

**Jennifer Rexford**  
Princeton University  
3 Nassau Hall, Princeton, NJ 08542  
<http://www.cs.princeton.edu/~jrex>

## Education

UNIVERSITY OF MICHIGAN, COMPUTER SCIENCE & ENGINEERING, 1991–96      Ann Arbor, MI  
MSE 1993, PhD Summer 1996 (GPA: 8.4/8.0, 9=A+, 8=A, . . .)  
Thesis: Tailoring router architectures to performance requirements in cut-through networks  
Advisor: Professor Kang G. Shin (kgshin@eecs.umich.edu)

PRINCETON UNIVERSITY, ELECTRICAL ENGINEERING, 1987–91      Princeton, NJ  
BSE 1991, with highest honors (GPA: 4.0/4.0)  
Advisor: Professor Niraj Jha (jha@ee.princeton.edu)

## Work experience

PRINCETON UNIVERSITY, COMPUTER SCIENCE DEPARTMENT, FEB 2005–      Princeton, NJ  
Full professor in the computer science department, conducting research in the field of data networking. Affiliated faculty in electrical engineering (May 2006–), the Center for Information Technology Policy (February 2008–), the Princeton Environmental Institute (March 2011–), the Princeton Institute for Computational Science and Engineering (September 2014–), Operations Research and Financial Engineering (February 2022–). Gordon Y. S. Wu Professor in Engineering (July 2012–). Acting department chair (fall 2013), department chair (July 2015–2023), provost (2023–).

AT&T RESEARCH, INTERNET AND NETWORKING SYSTEMS, 1996–2004      Florham Park, NJ  
Technology Leader in the IP Network Management and Performance department. Created techniques for monitoring, traffic engineering, and router configuration deployed in AT&T's backbone networks.

AT&T BELL LABORATORIES, NETWORK SERVICES RESEARCH LAB., JUNE & OCT 1995

AT&T BELL LABORATORIES, MATHEMATICS CENTER, SUMMER 1994      Murray Hill, NJ  
Design and evaluation of efficient hardware architectures for traffic shaping and link scheduling in high-speed ATM (asynchronous transfer mode) networks.

AT&T BELL LABORATORIES, MATHEMATICS CENTER, SUMMER 1991      Murray Hill, NJ  
Development of parallel algorithms for evaluating routing algorithms in circuit-switched networks, with implementation on the MasPar MP-1.

PRINCETON UNIVERSITY, ELECTRICAL ENGINEERING DEPT., FALL 1990      Princeton, NJ  
Teaching assistant for "Computer Structure" (EE317).

AT&T BELL LABORATORIES, MATHEMATICS CENTER, SUMMER 1990      Murray Hill, NJ  
Creation of a quadruple precision floating-point library in C++.

NAVAL RESEARCH LABORATORY, PLASMA PHYSICS LAB., SUMMER 1989      Washington, D.C.  
Design of FORTRAN computer simulations for the VAX and Cray XMP.

## Recognition and honors

- SIGCOMM "Test of Time" Award for "P4: Programming Protocol-Independent Packet Processors" (2024)

- IEEE Alexander Graham Bell Medal (May 2024)
- NSDI'23 Community Award for "Building flexible, low-cost wireless access networks with Magma" (April 2023)
- Runner-up for the Caspar Bowden PET Award for "Experiences Deploying Multi-Vantage-Point Domain Validation at Let's Encrypt" (2022)
- Most Influential Paper of ICFP11 Award for "Frenetic: A Network Programming Language" (2021)
- Runner-up for the Caspar Bowen Award for Outstanding Research in Privacy Enhancing Technologies for "Bamboozling certificate authorities with BGP" (2020)
- National Academy of Sciences (2020)
- SOSR'20 Best Paper Award for "Tracking P4 program execution in the data plane" (2020)
- CRA-E Undergraduate Research Faculty Mentoring Award (2019)
- IEEE Internet Award (2019)
- ACM SIGCOMM Award for Lifetime Contributions (2018)
- Applied Networking Research Prize for "Performance Characterization of a Commercial Video Streaming Service" (2018)
- IEEE Fellow (2018)
- National Academy of Inventors (2017)
- SOSR'17 Best Paper Award for "Concise encoding of flow attributes in SDN switches" (2017)
- NCWIT Harrold and Notkin Research and Graduate Mentoring Award (2017)
- ACM Athena Lecturer Award (2016)
- SOSR'16 Best Paper Award for "CacheFlow: Dependency-aware rule-caching for software-defined networks" (2016)
- Applied Networking Research Prize for "Central control over distributed routing" (2015)
- NSDI'16 Community Award for "An industrial-scale software defined Internet exchange point" (2016)
- N2Women list of "10 Women You Should Know In Networking and Communications" (2015)
- SIGCOMM "Best Paper" Award for "Central control over distributed routing" (2015)
- SIGCOMM "Test of Time" Award for "A clean slate 4D approach to network control and management" (2015)
- NSDI "Test of Time Award" for "Design and implementation of a Routing Control Platform" (2015)
- Applied Networking Research Prize for "Distributed route aggregation on the global network" (selected 2014, presented at IETF-93 in July 2015)
- National Academy of Engineering, elected member (2014)
- GigaOM list of "Ten Cloud Trailblazers" (2013)
- American Academy of Arts & Sciences, elected member (2013)
- NSDI'13 Community Award, for "Composing software-defined networks" (2013)
- NSDI'12 Community Award, honorable mention, for "Serval: An end-host stack for service-centric networking" (2012)
- SIGMETRICS "Test of Time" award (2011)
- SIGMETRICS "Best Student Paper" award (2011)
- Princeton Graduate Mentoring Award (2011)
- ACM Fellow (2008)
- Princeton Engineering commendation list for outstanding teaching (COS 461 spring 2006, COS 461 spring 2008, COS 217 spring 2008)
- ACM Grace Murray Hopper Award for outstanding young computer professional of the year (2005)
- University of Michigan Recent Engineering Graduate Award (2005)
- MIT Technology Review TR-100 list of the top 100 innovators under the age of 35 (2004)
- Senior Member of the IEEE (2001)
- INFOCOM distinguished program committee member (2000)

- Intel Foundation graduate fellowship (1995–1996)
- Distinguished Achievement Commendation for U. Michigan CSE graduate student (1995)
- Rackham graduate fellowship for U. Michigan graduate students (1994–1995)
- Co-author of publication chosen as “best paper” in *Proc. Performance* (1993)
- Office of Naval Research graduate fellowship (1991–1994)
- National Science Foundation graduate fellowship, awarded (1991)
- AT&T Graduate Research Program for Women grant (1991–1996)
- Pyne Honor Prize for outstanding Princeton University senior (1991)
- James Hayes-Edgar Palmer Prize in Engineering graduation award (1991)
- Computer Engineering Excellence graduation award (1991)
- Phi Beta Kappa, Tau Beta Pi, and Sigma Xi

### **Keynote, plenary, and distinguished lectures**

- Keynote talk (virtual) at N2Women workshop (August 2021)
- Distinguished Lecture (virtual) on “Networks Capable of Change” at Duke (April 2021)
- Distinguished Lecture (virtual) on “Networks Capable of Change” at Case Western Reserve University (March 2021)
- Distinguished Lecture (virtual) on “Networks Capable of Change” at University of Delaware (February 2021)
- Distinguished Lecture (virtual) on “Networks Capable of Change” at University of Washington (January 2021)
- Distinguished Lecture (virtual) on “Securing Internet Applications from Routing Attacks” at USC (November 2020)
- Distinguished Lecture (virtual) on “Networks Capable of Change” at University of Michigan (November 2020)
- Distinguished Lecture (virtual) on “Securing Internet Applications from Routing Attacks” at Pomona College (October 2020)
- Distinguished Lecture (virtual) on “Toward Self-Driving Networks” at Technische Universitat Darmstadt (October 2020)
- Keynote talk (virtual) on “Securing Internet Applications from Routing Attacks” at ACM SIGCOMM Workshop on Traffic Manipulation (August 2020)
- Keynote talk (virtual) on “In-Network Traffic Obfuscation” at ACM SIGCOMM Workshop on Secure Programmable Network Infrastructure (August 2020)
- Keynote talk (virtual) on “Networks Capable of Change” at IEEE International Conference on High Performance Switching and Routing (May 2020)
- Distinguished lecture at Instituto Superior Tecnico in Lisbon (June 2019)
- IEEE Internet Award keynote talk at IEEE INFOCOM’19 (April 2019)
- Future Forum keynote talk in Beijing (November 2018)

- Distinguished lecture at Brown University (September 2018)
- ACM SIGCOMM Award keynote talk at SIGCOMM'18 (August 2018)
- ACM Athena Lecturer talk at Microsoft (November 2017)
- ACM Athena Lecturer keynote talk at Grace Hopper Celebration of Women in Computing (October 2017)
- ACM Athena Lecturer keynote talk at SIGCOMM'17 (August 2017)
- "Programming Abstractions for Software-Defined Networks," Mary Jean Harrold Memorial Lecture, Georgia Tech (November 2015)
- "Putting the 'Inter' in 'Internet'," distinguished lecture, University of Pennsylvania (November 2014)
- "Enabling Innovation Inside the Network," distinguished lecture, Texas A&M (April 2014)
- "Enabling Innovation Inside the Network," distinguished lecture, University of Minnesota (February 2014)
- "Enabling Innovation Inside the Network," distinguished lecture, Columbia University (October 2013)
- "Enabling Innovation Inside the Network," distinguished lecture, University of Delaware (March 2013)
- "Enabling Innovation Inside the Network," distinguished lecture, University of Maryland (December 2012)
- "Enabling Innovation Inside the Network," distinguished lecture, Boston University (February 2012)
- "Enabling Innovation Inside the Network," distinguished lecture, University of Illinois at Urbana-Champaign (February 2012)
- "Programming Languages for Programmable Networks," Principles of Programming Languages (January 2012)
- "The Networking Philosopher's Problem," CoNext Student Workshop, November 2010
- "'Hashing Out' the Future of Enterprise and Data Center Networks," Distinguished Lecture, Rutgers Electrical and Computer Engineering Department, December 2009
- "Stable Internet Routing Without Global Coordination," Computer Science and Economics Day, New York Academy of Sciences, November 2009
- "VROOM: Virtual ROuters On the Move," Juniper Distinguished Speaker Series, October 2008.
- "Rethinking Internet Traffic Management Using Optimization Theory," University of Toronto Networking Seminar, September 2008.
- "Building a Strong Foundation for a Future Internet," Invited Lecture, ACM Symposium on Theory of Computing, May 2008.

- “Building a Strong Foundation for a Future Internet,” Distinguished Lecture, National Science Foundation, May 2008.
- “Rethinking Internet Traffic Management Using Optimization Theory,” Computer Science and Engineering Colloquium, University of Washington, January 2008.
- “VINI: Virtual Network Infrastructure,” Invited Talk, CoNext Student Workshop, December 2007.
- “VINI: Virtual Network Infrastructure,” Invited Talk, Grace Hopper Celebration of Women in Computing, October 2007.
- “VINI: Virtual Network Infrastructure,” Distinguished Lecture, Cornell University, September 2007.
- “VINI: Virtual Network Infrastructure,” Distinguished Seminar, Northwestern University, electrical engineering and computer science department, May 2007.
- “VINI: Virtual Network Infrastructure,” Cray Lecture Series, University of Minnesota, computer science department, April 2007.
- “GENI: Global Environment for Network Innovations,” Overlay Network Symposium in Tokyo, Japan, December 2006.
- “Stable Internet Routing Without Global Coordination,” Distinguished Lecture, Purdue University, computer science department, September 2006.
- “GENI: Global Environment for Network Innovations,” keynote talk, EuroNGI and ITG Workshop on “Visions of Future Generation Networks,” July/August 2006.
- “Stable Internet Routing Without Global Coordination,” Distinguished Lecture, Carnegie Mellon University school of computer science, February 2006.
- “Economic Incentives in Interdomain Routing,” invited talk, ACM Conference on Electronic Commerce, June 2005.

