

Nick Feamster

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Paper and Publication Awards

- ACM SIGCOMM Community Award, ACM SIGCOMM Internet Measurement Conference (2013)

Journal Publications

- [1] Nick Feamster, Jennifer Rexford, and Ellen Zegura. The Road to SDN. *ACM Queue*, 11(12):20, December 2013.
- [2] Sam Burnett and Nick Feamster. Making Sense of Internet Censorship: A New Frontier for Internet Measurement. *ACM SIGCOMM Computer Communications Review*, 43(3), July 2013.
- [3] Hyojoon Kim and Nick Feamster. Improving network management with software defined networking. *Communications Magazine, IEEE*, 51(2):114–119, 2013.

Conference Publications

- [4] Hyojoon Kim, Arpit Gupta, Muhammad Shahbaz, Joshua Reich, Nick Feamster, and Russ Clark. Kinetic: Verifiable Dynamic Network Control. In *USENIX Symposium on Networked Systems Design and Implementation (NSDI)*, Oakland, CA, May 2015.
Acceptance rate: 19%
- [5] Marshini Chetty, Hyojoon Kim, Srikanth Sundaresan, Sam Burnett, Nick Feamster, and Keith Edwards. uCap: An Internet Data Management Tool for the Home. In *ACM Conference on Human Factors in Computing Systems (CHI)*, Seoul, Korea, April 2015.
Acceptance rate: 23%
- [6] S. Sundaresan, N. Feamster, and R. Teixeira. Measuring the Performance of User Traffic in Home Wireless Networks. In *Passive and Active Measurement Conference (PAM)*, New York, NY, March 2015.
Acceptance rate: 27%
- [7] Josiah Chavula, Hussein Suleman, and Nick Feamster. Quantifying the Effects of Circuitous Routes on the Latency of Intra-Africa Internet Traffic: A Study of Research and Education Networks. In *6th International Conference on e-Infrastructure and e-Services for Developing Countries (Africomm)*, Kampala, Uganda, November 2014.
- [8] Abhinav Narain, Nick Feamster, and Alex C. Snoeren. Deniable Liaisons. In *SIGSAC Conference on Computer and Communications Security (CCS)*, pages 525–536, 2014.
Acceptance rate: 19%
- [9] Ben Jones, Tzu-Wen Lee, Nick Feamster, and Phillipa Gill. Automated Detection and Fingerprinting of Censorship Block Pages. In *ACM SIGCOMM Internet Measurement Conference (IMC)*, pages 299–304, Vancouver, British Columbia, Canada, October 2014.
Acceptance rate: 22%
- [10] Arpit Gupta, Muhammad Shahbaz, Laurent Vanbever, Hyojoon Kim, Russ Clark, Nick Feamster, Jennifer Rexford, and Scott Shenker. SDX: A Software Defined Internet Exchange. Chicago, IL, 2014.
Acceptance rate: 19%

