, "A Digital Fountain Approach to Asynchronous Reliable Multicast," *IEEE Journal on Selected Areas in Communications, Special Issue on Network Support for Multicast Communications*, 20(8), pp. 1528-1540, October 2002.
16. J. W. Byers, G. Horn, M. Luby, M. Mitzenmacher and W. Shaver, "FLID-DL: Congestion Control for Layered Multicast," *IEEE Journal on Selected Areas in Communications, Special Issue on Network Support for Multicast Communications*, 20(8), pp. 1558-1570, October 2002.

17. S. Rost, J. W. Byers and A. Bestavros, "The Cyclone Server Architecture: Streamlining Delivery of Popular Content," *Computer Communications* 25(4), pp. 403-412, March 2002.
18. M. Adler, J. W. Byers and R. M. Karp, "Parallel Sorting with Limited Bandwidth," *SIAM Journal on Computing* 29(6), pp. 1997-2015, June 2000.
19. A. Medina, I. Matta and J. W. Byers, "On the Origin of Power Laws in Internet Topologies," *ACM SIGCOMM Computer Communication Review (CCR)* 30(2), pp. 18-28, April 2000.

PEER-REVIEWED CONFERENCE PUBLICATIONS (TOP TIER)

20. G. Zervas, D. Proserpio, and J. W. Byers, "The Impact of the Sharing Economy on the Hotel Industry: Evidence from Airbnb's Entry in Texas," Presented at the *16th ACM Conference on Economics and Computation (EC '15)*, Portland, OR, June 2015.
21. M. Machado, C. Doucette and J. W. Byers, "Linux XIA: An Interoperable Meta Network Architecture to Crowdfund the Future Internet," In *Proc. of the 11th ACM/IEEE Symp. on Architectures for Networking and Communications Systems (ANCS '15)*, May 2015, Oakland CA.
22. B. Golshan, J. W. Byers and E. Terzi, "What Do Row and Column Marginals Reveal About Your Dataset?" In *Proc. of 27th Neural Information Processing Systems Conference (NIPS '13)*, Lake Tahoe, NV, December 2013.
23. J. W. Byers, M. Mitzenmacher and G. Zervas, "The Groupon Effect on Yelp Ratings: A Root Cause Analysis," in *Proc. of the 13th ACM Conference on Electronic Commerce (EC '12)*, Valencia, Spain, June 2012.
24. D. Han, A. Anand, F. Dogar, B. Li, H. Lim, M. Machado, A. Mukundan, W. Wu, A. Akella, D. Andersen, J. W. Byers, S. Seshan and P. Steenkiste, "XIA: Efficient Support for Evolvable Internetworking," in *Proc. of 9th USENIX Symposium on Networked Systems Design and Implementation (NSDI)*, San Jose, CA, April 2012.
25. J. W. Byers, M. Mitzenmacher and G. Zervas, "Daily Deals: Prediction, Social Diffusion, and Reputational Ramifications," in *Proc. of the Fifth ACM International Conference on Web Search and Data Mining (WSDM)*, Seattle, WA, February 2012.
26. A. Anand, F. Dogar, D. Han, B. Li, H. Lim, M. Machado, W. Wu, A. Akella, D. Andersen, J. W. Byers, S. Seshan and P. Steenkiste, "XIA: An Architecture for an Evolvable and Trustworthy Internet," in *Proc. of ACM HotNets X*, Cambridge, MA, November 2011.
27. J. W. Byers, M. Mitzenmacher and G. Zervas, "Information Asymmetries in Pay-Per-Bid Auctions," in *Proc. of 11th ACM Conf. on Electronic Commerce (EC '10)*, Cambridge MA, June 2010.
28. J. W. Byers, M. Mitzenmacher and G. Zervas, "Adaptive Weighing Designs for Keyword Value Computation," in *Proc. of the Third ACM International Conference on Web Search and Data Mining (WSDM)*, New York, February 2010.
29. G. Smaragdakis, V. Lekakis, N. Laoutaris, A. Bestavros, J. W. Byers, and M. Roussopoulos, "EGO-IST: Overlay Routing using Selfish Neighbor Selection," in *Proceedings of ACM CoNEXT 2008*, Madrid, December 2008.
30. G. Smaragdakis, N. Laoutaris, P. Michiardi, A. Bestavros, J. W. Byers, and M. Roussopoulos, "Swarming on Optimized Graphs for n-way Broadcast," in *Proceedings of IEEE Infocom 2008, the 27th Annual Joint Conference of the IEEE Computer and Communication Societies*, Phoenix, May 2008.
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