### **Professional leadership**

- FABRIC testbed Scientific Advisory Committee (2019–2022)
- Editorial Board of the Proceedings of the National Academy of Sciences (2021–2022)
- Computing Community Consortium (2014–2020), executive committee (2016–2018)
- P4 Consortium Board of Directors (2015–2019) and Technical Steering Team (2019–2020)
- ACM SIGCOMM Committee to Aid REporting on discrimination and haraSsment (2018–2022)
- Open Networking Foundation, Board (2014–2017)
- Open Networking Foundation, Technical Advisory Group (2013–2016)
- ACM Queue, Board member (2013–2014)
- IEEE/ACM Transactions on Networking, Editor-at-Large (2013–2022)
- Member, Open Internet Advisory Committee of the FCC, and chair of the Mobile Broadband working group (2012–2014)
- Co-chair, FCC Working Group on Secure Interdomain Routing (2011–2013)
- Defense Science Study Group (2010–2011)
- NSF CISE Advisory Committee (2009–2013), co-chair (2011–2014)
- *Communications of the ACM* Editorial Board (2009–2010)
- GENI/NetSE Science Council (2007–present)

- Steering committee of *IEEE/ACM Transactions on Networking* (2008-2009)
- Academic Quality Assessment Review for UMass-Amherst Computer Science department (2007)
- Co-organizer of DIMACS Special Focus on Algorithmic Foundations of the Internet (2007-2010)
- Networking and Information Technology Technical Advisory Group for the President's Council of Advisors on Science and Technology (2006–2007)
- Computing Research Association board of directors (2005–2008)
- NSF GENI planning group and backbone working group (2005–2007)
- ACM Council (2004–2006, 2007–2008)
- Chair of ACM SIGCOMM (2003–2007)
- DARPA Information Science and Technology Study Group (2003–2006)
- ACM Membership Services Board (2004)
- ACM SIGMETRICS Board of Directors (2003–2005)
- ACM SIGCOMM Technical Advisory Committee (2002–2003, 2010–2013)
- NRC committee on “The Internet Under Crisis Conditions: Learning from September 11” (2002)
- Editorial board of *IEEE/ACM Transactions on Networking* (2000–2004)
- Co-editor of *IEEE Journal on Selected Areas in Communications* issue on “Internet Proxy Services” (2001/2002)
- Advisory council for Electrical Engineering department at Princeton University (2002–2004)

### **Awards Committees**

- ACM SIGCOMM Test of Time Award Committee (2022, 2021, 2016, 2012, 2008)
- ACM Prize in Computing Committee (2020–2024)
- IEEE Founders Medal Selection Committee (2020–2022)
- Marconi Prize Selection Advisory Committee (2018–2022)
- NCWIT Harrold and Notkin Research and Graduate Mentoring Award Selection Committee (2017–2022)
- Sloan Foundation Computer Science Committee (2017–2022)
- IEEE Kobayashi Computers and Communications Award Selection Committee (2016–2019)
- National Academy of Engineering Computer Science Peer Committee (2016–2018)
- VMware Software Systems Award Committee (2016–2021)
- ACM Distinguished Member Selection Committee (2015-2017)
- Anita Borg Institute Technical Leadership Award Committee (2011-2014)
- ACM SIGMETRICS Rising Star Award Committee (2013)
- IEEE INFOCOM Award Committee (2009, 2007)
- ACM Grace Murray Hopper Award Committee (2006-2009)
- CRA Distinguished Service Award Committee (2005)

### **Technical Advisory Boards**

- INSAIT (Institute for Computer Science and Artificial Intelligence and Technology) advisory board (2022–2023)
- Microsoft Research India technical advisory board (2021–2022)
- Barefoot Networks (2015–2019), acquired by Intel
- Waltz/Mode (2015–)
- Gencore/Netsil Systems (2013–2018), acquired by Nutanix
- Deutsche Telekom Laboratories Advisory Board (2007–2011)
- Pollere TMOS Technical Advisory Group (2006–2009)
- AlterPoint Technical Advisory Board (2006–2009)
- Arbor Networks Technical Advisory Board (2003–2010), now part of NetScout Systems

- MentorNet Advisory board (1999–2003)

### **Conference committees**

- General co-chair for the ACM SIGCOMM Asia-Pacific Workshop on Networking (2019)
- Program committee co-chair for ACM SIGCOMM Workshop on Self-Driving Networks (2018)
- Program committee co-chair for Symposium on SDN Research (2015)
- Steering committee for Workshop on Hot Topics in Software Defined Networks (2012–2013)
- Program committee co-chair for Hot Topics in Software Defined Networks (2012)
- Steering committee for Workshop on Cellular Networks (2012–)
- Steering committee for Networked Systems Design and Implementation (2009–2016)
- Area program committee chair for ICNP (2009)
- Program committee co-chair for NSDI (2009)
- Program committee co-chair for Asian Internet Engineering Conference (2008)
- Program committee co-chair of ACM SIGCOMM Workshop on Programmable Routers for the Extensible Services of Tomorrow (2008)
- Steering committee for CoNext (2005–2007)
- Program committee co-chair for ACM SIGCOMM (2004)
- Program committee co-chair for ACM SIGMETRICS (2003)
- Co-organizer of Workshop on Internet Routing Evolution and Design (2003)
- Steering committee of the Internet Measurement Workshop (2001–2003)
- International vice-chair for the Americas for IEEE INFOCOM (2001)
- Co-organizer of DIMACS workshop on multimedia streaming (2000)
- Financial co-chair for IEEE INFOCOM (1999)
- Program committee member for

- 2023 USENIX Symposium on Networked Systems Design and Implementation, Free and Open Communications on the Internet
- 2021 USENIX Symposium on Networked Systems Design and Implementation, ACM SIGCOMM
- 2018 ACM SIGCOMM Workshop on In-Network Computing
- 2017 SIGCOMM Workshop on Hot Topics in Networking
- 2014 USENIX Symposium on Networked Systems Design and Implementation
- 2013 SIGCOMM Workshop on Hot Topics in Software Defined Networks, Workshop on Rigorous Protocol Engineering, ACM SIGCOMM Workshop on Hot Topics in Middleboxes and Network Function Virtualization
- 2012 SIGCOMM Workshop on Cellular Networks, Hot Topics in Security, Free and Open Communication on the Internet, Asian Internet Engineering Conference
- 2011 SIGCOMM Workshop on Hot Topics in Networking, Latin America Networking Conference, Workshop on Rigorous Protocol Engineering, USENIX Workshop on Free and Open Communications on the Internet
- 2010 USENIX Symposium on Networked Systems Design and Implementation, ACM SIGCOMM, VISA, Workshop on Network Embedded Management and Applications
- 2009 COMSNETS, ACM SIGCOMM, WREN, VISA, PRESTO
- 2008 Passive and Active Measurement Conference
- 2007 Latin America Networking Conference, ACM SIGCOMM, Internet Network Management Workshop
- 2006: USENIX Symposium on Networked Systems Design and Implementation, ACM SIGCOMM, North American Network Operators Group
- 2005: ACM SIGCOMM MineNet Workshop, Latin America Networking Conference, Internet Measurement Conference, SIGCOMM Workshop on Hot Topics in Networking
- 2004: USENIX Symposium on Networked Systems Design and Implementation
- 2003: IEEE International Conference on Network Protocols, ACM SIGCOMM Workshop on Models, Methods, and Tools for Reproducible Network Research
- 2002: ACM SIGMETRICS, ACM SIGCOMM, ITC Specialist Seminar on Internet Traffic Engineering and Traffic Management, International Conference on Dependable Systems and Networks
- 2001: ACM SIGMETRICS, ACM SIGCOMM
- 2000: ACM SIGMETRICS, IEEE INFOCOM, IEEE Global Internet Symposium, SPIE/ACM Conference on Multimedia Computing and Networking, Real-Time Applications Symposium
- 1999: Workshop on Internet Applications, International Conference on Distributed Computing Systems, SPIE/ACM Conference on Multimedia Computing and Networking
- 1998: IEEE INFOCOM, Real-Time Systems Symposium, International Conference on Parallel Processing

### **PhD student graduates**

- Mengying Pan (PhD August 2025) on “Verifiable Traffic Control with Compact Data Structures in the Data Plane,” joined Databricks in August 2025
- Yufei Zheng (PhD August 2024) on “Compact Algorithms for Measuring Network Performance,” joined University of Massachusetts at Amherst as a postdoc in September 2024
- Mary Hogan (PhD May 2024) on “Language Expressiveness Under Extreme Scarcity in Programmable

Data Planes,” joined Oberlin College as an assistant professor in summer 2024

- Xiaoqi Chen (PhD October 2023) on “Designing Compact Data Structures for Network Measurement and Control,” joined VMware Research as a postdoc, joining Purdue University as an assistant professor in fall 2024

- Jennifer Gossels (PhD April 2020) on “Joint Optimization for Robust Network Design and Operation,” joined Chicago Cubs as an analyst

- Mina Tahmasbi Arashloo (PhD June 2019) on “Stateful Programming of High-Speed Network Hardware,” joined Cornell on a Presidential Postdoctoral Fellowship, joined University of Waterloo as an assistant professor in summer 2022

- Robert Harrison (PhD June 2019) on “Scalable, Network-Wide Telemetry with Programmable Switches,” joined West Point as assistant professor, now an associate professor at West Point

- Mojgan Ghasemi (PhD September 2017) on “Data-Driven Management of CDN Performance,” joined Akamai summer 2017, joined Google 2020

- Naga Katta (PhD October 2016) on “Building Efficient and Reliable Software-Defined Networks,” joined Salesforce in November 2016, joined Magnit Global in April 2023

- Xin Jin (PhD June 2016) on “Dynamic Control of Software-Defined Networks,” started postdoc at UC Berkeley in July 2016 before joining Johns Hopkins University as an assistant professor in fall 2017, and becoming an associate professor at Peking University in 2021

- Srinivas Narayana (PhD May 2016) on “Declarative Network Path Queries”, started postdoc at MIT in July 2016 before joining Rutgers as an assistant professor in fall 2018

- Nanxi Kang (PhD December 2015) on “Flexible Enterprise Network Management on Commodity Switches,” started at Databricks in February 2016

- Peng Sun (PhD May 2015), on “Integrating Network Management for Cloud Computing Services,” started at VMware in summer 2015 and joined Facebook in 2016

- Wenjie Joe Jiang (PhD February 2012, co-advised with Mung Chiang), on “Wide-Area Traffic Management for Cloud Services,” started at Google in February 2012

- Eric Keller (PhD August 2011), on “Refactoring Router Software to Minimize Disruption”, started post-doc at UPenn in September 2011 before joining University of Colorado as an assistant professor in summer 2012, now an associate professor at University of Colorado

- Yaping Zhu (PhD August 2011), on “Minimizing Wide-Area Performance Disruptions in Interdomain Routing,” started at Google in October 2011

- Minlan Yu (PhD August 2011) on “Scalable Management of Enterprise and Data-Center Networks,” started one-year post-doc at UC Berkeley in August 2011 before joining USC as an assistant professor in summer 2012, then joined Yale University as an assistant professor in fall 2016, and then joined Harvard as an associate professor in January 2018, now a tenured associate professor at Harvard

- Martin Suchara (PhD summer 2011), on “Reliable Internet Routing,” joined UC Berkeley as a post-doctoral researcher in July 2011, joined IBM Research as a Post-doctoral Scholar in 2013, then joined

AT&T Labs in 2015, then joined Argonne National Laboratory in 2018, and then joined Amazon Web Services in 2022

- Wen Xu (PhD summer 2009), on “MIRO: Multi-path Interdomain ROuting,” joined Google in July 2006

- Sharon Goldberg (PhD summer 2009, co-advised with Boaz Barak), on “Towards Securing Interdomain Routing on the Internet,” started one-year post-doc at Microsoft Research in August 2009, before joining Boston University as an assistant professor in August 2010, before promotion to associate professor (with tenure) in April 2015

- Haakon Ringberg (PhD summer 2009), on “Privacy-Preserving Collaborative Network Anomaly Detection,” joined Google NYC in August 2009

- Elliott Karpilovsky (PhD summer 2009), on “Reducing Memory Requirements for Routing Protocols,” joined Google in fall 2009

- Changhoon Kim (PhD summer 2009), on “Scalable and Efficient Self-Configuring Networks,” joined Microsoft Azure group in July 2009, joined Barefoot Networks in April 2014 (acquired by Intel in 2019), and joined MOLOCO in March 2021

- Yi Wang (PhD spring 2009), on “A Principled Approach to Managing Routing in Large ISP Networks,” joined Google in July 2009, joined AdChina in April 2011, and founded start-up company Liu Li Shuo in September 2012

- Jiayue He (PhD spring 2008, co-advised with Mung Chiang), on “Rethinking Traffic Management: Design of Optimizable Networks,” joined McKinsey in August 2008, then joined ezHome

### **MSE student graduates**

- Mengying Pan (MSE June 2020) on “Memory-Efficient Membership Encoding in Switches,” started PhD program at Princeton in summer 2020

- Suriya Kodeswaran (MSE June 2020) on “Tracking P4 Program Execution in the Data Plane”

- Ross Teixeira (MSE June 2019) on “SwitchScope: A View from the Inside,” started PhD program at Princeton in fall 2019, joined The Markup as an investigative data journalist in fall 2023

- Qizhe Cai (MSE June 2018) on “Network-Wide Heavy-Hitter Detection for Real-Time Telemetry,” started PhD program at Cornell in fall 2018

- Sophie Qiu (MSE June 2017) on “Streaming Data Visualization for Network Security,” started PhD program at CMU in fall 2017

- Robert MacDavid (MSE June 2016), started PhD program at Princeton in summer 2016

- Xuan Kelvin Zou (MA June 2015), started at Microsoft Azure in fall 2015, now working at ByteDance

- Michael Kranch (MSE May 2015), on “Upgrading HTTPS Mid-Air: An Empirical Study of Strict Transport Security and Public Key Pinning”