- [11] Srikanth Sundaresan, Sam Burnett, Nick Feamster, and Walter De Donato. BISmark: A Testbed for Deploying Measurements and Applications in Broadband Access Networks. Philadelphia, PA, June 2014.
Acceptance rate: 15%
- [12] Arpit Gupta, Matt Calder, Nick Feamster, Marshini Chetty, Enrico Calandro, and Ethan Katz-Bassett. Peering at the Internets Frontier: A First Look at ISP Interconnectivity in Africa. In *Proc. Passive and Active Measurement Conference*, Los Angeles, CA, March 2014.
Acceptance rate: 31%
- [13] Xinyu Xing, Wei Meng, Dan Doozan, Nick Feamster, Wenke Lee, and Alex Snoeren. Exposing Inconsistent Web Search Results with Bobble. In *Proc. Passive and Active Measurement Conference*, Los Angeles, CA, March 2014.
Acceptance rate: 31%
- [14] Marshini Chetty, Srikanth Sundaresan, Sachit Muckaden, Nick Feamster, and Enrico Calandro. Measuring Broadband Performance in South Africa. In *4th ACM DEV (Symposium on Computing for Development)*, Cape Town, South Africa, December 2013.
Acceptance rate: 33%
- [15] Yogesh Mundada, Anirudh Ramachandran, and Nick Feamster. SilverLine: Preventing Data Leaks from Cloud-Based Web Applications. In *Annual Computer Security Applications Conference (AC-SAC)*, New Orleans, LA, December 2013.
Acceptance rate: 19%
- [16] Shuang Hao, Matthew Thomas, Vern Paxson, Nick Feamster, Christian Kreibich, Chris Grier, and Scott Hollenbeck. Understanding the domain registration behavior of spammers. In *Proc. ACM SIGCOMM Internet Measurement Conference*, Barcelona, Spain, October 2013.
Acceptance rate: 23%
- [17] Sarthak Grover, Mi Seon Park, Srikanth Sundaresan, Sam Burnett, Hyojoon Kim, and Nick Feamster. Peeking behind the nat: An empirical study of home networks. In *Proc. ACM SIGCOMM Internet Measurement Conference*, Barcelona, Spain, October 2013.
Acceptance rate: 23%
- [18] Srikanth Sundaresan, Nick Feamster, Renata Teixeira, and Nazanin Magharei. Measuring and mitigating web performance bottlenecks in broadband access networks. In *Proc. ACM SIGCOMM Internet Measurement Conference*, Barcelona, Spain, October 2013.
Acceptance rate: 23% **ACM SIGCOMM Community Contribution Award.**
- [19] Xinyu Xing, Wei Ming, Dan Doozan, Alex Snoeren, Nick Feamster, and Wenke Lee. Take this personally: Pollution attacks on personalized services. In *Proc. 22th USENIX Security Symposium*, Washington, DC, August 2013.
Acceptance rate: 16%
- [20] Vytautas Valancius, Bharath Ravi, Nick Feamster, and Alex C Snoeren. Quantifying the benefits of joint content and network routing. In *Proc. ACM SIGMETRICS*, Pittsburgh, PA, June 2013.
Acceptance rate: 11%

Workshop Publications

- [21] Brandon Schlinker, Kyriakos Zarifis, Italo Cunha, Nick Feamster, and Ethan Katz-Bassett. PEERING: An AS for Us. In *SIGCOMM Workshop on Hot Topics in Networks (HotNets)*, Los Angeles, CA, 2014.
- [22] Sean Donovan and Nick Feamster. Intentional Network Monitoring: Finding the Needle without Capturing the Haystack. In *SIGCOMM Workshop on Hot Topics in Networks (HotNets)*, Los Angeles, CA, 2014.

- [23] Ben Jones, Sam Burnett, Nick Feamster, Sathya Gunasekaran, Sean Donovan, Sarthak Grover, Sathya, and Karim Habak. Facade: High-Throughput, Deniable Censorship Circumvention Using Web Search. *USENIX Workshop on Free and Open Communications on the Internet (FOCI)*, page 115, 2014.
- [24] Nick Feamster. Hidden Sources of Internet Latency. In *ISOC Workshop on Reducing Internet Latency*, London, England, September 2013.
- [25] Marshini Chetty, Enrico Calandro, and Nick Feamster. Latency Effects on Broadband Performance in South Africa . In *ISOC Workshop on Reducing Internet Latency*, London, England, September 2013.
- [26] B. Anwer, T. Benson, N. Feamster, D. Levin, and J. Rexford. A Slick Control Plane for Network Middleboxes. In *Open Network Summit*, Santa Clara, CA, April 2013.
Acceptance rate: 23%
- [27] N. Feamster, D. Levin, J. Rexford, S. Shenker, R. Clark, and J. Bailey. SDX: A Software Defined Internet Exchange. In *Open Network Summit*, Santa Clara, CA, April 2013.
Acceptance rate: 23%