- Dushyant Arora (MSE May 2013), on “Proactive Routing in Scalable Data Centers with PARIS,” joined Arista Networks, fall 2013

- Jacopo Cesareo (MSE May 2012), on “Optimizing Implicit Proxy Placement to Evade Traffic Filters,” joined Arista Networks, fall 2012
- Dmitry Drutskoy (MSE May 2012), on “Software-Defined Network Virtualization with FlowN,” joined Elysium Digital in summer 2012
- Robert Harrison (MSE May 2011, co-advised with David Walker), on “Frenetic: A Network Programming Language,” joined the U.S. Military Academy (West Point) as an instructor in June 2011
- Richard Wang (MSE May 2011), on “OpenFlow-based Load Balancing Gone Wild,” joined Carnegie Mellon University as a PhD student in fall 2011

### University service

- Provost (2023–present)
- Chair of Computer Science department (2015–2023)
- Infrastructure Master Plan Advisory Group (2015)
- Princeton Entrepreneurship Council (2015–2018)
- Faculty Advisory Committee on Diversity (2015–2021)
- School of Engineering Self-Study Committee (2014–2015)
- Princeton Entrepreneurship Advisory Committee (2014–2015)
- Advisory Committee on Appointments and Advancements (2013–2014 academic year)
- Search committee for the director of the Genomics Institute (2013–2014 academic year)
- Acting chair of Computer Science (summer and fall 2013)
- CIO Search Committee (2012)
- Honorary Degrees Committee (2011–2014)
- Faculty Advisor, Princeton Women in Computer Science undergraduate group (2010–present)
- Undergraduate Academic Advisor, AB program, Forbes College (2010–2012)
- Committee on the President’s Award for Distinguished Teaching (2010)
- Director of Graduate Studies, Computer Science Department (2009–present)
- Committee on the Future of Climate and Environmental Sciences at Princeton (2008–2009)
- Committee on Grading (2008–2011)
- Diversity Council (2008–2009)
- Target of Opportunity committee (2007–2008)
- Engineering School diversity committee (2005–), chair (fall 2007–2009)
- Engineering/Math/Physics integrated course for first-year engineering students (2005–2009), director (fall 2008–spring 2011)
- Engineering School dean search committee (spring 2006)
- Advisor for first-year engineering students (2005–2006 and 2007–2008 academic years)

**Books** Pamela Zave and Jennifer Rexford, *The Real Internet Architecture: Past, Present, and Future Evolution*, Princeton University Press, August 2024.

Balachander Krishnamurthy and Jennifer Rexford, *Web Protocols and Practice: HTTP/1.1, Networking Protocols, Caching, and Traffic Measurement*, Addison-Wesley, May 2001.

Yvonne Ng and Jennifer Rexford, editors, *She’s an Engineer? Princeton Alumnae Reflect*, Princeton University, 1993.

### Book chapters

Pamela Zave and Jennifer Rexford, “The design space of network mobility,” in *SIGCOMM eBook on Recent Advances in Networking*, Volume 1, 2013.

Jiayue He, Jennifer Rexford, and Mung Chiang, “Design for optimizability: Traffic management of a future Internet,” chapter in *Algorithms for Next Generation Architectures*, Springer, March 2010.

Jennifer Rexford, “Route optimization in IP networks,” chapter in *Handbook of Optimization in Telecommunications*, Springer Science and Business Media, February 2006.

Matthias Grossglauser and Jennifer Rexford, “Passive traffic measurement for IP operations,” pp. 91–120, *The Internet as a Large-Scale Complex System*, Oxford University Press, 2005.

## **Tutorials**

Presented tutorial on “Internet Routing” at Microsoft Research India Summer School on Networking (June 2009).

Co-presented full-day tutorial on “Traffic Measurement for IP Operations” at ACM SIGCOMM’01 (August 2001) and KRNETH’03 (June 2003), and half-day tutorials at IPAM (March 2002), INFOCOM’02 (June 2002), and the IMA (January 2004).

Co-presented full-day tutorial on “Web Protocols and Workloads” at ACM SIGCOMM’99 (September 1999) and WWW’00 (May 2000).

## **Journal papers and magazine articles**

Shir Landau-Feibish, Zaoxing Liu, and Jennifer Rexford, “Compact data structures for network telemetry,” in *ACM Computing Surveys*, volume 57, number 8, August 2025.

Mary Hogan, Devon Loehr, John Sonchack, Shir Landau Feibish, Jennifer Rexford, and David Walker, “Automated optimization of parameterized data-plane programs with Parasol,” in *IEEE/ACM Transaction on Networking*, volume 33, number 2, April 2025.

Robert MacDavid, Xiaoqi Chen, and Jennifer Rexford, “Scalable real-time bandwidth fairness in switches,” in *IEEE/ACM Transactions on Networking*, volume 32, number 2, April 2024.

Ori Rottenstreich, Ariel Kulik, Ananya Joshi, Jennifer Rexford, Gabor Retvari, and Daniel S. Menasche, “Data Plane Cooperative Caching with Dependencies,” in *IEEE Transactions on Network and Service Management*, September 2022.

Yixin Sun, Maria Apostolaki, Henry Birge-Lee, Laurent Vanbever, Jennifer Rexford, Mung Chiang, and Prateek Mittal, “Securing Internet applications from routing attacks,” in *Communications of the ACM*, June 2021.

Pamela Zave, Fabricio Barbosa Carvalho, Ronaldo Alves Ferreira, Jennifer Rexford, Masaharu Morimoto, and Kelvin Xuan, “A verified session protocol for dynamic service chaining,” in *IEEE/ACM Transactions on Networking*, volume 29, number 1, February 2021.

Pamela Zave and Jennifer Rexford, “Patterns and interactions in network security,” *ACM Computing Surveys*, volume 53, number 6, December 2020.

Muhammad Shahbaz, Lalith Suresh, Jennifer Rexford, Nick Feamster, Ori Rottenstreich, and Mukesh Hira, “Elmo: Source routed multicast for public clouds,” in *IEEE/ACM Transactions on Networking*, September 2020.

Jennifer Gossels, Gagan Choudhury, and Jennifer Rexford, “Robust network design for IP/optical backbones,” in *Journal of Optical Communications and Networking*, volume 11, issue 8, pp. 478-490, 2019.

Pamela Zave and Jennifer Rexford, “The compositional architecture of the Internet,” in *Communications of the ACM*, March 2019.

Ori Rottenstreich, Yossi Kanizo, Haim Kaplan, and Jennifer Rexford, “Accurate traffic splitting on commodity switches,” in *IEEE Journal on Selected Areas in Communications*, volume 36, issue 10, October 2018.

Nanxi Kang, Ori Rottenstreich, Sanjay Rao, and Jennifer Rexford, “Alpaca: Compact Network Policies with Attribute-Encoded Addresses,” in *IEEE/ACM Transactions on Networking*, volume 25, issue 3, June 2017.

Joao L. Sobrinho, Laurent Vanbever, Franck Le, Andre Sousa, and Jennifer Rexford, “Scaling the Internet routing system through distributed route aggregation,” in *IEEE/ACM Transactions on Networking*, December 2016.

Sharon Goldberg, David Xiao, Eran Tromer, Boaz Barak and Jennifer Rexford, “Path-quality monitoring in the presence of adversaries: The secure sketch protocols,” in *IEEE/ACM Transactions on Networking*, volume 23, number 6, December 2015.

Peter Peresini, Maciej Kuzniar, Marco Canini, Daniele Venzano, Dejan Kostic, and Jennifer Rexford, “Systematically testing OpenFlow controller applications,” in *Computer Networks, Special Issue on Software-Defined Networking*, volume 92, 2015, pages 270–286.

Peng Sun, Minlan Yu, Michael J. Freedman, Jennifer Rexford, and David Walker, “HONE: Joint host-network traffic management in software-defined networks,” in the *Journal of Network and Systems Management*, special issue on software-defined networking, February 2015.

Sharon Goldberg, Michael Schapira, Peter Hummon, and Jennifer Rexford, “How secure are secure interdomain routing protocols?” in *Computer Networks*, volume 70, number 9, pages 260–287, September 2014.

Amitabha Ghosh, Sangtae Ha, Edward Crabbe, and Jennifer Rexford, “Scalable multi-class traffic management in data-center backbone networks,” in *IEEE Journal on Selected Areas in Communications*, special issue on Networking Challenges in Cloud Computing Systems, volume 31, number 12, December 2013.

Nate Foster, Michael J. Freedman, Arjun Guha, Rob Harrison, Naga Praveen Katta, Christopher Monsanto, Joshua Reich, Mark Reitblatt, Jennifer Rexford, Cole Schlesinger, Alec Story, and David Walker, “Languages for software-defined networks,” in *IEEE Communications Magazine*, volume 51, number 2, February 2013.

Anduo Wang, Limin Jia, Wenchao Zhou, Yiqing Ren, Boon Thau Loo, Jennifer Rexford, Vivek Nigam, Andre Scedrov, and Carolyn Talcott, “FSR: Formal analysis and implementation toolkit for safe interdomain routing,” in *IEEE/ACM Transactions on Networking*, volume 20, issue 6, pages 1814–1827, December 2012.

Elliott Karpilovsky, Matthew Caesar, Jennifer Rexford, Aman Shaikh, and Jacobus van der Merwe, “Practical network-wide compression of IP routing tables,” in *IEEE Transactions on Network and Service Management*, volume 9, number 4, December 2012.

Joe W. Jiang, S.-H. Gary Chan, Mung Chiang, Jennifer Rexford, D. Tony Ren, Bin Wei, "Global 1Mbps peer-assisted streaming: Fine-grain measurement of a configurable platform," in *IEEE Transactions on Multimedia*, volume 14, issue 5, October 2012.

Yaping Zhu, Benjamin Helsley, Jennifer Rexford, Aspi Siganporia, and Sridhar Srinivasan, "LatLong: Diagnosing wide-area latency changes for CDNs," in *IEEE Transactions on Network and Service Management*, volume 9, number 1, September 2012.

Steven M. Bellovin, Scott O. Bradner, Whitfield Diffie, Susan Landau, and Jennifer Rexford, "Can it really work? Problems with extending EINSTEIN 3 to critical infrastructure," *Harvard Law School, National Security Journal*, volume 3, issue 1, 2012.

Dahai Xu, Mung Chiang, and Jennifer Rexford, "Link-state routing with hop-by-hop forwarding can achieve optimal traffic engineering," in *IEEE/ACM Transactions on Networking*, volume 19, number 6, December 2011.

Minlan Yu, Xin Sun, Nick Feamster, Sanjay Rao, and Jennifer Rexford, "A survey of VLAN usage in campus networks," in *IEEE Communications Magazine*, July 2011.

Changhoon Kim, Matthew Caesar, and Jennifer Rexford, "SEATTLE: A scalable Ethernet architecture for large enterprises," in *ACM Transactions on Computer Systems*, volume 29, number 1, February 2011.

Kevin Butler, Toni Farley, Patrick McDaniel, and Jennifer Rexford, "A survey of BGP security issues and solutions," in *Proceedings of the IEEE*, January 2010.

Yi Wang, Ioannis Avramopoulos, and Jennifer Rexford, "Design for configurability: Rethinking interdomain routing policies from the ground up," *IEEE Journal on Selected Areas in Communications*, April 2009.

David Maltz, Jibin Zhan, Gisli Hjalmtýsson, Albert Greenberg, Jennifer Rexford, Geoffrey Xie, and Hui Zhang, "Structure preserving anonymization of router configuration data," *IEEE Journal on Selected Areas in Communications*, April 2009.

Renata Teixeira, Aman Shaikh, Tim Griffin, and Jennifer Rexford, "Dynamics of hot-potato routing in IP networks," *IEEE/ACM Transactions on Networking*, volume 16, number 6, December 2008.

Josh Karlin, Stephanie Forrest, and Jennifer Rexford, "Autonomous security for Autonomous Systems," *Computer Networks*, special issue on Complex Computer and Communications Networks, volume 52, number 15, October 2008.

Minlan Yu, Yung Yi, Jennifer Rexford, and Mung Chiang, "Rethinking virtual network embedding: Substrate support for path splitting and migration," *ACM SIGCOMM Computer Communications Review*, April 2008.

Jiayue He and Jennifer Rexford, "Towards Internet-wide multipath routing," *IEEE Network*, March 2008.

Steve Bellovin, Matt Blaze, Whitfield Diffie, Susan Landau, Peter Neumann, and Jennifer Rexford, "Risking communications security: Potential hazards of the 'Protect America Act,'" *IEEE Security and Privacy*, January/February 2008, pp. 24-33.

- Renata Teixeira, Timothy G. Griffin, Mauricio G. C. Resende, and Jennifer Rexford, "TIE Breaking: Tunable interdomain egress selection," in *IEEE/ACM Transactions on Networking*, August 2007.
- Jiayue He, Ma'ayan Bresler, Mung Chiang, and Jennifer Rexford, "Towards multi-layer traffic engineering: Optimization of congestion control and routing," in *IEEE Journal on Selected Areas in Communications*, June 2007.
- Nick Feamster and Jennifer Rexford, "Network-wide prediction of BGP routes," in *IEEE/ACM Transactions on Networking*, April 2007.
- Larry Peterson, Tom Anderson, Dan Blumenthal, Dean Casey, David Clark, Deborah Estrin, Joe Evans, Dipankar Raychaudhuri, Mike Reiter, Jennifer Rexford, Scott Shenker, and John Wroclawski, "GENI design principles," in *IEEE Computer*, September 2006.
- Renata Teixeira and Jennifer Rexford, "Managing routing disruptions in Internet Service Provider networks," *IEEE Communications Magazine*, March 2006.
- Matt Caesar and Jennifer Rexford, "BGP policies in ISP networks," *IEEE Network Magazine*, special issue on interdomain routing, November/December 2005.
- Albert Greenberg, Gisli Hjalmytsson, David A. Maltz, Andy Meyers, Jennifer Rexford, Geoffrey Xie, Hong Yan, Jibin Zhan, and Hui Zhang, "A clean slate 4D approach to network control and management," *ACM SIGCOMM Computer Communications Review*, October 2005.
- Joel Gottlieb, Albert Greenberg, Jennifer Rexford, and Jia Wang, "Automated provisioning of BGP customers," *IEEE Network Magazine*, November/December 2003.
- Nick Feamster, Jay Borcenkhan, and Jennifer Rexford, "Guidelines for interdomain traffic engineering," *ACM SIGCOMM Computer Communications Review*, October 2003.
- Bernard Fortz, Jennifer Rexford, and Mikkel Thorup, "Traffic engineering with traditional IP routing protocols," *IEEE Communication Magazine*, October 2002.
- Lixin Gao and Jennifer Rexford, "Stable Internet routing without global coordination," *IEEE/ACM Transactions on Networking*, December 2001, pp. 681–692.
- Anja Feldmann and Jennifer Rexford, "IP network configuration for intradomain traffic engineering," *IEEE Network Magazine*, September/October 2001, pp. 46–57.
- Anja Feldmann, Albert Greenberg, Carsten Lund, Nick Reingold, Jennifer Rexford, and Fred True, "Deriving traffic demands for operational IP networks: Methodology and experience," *IEEE/ACM Transactions on Networking*, June 2001, pp. 265–279.
- Anees Shaikh, Jennifer Rexford, and Kang Shin, "Evaluating the impact of stale link state on quality-of-service routing," *IEEE/ACM Transactions on Networking*, April 2001, pp. 162–176.
- Sung-Whan Moon, Jennifer Rexford, and Kang Shin, "Scalable hardware priority queue architectures for high-speed packet switches," *IEEE Transactions on Computers*, November 2000, pp. 1215–1227.
- Ramon Caceres, et al., "Measurement and analysis of IP network usage and behavior," *IEEE Communications Magazine*, May 2000.

Anja Feldmann, Albert Greenberg, Carsten Lund, Nick Reingold, and Jennifer Rexford, "NetScope: Traffic engineering for IP networks," *IEEE Network Magazine*, March/April 2000, pp. 11–19.

Subhabrata Sen, Jennifer Rexford, Jayanta Dey, Jim Kurose, and Don Towsley, "Online smoothing of variable-bit-rate streaming video," *IEEE Transactions on Multimedia*, March 2000, pp. 37-48.

Wu-chi Feng and Jennifer Rexford, "Performance evaluation of smoothing algorithms for transmitting prerecorded variable-bit-rate video," *IEEE Transactions on Multimedia*, September 1999, pp. 302-313.

Jennifer Rexford and Don Towsley, "Smoothing variable-bit-rate video in an internetwork," *IEEE/ACM Transactions on Networking*, April 1999, pp. 202-215.

Anja Feldmann, Jennifer Rexford, and Ramon Caceres, "Efficient policies for carrying Web traffic over flow-switched networks," *IEEE/ACM Transactions on Networking*, December 1998, pp. 673-685.

Jennifer Rexford, John Hall, and Kang G. Shin, "A router architecture for real-time point-to-point networks," *IEEE Transactions on Computers*, October 1998, pp. 1088-1101.

Ashish Mehra, Jennifer Rexford, and Farnam Jahanian, "Design and evaluation of a window-consistent replication service," *IEEE Transactions on Computers*, September 1997, pp. 986-996.

Jennifer Rexford, Flavio Bonomi, Albert Greenberg, and Albert Wong, "Scalable architectures for integrated traffic shaping and link scheduling in high-speed ATM switches," *IEEE Journal on Selected Areas in Communications*, June 1997, pp. 938-950.

Jennifer Rexford, Wu-chang Feng, James Dolter, and Kang G. Shin, "PP-MESS-SIM: A flexible and extensible simulator for evaluating multicomputer networks," *IEEE Transactions on Parallel and Distributed Systems*, January 1997, pp. 25-40.

Albert Greenberg, Andrew Odlyzko, Jennifer Rexford, and David Espinosa, "Fast parallel solution of fixed point equations for the performance evaluation of circuit-switched networks," *Performance Evaluation*, May 1994, pp. 67-81.

Jennifer Rexford and Niraj K. Jha, "Algorithm-based fault tolerance for floating-point operations in massively parallel systems," *IEEE Transactions on Parallel and Distributed Systems*, June 1994, pp. 649-653.

James Chen, Jennifer Rexford, and Y. C. Lee, "Fractal boundaries in magnetotail particle dynamics," *Geophysical Research Letters*, July 1990, pp. 1049-1052.

### **Conference publications**

Satadal Sengupta, Hyojoon Kim, Daniel Jubas, Maria Apostolaki, and Jennifer Rexford, "Passive data-plane telemetry to mitigate long-distance BGP hijacks," in *New Ideas in Networked Systems (NINeS)*, February 2026.

Oliver Michel, Satadal Sengupta, Hyojoon Kim, Ravi Netravali, and Jennifer Rexford, "Scalable video conferencing using SDN principles," in *ACM SIGCOMM*, September 2025.

Sophia Yoo, Xiaoqi Chen, and Jennifer Rexford, "SmartCookie: Blocking large-scale SYN floods with a split-proxy defense on programmable data planes," in *USENIX Security*, August 2024.

Henry Birge-Lee, Sophia Yoo, Benjamin Herber, Jennifer Rexford, and Maria Apostolaki, “TANGO: Secure collaborative route control across the public Internet,” in *USENIX Networked Systems Design and Implementation*, April 2024.

Grace Cimaszewski, Henry Birge-Lee, Liang Wang, Jennifer Rexford, and Prateek Mittal, “How effective is multiple-vantage-point domain control validation?,” in *USENIX Security*, August 2023.

Liang Wang, Hyojoon Kim, Prateek Mittal, and Jennifer Rexford, “RAVEN: Stateless rapid IP address variation for enterprise networks,” in *Proceedings on Privacy Enhancing Technologies Symposium*, July 2023.

Robert MacDavid, Xiaoqi Chen, and Jennifer Rexford, “Scalable real-time bandwidth fairness in switches,” in *IEEE INFOCOM*, May 2023.

Shaddi Hassan, Amar Padmanabhan, Bruce Davie, Jennifer Rexford, et al, “Building flexible, low-cost wireless access networks with Magma,” in *USENIX Networked Systems Design and Implementation*, April 2023.

Oliver Michel, Satadal Sengupta, Hyojoon Kim, Ravi Netravali, and Jennifer Rexford, “Enabling passive measurement of Zoom performance in production networks,” in *ACM SIGCOMM Internet Measurement Conference*, October 2022.

Satadal Sengupta, Hyojoon Kim, and Jennifer Rexford, “Continuous in-network round-trip time monitoring,” in *ACM SIGCOMM*, August 2022.

Kirtus Leyba, Joshua Daymude, Jean-Gabriel Young, Mark Newman, Jennifer Rexford, and Stephanie Forrest, “Cutting through the noise to infer Autonomous System topology,” in *IEEE INFOCOM*, May 2022.

Mary Hogan, Shir Landau-Feibish, Mina Tahmasbi Arashloo, Jennifer Rexford, and David Walker, “Modular switch programming under resource constraints,” in *USENIX Networked Systems Design and Implementation*, April 2022.

Yufei Zheng, Xiaoqi Chen, Mark Braverman, and Jennifer Rexford, “Unbiased Delay Measurement in the Data Plane,” in *SIAM Symposium on Algorithmic Principles of Computer Systems*, January 2022.

Jason Kim, Hyojoon Kim, and Jennifer Rexford, “Analyzing traffic by domain name in the data plane,” in *ACM Symposium on SDN Research*, October 2021.

John Sonchack, Devon Loehr, Jennifer Rexford, and David Walker, “Lucid: A language for control in the data plane,” in *ACM SIGCOMM*, August 2021.

Henry Birge-Lee, Liang Wang, Daniel McCarney, Roland Shoemaker, Jennifer Rexford, and Prateek Mittal, “Experiences deploying multi-vantage-point domain validation at Let’s Encrypt,” in *USENIX Security Symposium*, August 2021.

O. Rottenstreich, D. Menasche, A. Joshi, A. Kulik, G. Retvari, and J. Rexford, “Cooperative rule caching for SDNs,” in *IEEE International Conference on Cloud Networking*, November 2020.

Xiaoqi Chen, Shir Landau-Feibish, Mark Braverman, and Jennifer Rexford, “BeauCoup: Answering many network traffic queries, one memory update at a time,” in *Proc. ACM SIGCOMM*, August 2020.

Kuo-Feng Hsu, Ryan Beckett, Ang Chen, Jennifer Rexford, Praveen Tammana, and David Walker, “Contra: A programmable system for performance-aware routing,” in *Proc. USENIX Networked Systems Design and Implementation*, February 2020.

Mina Tahmasbi Arashloo, Alexey Lavrov, Manya Ghobadi, Jennifer Rexford, David Walker, and David Wentzlaff, “Enabling Programmable Transport Protocols in High-Speed NICs,” in *Proc. Networked Systems Design and Implementation*, February 2020.

Zaoxing Liu, Samson Zhou, Ori Rottenstreich, Vladimir Braverman, and Jennifer Rexford, “Memory-efficient performance monitoring on programmable switches with lean algorithms,” in *Proc. SIAM-ACM Symposium on Algorithmic Principles of Computer Systems*, January 2020.

Xiaoqi Chen, Shir Landau Feibish, Yaron Koral, Jennifer Rexford, Ori Rottenstreich, Steven A. Monetti, and Tzoo-Yi Wang, “Fine-grained queue measurement in the data plane,” in *Proc. ACM SIGCOMM CoNEXT Conference*, December 2019.

Henry Birge-Lee, Liang Wang, Jennifer Rexford, and Prateek Mittal, “SICO: Surgical interception attacks by manipulating BGP communities,” in *Proc. ACM Conference on Computer and Communications Security*, November 2019.

Muhammad Shahbaz, Lalith Suresh, Jennifer Rexford, Nick Feamster, Ori Rottenstreich, and Mukesh Hira, “Elmo: Source routed multicast for public clouds,” in *Proc. ACM SIGCOMM*, August 2019.

Arpit Gupta, Rob Harrison, Marco Canini, Nick Feamster, Jennifer Rexford, and Walter Willinger, “Sonata: Query-Driven Streaming Network Telemetry,” in *Proc. ACM SIGCOMM*, August 2018.

Henry Birge-Lee, Yixin Sun, Annie Edmundson, Jennifer Rexford, and Prateek Mittal, “Bamboozling certificate authorities with BGP,” in *Proc. USENIX Security Symposium*, August 2018.

Ori Rottenstreich, Yossi Kanizo, Haim Kaplan, and Jennifer Rexford, “Accurate traffic splitting on commodity switches,” in *Proc. ACM Symposium on Parallelism in Algorithms and Architectures*, July 2018.

Anne Edmundson, Roya Ensafi, Nick Feamster, and Jennifer Rexford, “Nation-state hegemony in Internet routing,” in *Proc. ACM SIGCAS Conference on Computing and Sustainable Societies*, June 2018.

Naga Katta, Aditi Ghag, Mukesh Hira, Aran Bergman, Isaac Keslassy, Changhoon Kim, and Jennifer Rexford, “Clove: Congestion-aware load balancing at the virtual edge,” in *Proc. ACM SIGCOMM CoNEXT Conference*, December 2017.

Pamela Zave, Ronaldo A. Ferreira, Masaharu Morimoto, X. Kelvin Zou, and Jennifer Rexford, “Dynamic service chaining with Dysco,” in *Proc. ACM SIGCOMM*, August 2017.

Vibhaalakshmi Sivaraman, Srinivas Narayana, Ori Rottenstreich, S. Muthukrishnan, and Jennifer Rexford, “Smoking out the heavy-hitter flows with HashPipe,” in *Proc. ACM Symposium on SDN Research*, April 2017.

Mojgan Ghasemi, Theophilus Benson, and Jennifer Rexford, “Dapper: Data plane performance diagnosis of TCP,” in *Proc. ACM Symposium on SDN Research*, April 2017.