Research Proposals and Grants

- [1] **A Software Defined Internet Exchange**
Sponsor: National Science Foundation
Investigator(s): N. Feamster (PI), J. Rexford, S. Shenker
Amount: \$500,000 for 3 years.
Awarded: August 2014
- [2] **Studying and Improving the Performance of Access Networks**
Sponsor: National Science Foundation
Investigator(s): N. Feamster (PI), A. Snoeren
Amount: \$281,364 for 3 years.
Awarded: August 2014
- [3] **EPICA: Empowering People to Overcome Information Controls and Attacks**
Sponsor: National Science Foundation
Investigator(s): W. Lee (PI), N. Feamster, H. Klein, M. Bailey, M. Chetty
Amount: \$750,000 for 4 years.
Awarded: August 2014
- [4] **An Open Platform for Internet Routing Experiments**
Sponsor: National Science Foundation
Investigator(s): N. Feamster, E. Katz-Bassett, D. Choffnes (PI)
Amount: \$361,617 for 3 years.
Awarded: August 2014
- [5] **An Open Observatory for the Internet's Last Mile**
Sponsor: National Science Foundation
Investigator(s): N. Feamster (PI), S. Banerjee, J. Cappos
Amount: \$399,879 for 3 years.
Awarded: June 2014
- [6] **Improving the Performance and Security of Home Networks with Programmable Home Routers**
Sponsor: Comcast
Investigator(s): N. Feamster (PI)
Amount: \$65,000 for 1 year
Awarded: September 2013

[7] **Demand Characterization and Management for Access Networks**

Sponsor: Cisco Systems

Investigator(s): N. Feamster (PI) and R. Johari

Amount: \$99,766 for 1 year

Awarded: April 2013

Seminar Presentations

- [28] Peering at the Internet's Frontier: A First Look at Interconnectivity in Africa. In *Third Global Access to Internet for All (GAIA) Meeting*, San Jose, CA, December 2014.
- [29] SDN Abstractions for Network Management. In *AT&T Software Defined Networking (SDN) Summit*, New York, NY, November 2014.
- [30] Encore: Lightweight Measurement of Censorship With Cross-Origin Requests. In *DC Area Privacy and Security Seminar (DC-APS)*, College Park, MD, November 2014.
- [31] SDX: A Software Defined Internet Exchange. In *Broadband Internet Technical Advisory Group (BITAG)*, Orlando, Florida, October 2014.
- [32] Exposing Inconsistent Web Search Results with Bobble. In *Web Transparency and Privacy Workshop*, Princeton, NJ, November 2014.
- [33] SDN Abstractions for Network Management. In *NSA Laboratory for Telecommunications Sciences Seminar*, College Park, MD, September 2014.
- [34] Achieving Learning Objectives Online: Not All Platforms are Equal! In *Learning with MOOCs: A Practitioner's Workshop*, Cambridge, MA, August 2014.
- [35] Encore: Lightweight Measurement of Censorship With Cross-Origin Requests. In *Citizen Lab Summer Institute*, Toronto, Ontario, Canada, July 2014.
- [36] Implementing Network Policies in SDN: From the Enterprise to the Wide Area. In *Open Networking Users Group*, New York, NY, May 2014.
- [37] Network Management: Big Data to the Rescue. In *Skytree Seminar*, San Jose, CA, April 2014.
- [38] Bots, Bubbles, and Bottlenecks: Safeguarding the User's Internet Experience. In *Princeton University Computer Science Department Colloquium*, Princeton, NJ, April 2014.
- [39] Programming Software Defined Networks. In *Software Defined Networking Group - Baltimore/Washington*, Washington, DC, April 2014.
- [40] WTF? Locating Performance Problems in Home Networks. In *CAIDA AIMS 2014: Workshop on Active Internet Measurements*, San Diego, CA, March 2014.
- [41] SilverLine: Preventing Data Leaks from Compromised Web Applications). In *DIMACS Workshop on Secure Cloud Computing*, New Brunswick, NJ, March 2014.
- [42] Defending Against Internet Censorship and Control, from Firewalls to Filter Bubbles. In *Columbia University Computer Science Department Colloquium*, New York, NY, December 2013.
- [43] SDX: A Software Defined Internet Exchange. In *NITRD Program Review*, Washington, DC, December 2013.
- [44] A Retrospective on Networking Research Revolutions (and How to Start Your Own). In *CoNext Student Workshop Keynote Presentation*, Santa Barbara, CA, December 2013.
- [45] Defending Against Internet Censorship and Control, from Firewalls to Filter Bubbles. In *Princeton University Computer Science Department Colloquium*, Princeton, NJ, November 2013.