Robert MacDavid, Rudiger Birkner, Ori Rottenstreich, Arpit Gupta, Nick Feamster, and Jennifer Rexford, “Concise encoding of flow attributes in SDN switches,” in *Proc. ACM Symposium on SDN Research*, April 2017.

Mojgan Ghasemi, Partha Kanuparth, Ahmed Mansy, Theophilus Benson, and Jennifer Rexford, "Performance characterization of a commercial video streaming service," in *Proc. Internet Measurement Conference*, November 2016.

Mina Tahmasbi Arashloo, Yaron Koral, Michael Greenberg, Jennifer Rexford, and David Walker, "SNAP: Stateful network-wide abstractions for packet processing," in *Proc. ACM SIGCOMM*, August 2016.

Muhammad Shahbaz, Sean Choi, Ben Pfaff, Changhoon Kim, Nick Feamster, Nick McKeown, Jennifer Rexford, "PISCES: A programmable, protocol-independent software switch," in *Proc. ACM SIGCOMM*, August 2016.

Xin Jin, Yiran Li, Da Wei, Siming Li, Jie Gao, Lei Xu, Guangzhi Li, Wei Xu, and Jennifer Rexford, "Optimizing bulk transfers with software-defined optical WAN," in *Proc. ACM SIGCOMM*, August 2016.

Naga Katta, Mukesh Hira, Changhoon Kim, Anirudh Sivaraman, and Jennifer Rexford, "HULA: Scalable load balancing using programmable data-planes," in *Proc. Symposium on SDN Research*, March 2016.

Naga Katta, Omid Alipourfard, Jennifer Rexford, and David Walker, "CacheFlow: Dependency-aware rule-caching for software-defined networks," in *Proc. Symposium on SDN Research*, March 2016.

Srinivas Narayana, Mina Tahmasbi, Jennifer Rexford, and David Walker, "Compiling path queries," in *Proc. Networked Systems Design and Implementation*, March 2016.

Arpit Gupta, Robert MacDavid, Rudiger Birkner, Marco Canini, Nick Feamster, Jennifer Rexford, and Laurent Vanbever, "An industrial-scale software defined Internet exchange point," in *Proc. Networked Systems Design and Implementation*, March 2016.

Nanxi Kang, Monia Ghobadi, John Reumann, Alexander Shraer, and Jennifer Rexford, "Efficient traffic splitting on commodity switches," in *Proc. ACM SIGCOMM CoNEXT Conference*, December 2015.

Nanxi Kang, Ori Rottenstreich, Sanjay Rao, and Jennifer Rexford, "Alpaca: Compact network policies with attribute-carrying addresses," in *Proc. ACM SIGCOMM CoNEXT Conference*, December 2015.

Stefano Vissicchio, Olivier Tilmans, Laurent Vanbever, and Jennifer Rexford, "Central control over distributed routing," in *Proc. ACM SIGCOMM*, August 2015.

Yixin Sun, Anne Edmundson, Laurent Vanbever, Oscar Li, Jennifer Rexford, Mung Chiang, and Prateek Mittal, "RAPTOR: Routing Attacks on Privacy in Tor," in *Proc. USENIX Security*, August 2015.

Naga Katta, Haoyu Zhang, Michael Freedman, and Jennifer Rexford, "Ravana: Controller fault-tolerance in software-defined networking," in *Proc. Symposium on SDN Research*, June 2015.

Xin Jin, Jennifer Gossels, Jennifer Rexford, and David Walker, "CoVisor: A compositional hypervisor for software-defined networks," in *Proc. Networked Systems Design and Implementation*, May 2015.

Joao Luis Sobrinho, Laurent Vanbever, Franck Le, and Jennifer Rexford, "Distributed route aggregation on the global network," in *Proc. ACM SIGCOMM CoNEXT*, December 2014.

Soudeh Ghorbani, Cole Schlesinger, Matthew Monaco, Eric Keller, Matthew Caesar, Jennifer Rexford, and David Walker, "Transparent, live migration of a software-defined network," in *Proc. Symposium on Cloud Computing*, November 2014.

Arpit Gupta, Laurent Vanbever, Muhammad Shahbaz, Sean P. Donovan, Brandon Schlinker, Nick Feamster, Jennifer Rexford, Scott Shenker, Russ Clark, and Ethan Katz-Bassett, "SDX: A software defined Internet exchange," in *Proc. ACM SIGCOMM*, August 2014.

Peng Sun, Ahsan Arefin, Ratul Mahajan, Jennifer Rexford, Lihua Yuan, and Ming Zhang, "Statesman: A network-state management service," in *Proc. ACM SIGCOMM*, August 2014.

Xin Jin, Hongqiang Harry Liu, Rohan Gandhi, Srikanth Kandula, Ratul Mahajan, Jennifer Rexford, Roger Wattenhofer, and Ming Zhang, "Dionysys: Dynamic scheduling of network updates," in *Proc. ACM SIGCOMM*, August 2014.

Ouldooz Baghban Karimi, Jiangchuan Liu, and Jennifer Rexford, "Optimal collaborative access point association in wireless networks," in *Proc. IEEE INFOCOM*, April/May 2014.

Xin Jin, Li Erran Li, Laurent Vanbever, and Jennifer Rexford, "SoftCell: Scalable and flexible cellular core network architecture," in *Proc. ACM SIGCOMM CoNext Conference*, December 2013.

Nanxi Zhang, Zhenming Liu, Jennifer Rexford, and David Walker, "Optimizing the 'one big switch' abstraction in Software Defined Networks," in *Proc. ACM SIGCOMM CoNext Conference*, December 2013.

Christopher Monsanto, Joshua Reich, Nate Foster, Jennifer Rexford, and David Walker, "Composing Software Defined Networks," in *Proc. Networked Systems Design and Implementation*, April 2013.

Matvey Arye, Erik Nordstrom, Robert Kiefer, Jennifer Rexford, and Michael J. Freedman, "A formally-verified migration protocol for mobile, multi-homed hosts," in *Proc. International Conference on Network Protocols*, October/November 2012.

Mark Reitblatt, Nate Foster, Jennifer Rexford, Cole Schlesinger, and David Walker, "Abstractions for network update," in *Proc. ACM SIGCOMM*, August 2012.

Erik Nordstrom, David Shue, Prem Gopalan, Rob Kiefer, Matvey Arye, Steven Y. Ko, Jennifer Rexford, and Michael J. Freedman, "Serval: An end-host stack for service-centric networking," in *Proc. Networked Systems Design and Implementation*, April 2012.

Marco Canini, Daniele Venzano, Peter Peresini, Dejan Kostic, and Jennifer Rexford, "A NICE way to test OpenFlow applications," in *Proc. Networked Systems Design and Implementation*, April 2012.

Jakub Szefer, Eric Keller, Ruby B. Lee, and Jennifer Rexford, "Eliminating the hypervisor attack surface for a more secure cloud," in *Proc. ACM Conference on Computer and Communications Security*, October 2011.

Nate Foster, Rob Harrison, Michael J. Freedman, Christopher Monsanto, Jennifer Rexford, Alec Story, and David Walker, "Frenetic: A network programming language," in *Proc. ACM International Conference on Functional Programming*, September 2011.

Martin Suchara, Dahai Xu, Robert Doverspike, David Johnson and Jennifer Rexford, "Network architecture for joint failure recovery and traffic engineering," in *Proc. ACM SIGMETRICS*, June 2011. Winner of the Best Student Paper award.

Martin Suchara, Alex Fabrikant, and Jennifer Rexford, "BGP safety with spurious updates," in *Proc. IEEE INFOCOM*, April 2011.

Alex Fabrikant, Umar Syed, and Jennifer Rexford, "There's something about MRAI: Timing diversity exponentially worsens BGP convergence," in *Proc. IEEE INFOCOM*, April 2011.

Minlan Yu, Albert Greenberg, Dave Maltz, Jennifer Rexford, Lihua Yuan, Srikanth Kandula, and Changhoon Kim, "Profiling network performance for multi-tier data center applications," in *Proc. Networked Systems Design and Implementation*, March/April 2011.

Minlan Yu, Jennifer Rexford, Michael J. Freedman, and Jia Wang, "Scalable flow-based networking with DIFANE," in *Proc. ACM SIGCOMM*, August 2010.

Patrick Wendell, Joe Wenjie Jiang, Michael J. Freedman, and Jennifer Rexford, "DONAR: Decentralized server selection for cloud services," in *Proc. ACM SIGCOMM*, August 2010.

Sharon Goldberg, Michael Schapira, Peter Hummon, and Jennifer Rexford, "How secure are secure interdomain routing protocols?" in *Proc. ACM SIGCOMM*, August 2010.

Wenjie Jiang, S.-H. Gary Chan, Mung Chiang, Jennifer Rexford, K.-F. Simon Wong, and C.-H. Philip Yuen, "Proxy-P2P streaming under the microscope: Fine-grain measurement of a configurable platform," in *Proc. International Conference on Computer Communication Networks*, August 2010.

Benny Applebaum, Michael Freedman, Haakon Ringberg, Matthew Caesar, and Jennifer Rexford, "Collaborative, privacy-preserving data aggregation at scale," in *Proc. Privacy Enhancing Technologies Symposium*, July 2010.

Vytautas Valancius, Nick Feamster, Jennifer Rexford, and Akihiro Nakao, "Wide-area route control for distributed services," in *Proc. USENIX Annual Technical Conference*, June 2010.

Eric Keller, Jakub Szefer, Jennifer Rexford, and Ruby B. Lee, "NoHype: Virtualized cloud infrastructure without the virtualization," in *Proc. International Symposium on Computer Architecture*, June 2010.

Eric Keller, Jennifer Rexford, and Jacobus van der Merwe, "Seamless BGP migration with router grafting," in *Proc. Networked Systems Design and Implementation*, April 2010.

Yaping Zhu, Jennifer Rexford, Shubho Sen, and Aman Shaikh, "Route Oracle: Where have all the packets gone?", in *Performance Evaluation Review*, special issue on industrial research, March 2010.

Eric Keller, Minlan Yu, Matthew Caesar, and Jennifer Rexford, "Virtually eliminating router bugs," in *Proc. CoNext*, December 2009.

Minlan Yu and Jennifer Rexford, "BUFFALO: Bloom Filter Forwarding Architecture for Large Organizations," in *Proc. CoNext*, December 2009.

Yaping Zhu, Jennifer Rexford, Shubho Sen, and Aman Shaikh, "Impact of prefix-match changes on IP reachability," in *Proc. Internet Measurement Conference*, October 2009.

Yi Wang, Michael Schapira, and Jennifer Rexford, "Neighbor-Specific BGP: More flexible routing policies while improving global stability," in *Proc. ACM SIGMETRICS*, June 2009.

Wenjie Jiang, Rui Zhang-Shen, Jennifer Rexford, and Mung Chiang, "Cooperative content distribution and traffic engineering in an ISP network," in *Proc. ACM SIGMETRICS*, June 2009.

Andreas Haeberlen, Ioannis Avramopoulos, Jennifer Rexford, and Peter Druschel, "NetReview: Detecting when interdomain routing goes wrong," in *Proc. Networked Systems Design and Implementation*, April 2009.

Elliott Karpilovsky, Alexandre Gerber, Dan Pei, Jennifer Rexford, and Aman Shaikh, "Quantifying the extent of IPv6 deployment," in *Proc. Passive and Active Measurement Conference*, April 2009.

Changhoon Kim, Matthew Caesar, Alexandre Gerber, and Jennifer Rexford, "Revisiting route caching: The world should be flat," in *Proc. Passive and Active Measurement Conference*, April 2009.

Jennifer Rexford and Joan Feigenbaum, "Incrementally-deployable security for interdomain routing," extended abstract, *Proc. Cybersecurity Applications and Technologies for Homeland Security*, March 2009.

Umar Javed, Martin Suchara, Jiayue He, and Jennifer Rexford, "Multipath protocol for delay-sensitive traffic," invited paper, in *Proc. International Conference on COMMunication Systems and NETWORKS (COMSNETS)*, January 2009.

Jiayue He, Rui Zhang-Shen, Ying Li, Cheng-Yen Lee, Jennifer Rexford, and Mung Chiang, "DaVinci: Dynamically Adaptive Virtual Networks for a Customized Internet," *Proc. CoNext*, December 2008.

Jing Fu and Jennifer Rexford, "Efficient IP-address lookup with a shared forwarding table for multiple virtual routers," *Proc. CoNext*, December 2008.

Yi Wang, Eric Keller, Brian Biskeborn, Jacobus van der Merwe, and Jennifer Rexford, "Virtual routers on the move: Live router migration as a network-management primitive," *Proc. ACM SIGCOMM*, August 2008.

Changhoon Kim, Matthew Caesar, and Jennifer Rexford, "Floodless in SEATTLE: A scalable Ethernet architecture for large enterprises," *Proc. ACM SIGCOMM*, August 2008.

Sharon Goldberg, David Xiao, Eran Tromer, Boaz Barak, and Jennifer Rexford, "Path-quality monitoring in the presence of adversaries," *Proc. ACM SIGMETRICS*, June 2008.

Shao Liu, Rui Zhang-Shen, Wenjie Jiang, Jennifer Rexford, and Mung Chiang, "Performance bounds for peer-assisted live streaming," *Proc. ACM SIGMETRICS*, June 2008.

Dahai Xu, Mung Chiang, and Jennifer Rexford, "Link-state routing with hop-by-hop forwarding can achieve optimal traffic engineering," *Proc. IEEE INFOCOM*, April 2008.

Jiayue He, Martin Suchara, Ma'ayan Bresler, Jennifer Rexford, and Mung Chiang, "Rethinking Internet traffic management: From multiple decompositions to a practical protocol," *Proc. CoNext*, December 2007.

Haakon Ringberg, Augustin Soule, Jennifer Rexford, and Christophe Diot, "Sensitivity of PCA for traffic anomaly detection," *Proc. ACM SIGMETRICS*, June 2007.

Dahai Xu, Mung Chiang, and Jennifer Rexford, "DEFT: Distributed Exponentially-weighted Flow Splitting," in *Proc. IEEE INFOCOM*, May 2007.

Sharon Goldberg and Jennifer Rexford, "Security vulnerabilities and solutions for packet sampling," invited paper, in *Proc. IEEE Sarnoff Symposium*, April/May 2007.

Augustin Soule, Haakon Ringberg, Fernando Silveira, Jennifer Rexford, and Christophe Diot, "Detectability of traffic anomalies in two adjacent networks," in *Proc. Passive and Active Measurement Conference*, April 2007.

Elliott Karpilovsky and Jennifer Rexford, "Using Forgetful Routing to control BGP table size," *Proc. CoNext*, December 2006.

Jiayue He, Mung Chiang, and Jennifer Rexford, "Can congestion control and traffic engineering be at odds?" *Proc. IEEE GLOBECOM*, November/December 2006. Winner of Best Student Paper award.

Josh Karlin, Stephanie Forrest, and Jennifer Rexford, "Pretty Good BGP: Improving BGP by cautiously adopting routes," *Proc. IEEE International Conference on Network Protocols*, November 2006.

Andy Bavier, Nick Feamster, Mark Huang, Larry Peterson, and Jennifer Rexford, "In VINI Veritas: Realistic and controlled network experimentation," in *Proc. ACM SIGCOMM*, September 2006.

Wen Xu and Jennifer Rexford, "MIRO: Multi-path Interdomain ROUTing," in *Proc. ACM SIGCOMM*, September 2006.

Jiayue He, Mung Chiang, and Jennifer Rexford, "TCP/IP interactions based on congestion price: Stability and optimality," in *Proc. International Conference on Communications*, June 2006.

Ming Zhang, Yaoping Ruan, Vivek Pai, and Jennifer Rexford, "How DNS misnaming distorts Internet topology mapping," in *Proc USENIX Annual Technical Conference*, May/June 2006.

Ioannis Avramopoulos and Jennifer Rexford, "Stealth probing: Efficient data-plane security for IP routing," in *Proc. USENIX Annual Technical Conference*, May/June 2006.

Jennifer Rexford, "Network protocols designed for optimizability," invited paper, *Proc. Conference on Information Sciences and Systems*, March 2006.

Matthew Caesar, Donald Caldwell, Nick Feamster, Jennifer Rexford, Aman Shaikh, and Jacobus van der Merwe, "Design and implementation of a Routing Control Platform," *Proc. Networked Systems Design and Implementation*, May 2005.

Jian Wu, Z. Morley Mao, Jennifer Rexford, and Jia Wang, "Troubleshooting BGP disruptions in a large IP network," *Proc. Networked Systems Design and Implementation*, May 2005.

Geoffrey Xie, Jibin Zhang, David Maltz, Hui Zhang, Albert Greenberg, Gisli Hjalmytsson, and Jennifer Rexford, "On static reachability analysis of IP networks," *Proc. IEEE INFOCOM*, March 2005.

David Maltz, Jibin Zhan, Geoffrey Xie, Hui Zhang, Gisli Hjalmytsson, Albert Greenberg, and Jennifer Rexford, "Structure preserving anonymization of router configuration data," *Proc. Internet Measurement Conference*, October 2004.

Nick Feamster, Z. Morley Mao, and Jennifer Rexford, "BorderGuard: Detecting cold potatoes from peers," *Proc. Internet Measurement Conference*, October 2004.

Renata Teixeira, Aman Shaikh, Tim Griffin, and Jennifer Rexford, "Dynamics of hot-potato routing in IP networks," *Proc. ACM SIGMETRICS*, June 2004.

Nick Feamster, Jared Winick, and Jennifer Rexford, "A model of BGP routing for network engineering," *Proc. ACM SIGMETRICS*, June 2004.

Zhuoqing Morley Mao, David Johnson, Jennifer Rexford, Jia Wang, and Randy H. Katz, "Scalable and accurate identification of AS-level forwarding paths," *Proc. IEEE INFOCOM*, March 2004.

Zhuoqing Morley Mao, Jennifer Rexford, Jia Wang, and Randy Katz, "Towards an accurate AS-level traceroute tool," *Proc. ACM SIGCOMM*, August 2003.

Lakshminarayanan Subramanian, Sharad Agarwal, Jennifer Rexford, and Randy H. Katz, "Characterizing the Internet hierarchy from multiple vantage points," *Proc. IEEE INFOCOM*, June 2002.

Lixin Gao, Tim Griffin, and Jennifer Rexford, "Inherently safe backup routing with BGP," *Proc. IEEE INFOCOM*, April 2001.

Anja Feldmann, Albert Greenberg, Carsten Lund, Nick Reingold, Jennifer Rexford, and Fred True, "Deriving traffic demands for operational IP networks: Methodology and experience," *Proc. ACM SIGCOMM*, August/September 2000.

Lixin Gao and Jennifer Rexford, "Stable Internet routing without global coordination," *Proc. ACM SIGMETRICS*, June 2000.

Stephane Gruber, Jennifer Rexford, and Andrea Basso, "Protocol considerations for a prefix-caching proxy for multimedia streams," *Proc. World Wide Web Conference*, May 2000.

Anees Shaikh, Jennifer Rexford, and Kang Shin, "Load-sensitive routing of long-lived IP flows," *Proc. ACM SIGCOMM*, September 1999.

Subhabrata Sen, Jennifer Rexford, and Don Towsley, "Proxy prefix caching for multimedia streams," *Proc. IEEE INFOCOM*, March 1999.

Edith Cohen, Balachander Krishnamurthy, and Jennifer Rexford, "Efficient algorithms for predicting requests to Web servers," *Proc. IEEE INFOCOM*, March 1999.

Anees Shaikh, Jennifer Rexford, and Kang Shin, "Evaluating the overheads of source-directed quality-of-service routing," *Proc. International Conference on Network Protocols*, October 1998.

Edith Cohen, Balachander Krishnamurthy, and Jennifer Rexford, "Improving end-to-end performance of the Web using server volumes and proxy filters," *Proc. ACM SIGCOMM*, August-September 1998, pp. 241-253.

Edith Cohen, Balachander Krishnamurthy, and Jennifer Rexford, "Evaluating server-assisted cache replacement in the Web," *Proc. European Symposium on Algorithms*, August 1998.

Anja Feldmann, Jennifer Rexford, and Ramon Caceres, "Reducing overhead in flow-switched networks: An empirical study of Web traffic," *Proc. IEEE INFOCOM*, April 1998, pp. 1205-1213.

Jennifer Rexford and Don Towsley, "Smoothing variable-bit-rate video in an internetwork," *Proc. SPIE Conference on Performance and Control of Network Systems*, November 1997, pp. 345-357.

Sung-Whan Moon, Jennifer Rexford, and Kang Shin, "Scalable hardware priority queue architectures for high-speed packet switches," *Proc. IEEE Real-Time Technology and Applications Symposium*, June 1997, pp. 203-212.

Wu-chi Feng and Jennifer Rexford, "A comparison of bandwidth smoothing techniques for the transmission of prerecorded compressed video," *Proc. IEEE INFOCOM*, April 1997, pp. 58-66.

Jennifer Rexford, Flavio Bonomi, Albert Greenberg, and Albert Wong, "A scalable architecture for fair leaky-bucket shaping," *Proc. IEEE INFOCOM*, April 1997, pp. 1056-1064.

Jennifer Rexford, John Hall, and Kang G. Shin, "A router architecture for real-time point-to-point networks," *Proc. International Symposium on Computer Architecture*, May 1996, pp. 237-246.

Jennifer Rexford, Albert Greenberg, and Flavio Bonomi, "Hardware-efficient fair queuing architectures for high-speed networks," *Proc. IEEE INFOCOM*, March 1996, pp. 638-646.

Stuart Daniel, Jennifer Rexford, James Dolter, and Kang Shin, "A programmable routing controller for flexible communications in point-to-point networks," *Proc. International Conference on Computer Design*, October 1995, pp. 320-325.

Ashish Mehra, Jennifer Rexford, Hock-Siong Ang, and Farnam Jahanian, "Design and evaluation of a window-consistent replication service," *Proc. IEEE Real-Time Technology and Applications Symposium*, May 1995, pp. 182-191.

Jennifer Rexford, James Dolter, Wu-chang Feng, and Kang G. Shin, "PP-MESS-SIM: A simulator for evaluating multicomputer interconnection networks," *Proc. Annual Simulation Symposium*, April 1995, pp. 84-93.

James Dolter, Stuart Daniel, Ashish Mehra, Jennifer Rexford, Wu-chang Feng, and Kang Shin, "SPIDER: Flexible and efficient communication support for point-to-point distributed systems," *Proc. International Conference on Distributed Computing Systems*, June 1994, pp. 574-580.

Albert Greenberg, Andrew Odlyzko, Jennifer Rexford, and David Espinosa, "Fast parallel solution of fixed point equations for the performance evaluation of circuit-switched networks," *Proc. Performance*, September 1993, pp. 59-74.

Jennifer Rexford and Niraj K. Jha, "Algorithm-based fault tolerance for floating-point operations in massively parallel systems," *Proc. IEEE International Symposium on Circuits and Systems*, May 1992, pp. 649-652.

Isaac Scherson, Ashish Mehra, and Jennifer Rexford, "Toward scalable algorithms for orthogonal shared-memory parallel computers," *Proc. Symposium on the Frontiers of Massively Parallel Computation*, October 1990, pp. 12-21.

### **Workshop papers, short papers, newsletter publications, and editorials**

Fan Yi, Haoran Wan, Kyle Jamieson, Jennifer Rexford, Yaxiong Xie, and Oliver Michel, "Athena: Seeing and mitigating wireless impact on video conferencing and beyond," in *ACM SIGCOMM HotNets Workshop*, November 2024.

Mengying Pan, Hyojoon Kim, Jennifer Rexford, and David Walker, "NAP: Programming data planes with approximate data structures," *EuroP4 Workshop*, December 2023.

Henry Birge-Lee, Maria Apostolaki, and Jennifer Rexford, "It takes two to Tango: Cooperative edge-to-edge routing," in *ACM SIGCOMM HotNets Workshop*, November 2022.

Shir Landau Feibish, Zaoxing Liu, Nikita Ivkin, Xiaoqi Chen, Vladimir Braverman, and Jennifer Rexford, “Flow-level loss detection with  $\Delta$ -sketches” in *ACM Symposium on SDN Research*, October 2022.

Sherry Bai, Hyojoon Kim, and Jennifer Rexford, “Passive OS fingerprinting on commodity switches,” in *IEEE International Conference on Network Softwarization*, June/July 2022.

Liang Wang, Prateek Mittal, and Jennifer Rexford, “Data-plane security applications in adversarial settings,” in *ACM SIGCOMM Computer Communications Review*, April 2022.

Jennifer Rexford and Scott Shenker, “Answering three questions about networking research,” in *ACM SIGCOMM Computer Communications Review*, January 2022.

Arjun Devraj, Liang Wang, and Jennifer Rexford, “REDACT: Refraction networking from the data center,” in *ACM SIGCOMM Computer Communications Review*, October 2021.

Robert MacDavid, Carmelo Cascone, Pingping Lin, Badhrinath Padmanabhan, Ajay Thakur, Larry Peterson, Jennifer Rexford, and Oguz Sunay, “A P4-based 5G User Plane Function,” short paper, in *ACM Symposium on SDN Research*, October 2021.

Hari Balakrishnan, Sujata Banerjee, Israel Cidon, David Culler, Deborah Estrin, Ethan Katz-Bassett, Arvind Krishnamurthy, James McCauley, Nick McKeown, Aurojit Panda, Sylvia Ratnasamy, Jennifer Rexford, Michael Schapira, Scott Shenker, Ion Stoica, David Tennenhouse, Amin Vahdat, and Ellen Zegura, “Revitalizing the public Internet by making it extensible,” in *ACM SIGCOMM Computer Communication Review*, April 2021.