- [46] SDN Abstractions for Network Management. In *Global Future Internet Summit*, Seoul, Korea, October 2013.
- [47] Censorship Resilience: Current Research Challenges and Future Directions. In *ETH Zurich Information Security and Privacy Center. Workshop on Securing Future Communication Networks Against Emerging Threats*, Zurich, Switzerland, October 2013.
- [48] Software Defined Networking. In *Juniper SDN Summit*, Atlanta, GA, October 2013.
- [49] Software Defined Networking. In *Cisco Software Defined Infrastructure (SDI) Summit*, Santa Clara, CA, August 2013.
- [50] A ReMOOCable Experience: Teaching Networking to the Masses. In *University of Cape Town Department Colloquium*, Cape Town, South Africa, July 2013.
- [51] Measuring Broadband Performance in South Africa. In *African Network Operators Group*, Lusaka, Zambia, June 2013.
- [52] The Battle for Control of Online Communications. In *Georgetown Computer Science Colloquium*, Washington, DC, April 2013.
- [53] SDX: A Software Defined Internet Exchange. In *Open Network Summit*, Santa Clara, CA, April 2013.
- [54] Broadband Internet Performance: A View from the Gateway. In *National Academy of Engineering Cybersecurity Symposium*, Atlanta, GA, March 2013.
- [55] SDX: A Software Defined Internet Exchange. In *IRTF Software Defined Networking Research Group*, Orlando, Florida, March 2013.
- [56] The Battle for Control of Online Communications. In *UC Berkeley TRUST Seminar*, Berkeley, CA, March 2013.
- [57] Exposing Inconsistent Web Search Results with Bobble. In *CAIDA Active Internet Measurement Systems (AIMS) Workshop*, San Diego, CA, February 2013.

Department and University Service

(All service listed below was at Georgia Tech, where I was on the faculty through December 2014.)

Department and University Committees

- Faculty Recruiting Committee (2013)
- Online Masters in Computer Science – Founding Committee (2013–2014)
- Ph.D. Curriculum Committee (2013–2014)
- Organizer for Ph.D. Student Visit Day (2013)

Informal Outreach

- Serving on the Broadband Internet Technical Advisory Group (BITAG). Published a technical report on interconnection and peering that was presented to the Federal Communications Commission (FCC) and several congressional committees. (Fall 2014)
- Founded and maintain a research advice blog, <http://greatresearch.org/>, that receives thousands of reads every month. (Fall 2013–Present)
- Serving as a host institution for the Open Technology Fund’s (OTF) Information Controls Fellowship Program. (Fall 2014–Present)
- Obtained ethics/responsible conduct of research (RCR) certification for the “Intro to the Ph.D.” course, which I designed and have taught for about eight years. (Fall 2013)

- Informally advising a student at University of Cape Town, Josiah Chavula, on networking research. (Summer 2014–Present)
- Hosted a “meetup group” on Software Defined Networking at Georgia Tech for presentations and discussions of SDN technologies in the Atlanta area. (September 2014)
- Panelist in School of Computer Science on academic job search advice (Fall 2014).
- Meeting with prospective undergraduates to discuss the undergraduate CS program at Georgia Tech. (March 2014)
- Gave talks on Massive Open Online Courses (MOOCs) and Georgia Tech’s Online MS CS program (OMS CS) at various universities, including MIT and the University of Cape Town. (Summer 2014)
- Speaker at Undergraduate Research Opportunity Program symposium (Fall 2013, Fall 2014).