Liang Wang, Hyojoon Kim, Prateek Mittal, and Jennifer Rexford, “Programmable in-network obfuscation of DNS traffic,” short paper in *NDSS DNS Privacy Workshop*, February 2021.

Hyojoon Kim, Xiaoqi Chen, Jack Brassil, and Jennifer Rexford, “Experience-driven research on programmable networks,” in *ACM SIGCOMM Computer Communication Review*, January 2021.

Mary Hogan, Shir Landau-Feibish, Mina Tahmasbi Arashloo, Jennifer Rexford, David Walker, and Rob Harrison, “Elastic switch programming with P4All,” in *ACM SIGCOMM HotNets Workshop*, November 2020.

Nate Foster, Nick McKeown, Jennifer Rexford, Guru Parulkar, Larry Peterson, and Oguz Sunay, “Using deep programmability to put network owners in control,” in *ACM SIGCOMM Computer Communication Review*, October 2020.

Robert Harrison, Shir Landau-Feibish, Arpit Gupta, Ross Teixeira, S. Muthukrishnan, and Jennifer Rexford, “Carpe elephants: Seize the global heavy hitters,” in *Proc. ACM SIGCOMM Workshop on Secure Programmable Network Infrastructure*, August 2020.

Xiaoqi Chen, Hyojoon Kim, Javed Aman, Willie Chang, Mack Lee, and Jennifer Rexford, “Measuring TCP round-trip time in the data plane,” in *Proc. ACM SIGCOMM Workshop on Secure Programmable Network Infrastructure*, August 2020.

Yashodhar Govil, Liang Wang, and Jennifer Rexford, “MIMIQ: Masking IPs with Migration in QUIC,” in *Proc. USENIX Workshop on Free and Open Communications on the Internet*, August 2020.

Suriya Kodeswaran, Mina Tahmasbi Arashloo, Praveen Tammana, and Jennifer Rexford, “Tracking P4 program execution in the data plane,” in *Proc. ACM SIGCOMM Symposium on SDN Research*, March 2020.

Ross Teixeira, Robert Harrison, Arpit Gupta, and Jennifer Rexford, “PacketScope: Monitoring the packet lifecycle inside a switch,” in *Proc. ACM SIGCOMM Symposium on SDN Research*, March 2020.

Kuo-Feng Hsu, Praveen Tammana, Ryan Beckett, Ang Chen, Jennifer Rexford, and David Walker, “Adaptive weighted traffic splitting in programmable data planes,” in *Proc. ACM SIGCOMM Symposium on SDN Research*, March 2020.

Mengying Pan, Robert MacDavid, Shir Landau-Feibish, and Jennifer Rexford, “Memory-efficient membership encoding in switches,” in *Proc. ACM SIGCOMM Symposium on SDN Research*, March 2020.

Trisha Datta, Nick Feamster, Jennifer Rexford, and Liang Wang, “SPINE: Surveillance protection in the network elements,” in *Proc. USENIX Workshop on Free and Open Communications on the Internet*, August 2019.

Larry Peterson, Tom Anderson, Sachin Katti, Nick McKeown, Guru Parulkar, Jennifer Rexford, Mahadev Satyanarayanan, Oguz Sunay, and Amin Vahdat, “Democratizing the network edge,” in *ACM SIGCOMM Computer Communication Review*, April 2019.

Xiaoqi Chen, Shir Landau Feibish, Yaron Koral, Jennifer Rexford, and Ori Rottenstreich, “Catching the microburst culprits with Snappy,” in *Proc. ACM SIGCOMM Workshop on Self-Driving Networks*, August 2018.

Rob Harrison, Qizhe Cai, Arpit Gupta, and Jennifer Rexford, “Network-wide heavy hitter detection with commodity switches,” in *Proc. ACM Symposium on SDN Research*, short paper, March 2018.

Mina Tahmasbi Arashloo, Pavel Shirshov, Rohan Gandhi, Guohan Lu, Lihua Yuan, and Jennifer Rexford, “A scalable VPN gateway for multi-tenant cloud services,” in *ACM SIGCOMM Computer Communication Review*, January 2018.

Mina Tahmasbi Arashloo, Monia Ghobadi, Jennifer Rexford, and David Walker, “HotCocoa: Hardware congestion control abstractions,” in *Proc. ACM SIGCOMM HotNets Workshop*, November/December 2017.

Huynh Tu Dang, Han Wang, Theo Jepsen, Gordon Brebner, Changhoon Kim, Jennifer Rexford, Robert Soul, and Hakim Weatherspoon, “Whippersnapper: A P4 language benchmark suite,” short paper, in *Proc. ACM Symposium on SDN Research*, April 2017.

Srinivas Narayana, Anirudh Sivaraman, Vikram Nathan, Mohammad Alizadeh, David Walker, Jennifer Rexford, Vimalkumar Jeyakumar, and Changhoon Kim, “Co-designing software and hardware for declarative network performance measurement,” in *Proc. ACM SIGCOMM HotNets Workshop*, November 2016.

Naga Katta, Aditi Ghag, Mukesh Hira, Isaac Keslassy, and Jennifer Rexford, “CLOVE: How I learned to stop worrying about the core and love the edge,” in *Proc. ACM SIGCOMM HotNets Workshop*, November 2016.

James McCauley, Zhi Liu, Aurojit Panda, Teemu Koponen, Barath Raghavan, Jennifer Rexford, and Scott Shenker, “Recursive SDN for carrier networks,” in *ACM SIGCOMM Computer Communication Review*, October 2016.

Xin Jin, Nathan Farrington, and Jennifer Rexford, “Your data center switch is trying too hard,” short paper, in *Proc. Symposium on SDN Research*, March 2016.

Peng Sun, Laurent Vanbever, and Jennifer Rexford, “Scalable programmable inbound traffic engineering,” short paper, in *Proc. Symposium on SDN Research*, June 2015.

Stefano Vissicchio, Laurent Vanbever, and Jennifer Rexford, “Sweet little lies: Fake topologies for flexible routing,” in *Proc. ACM SIGCOMM HotNets Workshop*, October 2014.

Laurent Vanbever, Oscar Li, Jennifer Rexford, and Prateek Mittal, “Anonymity on QuickSand: Using BGP to compromise Tor,” in *Proc. ACM SIGCOMM HotNets Workshop*, October 2014.

Xin Jin, Jennifer Rexford, and David Walker, “Incremental update for a compositional SDN hypervisor,” in *Proc. ACM SIGCOMM HotSDN Workshop*, August 2014.

Naga Katta, Omid Alipourfard, Jennifer Rexford, and David Walker, “Infinite CacheFlow in software-defined networks,” in *Proc. ACM SIGCOMM HotSDN Workshop*, August 2014.

Srinivas Narayana, Jennifer Rexford, and David Walker, “Compiling path queries in software-defined networks,” in *Proc. ACM SIGCOMM HotSDN Workshop*, August 2014.

Ryan Beckett, X. Kelvin Zou, Shuyuan Zhang, Sharad Malik, Jennifer Rexford, and David Walker, “An assertion language for debugging SDN applications,” in *Proc. ACM SIGCOMM HotSDN Workshop*, August 2014.

Dushyant Arora, Theophilus Benson, and Jennifer Rexford, “ProActive Routing in Scalable data centers with PARIS,” in *Proc. ACM SIGCOMM Workshop on Distributed Cloud Computing*, August 2014.

Pat Bosshart, Dan Daly, Glen Gibb, Martin Izzard, Nick McKeown, Jennifer Rexford, Cole Schlesinger, Dan Talayco, Amin Vahdat, George Varghese, and David Walker, “Programming protocol-independent packet processors,” in *ACM SIGCOMM Computer Communications Review*, volume 44, number 3, July 2014.

Srinivas Narayana, Wenjie Jiang, Jennifer Rexford, and Mung Chiang, “Joint server selection and routing for geo-replicated services,” invited paper in *Proc. Workshop on Distributed Cloud Computing*, December 2013.

Laurent Vanbever, Joshua Reich, Theophilus Benson, Nate Foster, and Jennifer Rexford, “HotSwap: Correct and efficient controller upgrades for Software-Defined Networks,” in *Proc. ACM SIGCOMM Workshop on Hot Topics in Software-Defined Networks*, August 2013.

Naga Praveen Katta, Jennifer Rexford, and David Walker, “Incremental consistent updates,” in *Proc. ACM SIGCOMM Workshop on Hot Topics in Software-Defined Networks*, August 2013.

Pamela Zave and Jennifer Rexford, “Compositional network mobility,” in *Proc. Working Conference on Verified Software: Theories, Tools, and Experiments*, May 2013.

Dmitry Drutskey, Eric Keller, and Jennifer Rexford, “Scalable software-defined network virtualization,” in *IEEE Internet Computing*, March/April 2013.

Pamela Zave and Jennifer Rexford, “The geomorphic view of networking: A network model and its uses,” in *Proc. Workshop on Middleware for Next Generation Internet Computing*, December 2012.

- Eric Keller, Soudeh Ghorbani, Matthew Caesar, and Jennifer Rexford, "Live migration of an entire network (and its hosts)," in *Proc. ACM SIGCOMM HotNets Workshop*, October 2012.
- Debayan Gupta, Aaron Segal, Gil Segev, Joan Feigenbaum, Jennifer Rexford, Michael Schapira, and Scott Shenker, "A new approach to interdomain routing based on secure multi-party computation," in *Proc. ACM SIGCOMM HotNets Workshop*, October 2012.
- Li Erran Li, Z. Morley Mao, and Jennifer Rexford, "Toward software-defined cellular networks," in *Proc. European Workshop on Software Defined Networking*, October 2012.
- Akash Baid, Michael Schapira, Ivan Seskar, Jennifer Rexford, and Dipankar Raychaudhuri, "Network cooperation for client-AP association optimization," in *Proc. International Workshop on Resource Allocation and Cooperation in Wireless Networks*, May 2012.
- Xin Jin, Eric Keller, and Jennifer Rexford, "Virtual switching without a hypervisor for a more secure cloud," in *Proc. Hot Topics in Management of Internet, Cloud, and Enterprise Networks and Services*, April 2012.
- Eric Keller, Michael Schapira, and Jennifer Rexford, "Rehoming edge links for better traffic engineering," in *ACM SIGCOMM Computer Communications Review*, April 2012.
- Mark Reitblatt, Nate Foster, Jennifer Rexford, and David Walker, "Consistent updates for software-defined networks: Change you can believe in!," in *Proc. ACM SIGCOMM HotNets Workshop*, November 2011.
- Matvey Arye, Rob Harrison, Richard Wang, Pamela Zave, and Jennifer Rexford, "Toward a lightweight model of BGP safety," in *Proc. Workshop on Rigorous Protocol Engineering*, October 2011.
- Marco Canini, Dejan Kostic, Daniele Venzano, and Jennifer Rexford, "Automating the testing of OpenFlow applications," in *Proc. Workshop on Rigorous Protocol Engineering*, October 2011.
- Nick Feamster and Jennifer Rexford, "Getting students' hands dirty with clean-slate networking," in *Proc. ACM SIGCOMM Educational Workshop*, August 2011.
- Peng Sun, Minlan Yu, Michael J. Freedman, and Jennifer Rexford, "Identifying performance bottlenecks in CDNs through TCP-level monitoring," in *Proc. ACM SIGCOMM Workshop on Measurements Up the Stack*, August 2011.
- Teemu Koponen, Scott Shenker, Hari Balakrishnan, Nick Feamster, Igor Ganichev, Ali Ghodsi, P. Brighten Godfrey, Nick McKeown, Guru Parulkar, Barath Raghavan, Jennifer Rexford, Somaya Arianfar, and Dmitriy Kuptsov, "Architecting for innovation," in *ACM SIGCOMM Computer Communications Review*, Editorial Zone, July 2011.
- Jennifer Rexford, "The networking philosopher's problem," in *ACM SIGCOMM Computer Communications Review*, Editorial Zone, July 2011.
- Richard Wang, Dana Butnariu, and Jennifer Rexford, "OpenFlow-based server load balancing gone wild," in *Proc. Workshop on Hot Topics in Management of Internet, Cloud, and Enterprise Networks and Services (Hot-ICE)*, March 2011.
- Lavanya Jose, Minlan Yu, and Jennifer Rexford, "Online measurement of large traffic aggregates on commodity switches," in *Proc. Workshop on Hot Topics in Management of Internet, Cloud, and Enterprise Networks and Services (Hot-ICE)*, March 2011.

Nate Foster, Rob Harrison, Matthew L. Meola, Michael J. Freedman, Jennifer Rexford, and David Walker, “Frenetic: A high-level language for OpenFlow networks,” in *Proc. Workshop on Programmable Routers for the Extensible Services of Tomorrow*, November 2010.

Jennifer Rexford and Constantine Dovrolis, “Future Internet architecture: Clean-slate vs. evolutionary research,” *Communications of the ACM*, September 2010.

Michael Schapira, Yaping Zhu, and Jennifer Rexford, “Putting BGP on the right path: A case for next-hop routing,” in *Proc. HotNets*, October 2010.

Eric Keller and Jennifer Rexford, “The ‘Platform as a Service’ model for networking,” in *Proc. Internet Network Management Workshop and Workshop on Research in Enterprise Networking*, April 2010.

Matthew Caesar, Martin Casado, Teemu Koponen, Jennifer Rexford, and Scott Shenker, “Dynamic route computation considered harmful,” in *ACM SIGCOMM Computer Communications Review*, Editorial Zone, April 2010.

Minlan Yu and Jennifer Rexford, “Hash, don’t cache: Fast packet forwarding for enterprise edge routers”, in *Proc. ACM SIGCOMM Workshop on Research on Enterprise Networking (WREN)*, August 2009.

Eric Keller, Ruby Lee, and Jennifer Rexford, “Accountability in hosted virtual networks,” in *Proc. ACM SIGCOMM Workshop on Virtualized Infrastructure Systems and Architectures (VISA)*, August 2009.

Sapan Bhatia, Murtaza Motiwala, Wolfgang Muehlbauer, Yogesh Mundada, Vytautas Valancius, Andy Bavier, Nick Feamster, Larry Peterson, and Jennifer Rexford, “Trellis: A platform for building flexible, fast virtual networks on commodity hardware,” in *Proc. Workshop on Real Overlays & Distributed Systems (ROADS)*, December 2008.

Yaping Zhu, Rui Zhang-Shen, Sampath Rangarajan, and Jennifer Rexford, “Cabernet: Connectivity architecture for better network services,” *Proc. Workshop on Rearchitecting the Internet*, December 2008.

Ioannis Avramopoulos, Jennifer Rexford, and Robert Schapire, “From optimization to regret minimization and back again,” in *Proc. Workshop on Tackling Computer Systems Problems with Machine Learning Techniques*, December 2008.

Yaping Zhu, Jennifer Rexford, Andy Bavier, and Nick Feamster, “UFO: A resilient layered routing architecture,” *ACM SIGCOMM Computer Communications Review*, Editorial Zone, October 2008.

Matthew Caesar and Jennifer Rexford, “Building bug-tolerant routers with virtualization,” *Proc. ACM SIGCOMM Workshop on Programmable Routers for the Extensible Services of Tomorrow (PRESTO)*, August 2008.

Wenjie Jiang, Rui Zhang-Shen, Mung Chiang, and Jennifer Rexford, “On the interactions between content distribution and traffic engineering,” *Proc. ACM SIGCOMM NetEcon Workshop*, August 2008.

Nick McKeown, Tom Anderson, Hari Balakrishnan, Guru Parulkar, Larry Peterson, Jennifer Rexford, Scott Shenker, and Jonathan Turner, “OpenFlow: Enabling innovation in campus networks,” *ACM SIGCOMM Computer Communications Review*, Editorial Zone, April 2008.

Haakon Ringberg, Matthew Roughan, and Jennifer Rexford, "The need for simulation in evaluating anomaly detectors," *ACM SIGCOMM Computer Communications Review*, Editorial Zone, January 2008.

Haakon Ringberg, Augustin Soule, and Jennifer Rexford, "WebClass: Adding rigor to manual labeling of traffic anomalies," *ACM SIGCOMM Computer Communications Review*, Editorial Zone, January 2008.

Steven M. Bellovin, Matt Blaze, Whitfield Diffie, Susan Landau, Peter G. Neumann, and Jennifer Rexford, "Internal surveillance, external risks," Inside Risks Column, *Communications of the ACM*, December 2007.

Yi Wang, Jacobus van der Merwe, and Jennifer Rexford, "VROOM: Virtual ROuters On the Move," *Proc. ACM SIGCOMM HotNets Workshop*, November 2007.

Jiayue He, Jennifer Rexford, and Mung Chiang, "Don't optimize existing protocols, design optimizable protocols," in *ACM SIGCOMM Computer Communications Review*, Editorial Zone, July 2007.

Ioannis Avramopoulos and Jennifer Rexford, "A pluralist approach to interdomain communication security," in *Proc. NetEcon Workshop*, June 2007.

Changhoon Kim and Jennifer Rexford, "Revisiting Ethernet: Plug-and-play made scalable and efficient," invited paper in *Proc. IEEE Workshop on Local and Metropolitan Area Networks*, June 2007.

Nick Feamster, Lixin Gao, and Jennifer Rexford, "How to lease the Internet in your spare time," *ACM SIGCOMM Computer Communications Review*, Editorial Zone, p. 61-64, January 2007.

Dan Wendlandt, Ioannis Avramopoulos, David G. Andersen, and Jennifer Rexford, "Don't secure routing protocols, secure data delivery," in *Proc. ACM SIGCOMM HotNets Workshop*, November 2006.

Ramana Rao Kompella, Albert Greenberg, Jennifer Rexford, Alex C. Snoeren, and Jennifer Yates, "Cross-layer visibility as a service," *Proc. ACM SIGCOMM HotNets Workshop*, November 2005.

Harlan Yu, Jennifer Rexford, and Edward Felten, "A distributed reputation approach to cooperative Internet routing protection," *Proc. Workshop on Secure Network Protocols*, November 2005.

Renata Teixeira, Sharad Agarwal, and Jennifer Rexford, "BGP routing changes: Merging views from two ISPs," *ACM SIGCOMM Computer Communications Review*, Editorial Zone, October 2005.

Jian Zhang, Jennifer Rexford, and Joan Feigenbaum, "Learning-based anomaly detection in BGP updates," *Proc. ACM SIGCOMM MineNet Workshop*, August 2005.

Renata Teixeira, Nick Duffield, Jennifer Rexford, and Matt Roughan, "Traffic matrix reloaded: Impact of routing changes," *Proc. Passive and Active Measurement*, March/April 2005.

Jennifer Rexford, Albert Greenberg, Gisli Hjalmysson, David A. Maltz, Andy Myers, Geoffrey Xie, Jibin Zhan, and Hui Zhang, "Network-wide decision making: Toward a wafer-thin control plane," *Proc. ACM SIGCOMM HotNets Workshop*, November 2004.

Nick Feamster, Hari Balakrishnan, and Jennifer Rexford, "Some foundational problems in interdomain routing," *Proc. ACM SIGCOMM HotNets Workshop*, November 2004.

- Renata Teixeira and Jennifer Rexford, "A measurement framework for pin-pointing routing changes," *Proc. ACM SIGCOMM Workshop on Network Troubleshooting*, September 2004.
- Nick Feamster, Hari Balakrishnan, Jennifer Rexford, Aman Shaikh, and Jacobus van der Merwe, "The case for separating routing from routers," *Proc. ACM SIGCOMM Workshop on Future Directions in Network Architecture*, August 2004.
- Don Caldwell, Anna Gilbert, Joel Gottlieb, Albert Greenberg, Gisli Hjalmtysson, and Jennifer Rexford, "The cutting EDGE of IP router configuration," *Proc. ACM SIGCOMM HotNets Workshop*, November 2003.
- Jennifer Rexford, Jia Wang, Zhen Xiao, and Yin Zhang, "BGP routing stability of popular destinations," *Proc. Internet Measurement Workshop*, November 2002.
- Nick Feamster and Jennifer Rexford, "Network-wide BGP route prediction for traffic engineering," *Proc. SPIE ITCOM Workshop on Scalability and Traffic Control in IP Networks*, August 2002.
- Subhabrata Sen, Jennifer Rexford, and Andrea Basso, "A smoothing proxy service for variable-bit-rate streaming video," *Proc. Global Internet Symposium*, December 1999.
- Balachander Krishnamurthy and Jennifer Rexford, "En Passant: Predicting HTTP/1.1 traffic," *Proc. Global Internet Symposium*, December 1999.
- Subhabrata Sen, Lixin Gao, Jennifer Rexford, and Don Towsley, "Optimal patching schemes for efficient multimedia streaming," *Proc. International Workshop on Network and Operating Systems Support for Digital Audio and Video*, June 1999.
- Ramon Caceres, Balachander Krishnamurthy, and Jennifer Rexford, "HTTP 1.0 logs considered harmful," position paper, *W3C Web Characterization Group Workshop*, November 1998.
- Balachander Krishnamurthy and Jennifer Rexford, "Software issues in characterizing Web server logs," position paper, *W3C Web Characterization Group Workshop*, November 1998.
- Anees Shaikh, Jennifer Rexford, and Kang Shin, "Efficient precomputation of quality-of-service routes," *Proc. Workshop on Network and Operating Systems Support for Digital Audio and Video*, July 1998.
- Jennifer Rexford, Subhabrata Sen, Jayanta Dey, Wu-chi Feng, James Kurose, John Stankovic, and Don Towsley, "Online smoothing of live, variable-bit-rate video," *Proc. International Workshop on Network and Operating Systems Support for Digital Audio and Video*, May 1997, pp. 249-257.
- Jennifer Rexford, Ashish Mehra, James Dolter, and Farnam Jahanian, "Window-consistent replication for real-time applications," *Proc. Workshop on Real-Time Operating Systems and Software*, May 1994, pp. 107-111.
- Jennifer Rexford and Kang G. Shin, "Support for multiple classes of traffic in multicomputer routers," *Proc. Parallel Computer Routing and Communication Workshop*, May 1994, pp. 116-130.
- Jennifer Rexford, James Dolter, and Kang G. Shin, "Hardware support for controlled interaction of guaranteed and best-effort communication," *Proc. Workshop on Parallel and Distributed Real-Time Systems*, April 1994, pp. 188-193.

## Issued patents

Yaron Koral, Simon Tse, Steven A. Monetti, Tzoo-Yi Wang, Jennifer Rexford, Xiaoqi Chen, and Shir Landau Feibish, "Microburst detection and management," U.S. patent 12047295, assignee AT&T and Princeton University, issued July 23, 2024.

Yaron Koral, Tuan Duong, Steven A. Monetti, Tzoo-Yi Wang, Simon Tse, Shir Landau Feibish, Jennifer Rexford, and Xiaoqi Chen, "Systems, methods, and computer-readable media for external non-intrusive packet delay measurement," U.S. patent 11025519, assignee AT&T and Princeton University, issued June 1, 2021.

Alexandre Gerber, Changhoon Kim, Jennifer Rexford, and Matthew Caesar, "Systems and methods for optimized route caching," U.S. patent 9559955, assignee AT&T, issued January 31, 2017.

Alexandre Gerber, Changhoon Kim, Jennifer Rexford, and Matthew Caesar, "Systems and methods for optimized route caching," U.S. patent 9210084, assignee AT&T, issued December 8, 2015.

Jacobus van der Merwe, Jennifer Rexford, and Eric Keller, "Methods and apparatus to migrate border gateway protocol sessions between routers" U.S. patent 8806032, assignee AT&T, issued August 12, 2014.

Dahai Xu, Robert Doverspike, David Johnson, Jennifer Rexford, and Martin Suchara, "Method of simple and efficient failure resilient load balancing," U.S. patent 8422379, assignee AT&T, issued April 16, 2013.

Timothy Griffin, Mauricio Resende, Jennifer Rexford, and Renata Teixeira, "Traffic engineering method with tunable inter-domain egress selection," U.S. patent 7904586, assignee AT&T, issued March 8, 2011.

Timothy Griffin, Mauricio Resende, Jennifer Rexford, and Renata Teixeira, "Method for tunable inter-domain egress selection," U.S. patent 7581022, assignee AT&T, issued August 25, 2009.

Anja Feldmann, Albert Greenberg, Carsten Lund, Nick Reingold, Jennifer Rexford, and Fred True, "System and method for deriving traffic demands for a packet-switched network," U.S. patent 7027448, assignee AT&T, issued April 11, 2006.

Jennifer Rexford and Anees Shaikh, "Method and apparatus for load-sensitive routing of long-lived packet flows," U.S. patent 6801502, assignee AT&T, issued October 5, 2004.

Edith Cohen, Balachander Krishnamurthy, and Jennifer Rexford, "Method and apparatus for improving end to end performance of a data network," U.S. patent 6751608, assignee AT&T, issued June 15, 2004.

Jennifer Rexford and Anees Shaikh, "Efficient precomputation of quality-of-service routes," U.S. patent 6633544, assignee AT&T, issued October 14, 2003.

Edith Cohen, Balachander Krishnamurthy, and Jennifer Rexford, "Method and apparatus for improving end to end performance of a data network," U.S. patent 6330561, assignee AT&T, issued December 11, 2001.

Flavio Bonomi, Albert Greenberg, and Jennifer Rexford, "Method and apparatus for integrated traffic shaping in a packet-switched network," U.S. patent 6011775, assignee AT&T, issued January 4, 2000.

Flavio Bonomi, Albert Greenberg, and Jennifer Rexford, "Method for integrated traffic shaping in a packet-switched network," U.S. patent 5864540, assignee AT&T and Zeitnet/Cabletron, issued January 26, 1999.

Flavio Bonomi, Albert Greenberg, and Jennifer Rexford, "Method for leaky bucket traffic shaping using fair queueing collision arbitration," U.S. patent 5831971, assignee Lucent, issued November 3, 1998.