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Academic Employment

Stanford University
- *Professor (Emeritus) of Electrical Engineering and Computer Science (2023-)*
- *Kleiner Perkins, Mayfield, Sequoia Professor of Engineering (2012-2023)*
- *Professor of Electrical Engineering and Computer Science (2010-2023)*
- *Faculty Director, Open Networking Research Center (2012-2016)*
- *Faculty Director, Clean Slate Design for the Internet (2006-2012)*
- *Associate Professor of Electrical Engineering and Computer Science (2002-2010)*
- *Assistant Professor of Electrical Engineering and Computer Science (1995- 2002)*

Oxford University
- *Visiting Professor of Engineering (2023-)*
- *Senior Research Fellow, Somerville College, Oxford (2024-)*

Current research interests

AI fabrics, video streaming, and low-cost AUVs for ocean research.

Academic Background

Place of Study	Degree	Dates
University of California, Berkeley Electrical Engineering and Computer Science	PhD	May 1995
University of California, Berkeley Electrical Engineering and Computer Science	MS	May 1992
University of Leeds, England Electrical and Electronic Engineering	BEng	May 1986

Phd Thesis: Scheduling Cells in an Input-Queued Cell Switch.
Adviser: Professor Jean Walrand, University of California, Berkeley.

Other Organizations

UK Prime Minister's Council on Science and Technology (CST) (2025 - Present)
UK Advanced Research and Invention Agency (ARIA) (2025 - Present)
Intel Corp, SVP/GM of the Network and Edge (NEX) Group, (2021 - 2023)
Intel Corp, Senior Fellow, (2019 - 2025)
P4 Language Consortium (P4.org), Founder and Board Member (2014-2020)
Barefoot Networks Inc, Co-Founder, Chairman, Chief Scientist (2013-2019; Acquired by Intel Corp)
> *Barefoot was the first company to demonstrate that you don't need to compromise on performance, power or cost to build a fully programmable switch.*

Open Networking Foundation (ONF), Co-Founder and Board Member (2010-2023)
Open Networking Lab (ON.Lab), Board Member (2011-2016)
Nicira Networks Inc, Co-Founder and Board Member (2007-2012; Acquired by VMware)
> *Nicira was one of the first "software-defined networking" (SDN) companies and invented the concept of "network virtualization".*

Nemo Systems Inc, CEO and Co-Founder (2003-2005; Acquired by Cisco)
> *"Network Memory" saves networking companies hundreds of millions of dollars per year on high price SRAMs for packet buffering and event counters.*

Abrizio Inc, CTO and Co-Founder (1998-2001; Acquired by PMC-Sierra)
> *An offshoot of the Tiny Tera Project, Abrizio was a fabless semiconductor company enabling companies to build high performance multi-chassis switches and routers.*

Hewlett-Packard Labs, Bristol, UK (1986-89)

Awards

1. Marconi Prize, 2025
2. Sigcomm Network Systems Award for Tofino and P4, 2025
3. Sigcomm "Test of Time" Award for P4 paper, 2014.
4. NSDI "Test of Time" Award for Header Space Analysis paper, 2024.
5. Fellow of National Academy of Inventors, 2023
6. IET Mountbatten Medal, 2021
7. IEEE Alexander Graham Bell Medal, 2021
8. Learning @ Scale "Best Paper Award" for CS Bridge Paper, 2020
9. Sigcomm "Test of Time" Award for Mininet paper, 2020.
10. Sigcomm "Test of Time" Award for Ethane paper on SDN, 2017.
11. Sigcomm "Best CCR paper" for Reproducibility paper, 2017.
12. NEC Computer & Communications Award, 2015.
13. Sigcomm "Test of Time" Award for paper on Buffer Sizing in Routers, 2015.
14. Sigcomm "Best CCR paper" for P4 paper, 2015.
15. Fellow of American Academy of Arts and Sciences, 2015.
16. ETH Zurich, Honorary Doctorate, 2014.

17. UC Berkeley EECS Department Distinguished Alumni Award, 2013.
18. Sigcomm Award for lifetime contributions to networking, 2012.
19. US National Academy of Engineering, 2011.
20. IEEE Koji Kobayashi Computers and Communication Award, 2009. Citation: "Considered the dominant contributor to both the theory and practice of switching technology."
21. MIT Technology Review TR10 2009.
    "Software Defined Networking" identified as one of the ten most promising new technology trends.
22. ACM Sigcomm Best Demo Awards: 2008 and 2009.
23. Fellow of the IEEE, 2005.
24. Fellow of the ACM, 2006.
25. Ada Lovelace Medal, British Computer Society, 2005.
    Citation: "Considered the world's leading expert on router design."
26. Fellow of the Royal Academy of Engineering (UK), 2004.
27. STMicroelectronics Faculty Development Scholar, 2003-2006.
28. IEEE Comms Society Stephen O. Rice Prize Paper Award in the Field of Communication Theory, 2000.
29. Charles Lee Powell Fellowship, 2000-2001.
30. Alfred P. Sloan Fellow, 1997-1999.
31. Robert N. Noyce Faculty Scholar, Stanford, 1997-1999.
32. Hewlett-Packard Labs Ph.D. Scholarship, 1989-1993.
33. IEE Undergraduate Scholarship, 1985-1986.
34. University Award for outstanding achievement, Leeds, 1986.
35. University Award for instrumentation and control, Leeds, 1986.
36. British National Engineering Scholarship, 1982-1986.
37. Undergraduate Scholarship from GEC-Marconi, 1981-1985.

Graduated PhD Students: See https://www.stanford.edu/~nickm/students.html

Professional Service

1. NINES Workshop, 2026
2. Sigcomm Award Committee Chairman, ACM Sigcomm 2017, 2018.
3. Program Committee Member, SOSR Conference, 2015.
4. Program Committee Member, NSDI, 2014.
5. Program Committee Member, Sigcomm Conference, 2012.
6. Program Committee Member, Sigcomm HotSDN Conference, 2012.
7. Program Committee Member, Sigcomm workshop on Education, 2011.
8. Program Committee Member, WISH workshop, 2011.
9. Co-founder and Board Member, Open Networking Foundation (ONF), 2011.
10. Program Committee Member, Usenix NSDI Conference, 2009.
11. Program Committee, ACM Sigcomm VISA Workshop, 2009.
12. Program Committee, ACM Sigcomm WREN Workshop, 2009.
13. Program Committee, PRESTO Workshop, 2009.

14. Program Co-Chair, ACM Sigcomm, August 2006.
15. Steering Committee, ANCS, 2006-.
16. Program Committee Member, ACM Sigcomm, 1998-2002, 2005, 2006.
17. Editor for IEEE Transactions on Networking, 2000-2003.
18. Member of Technical Advisory Committee for ACM Sigcomm, 1999-2008.
19. Chair of Technical Advisory Committee for ACM Sigcomm, 2003-2007.
20. Program Committee Co-chair, Hot Nets III, 2003.
21. Editor for Switching and Routing, IEEE Transactions on Communication, 1997-2000.
22. Guest Editor for IEEE Communications Magazine, December 2000.
23. Guest Editor for IEEE Networks Magazine, January 2001.
24. Guest Editor for IEEE Micro Magazine, January/February 1999.
25. Guest Editor for IEEE JSAC Special Issue, June 1999.
26. Program Committee Co-chair, Hot Interconnect VI, 1998.
27. Program Committee member, IEEE Infocom 1998.
28. Local Organizer Co-chair, Hot Interconnects V, 1997.
29. Program Committee member, Hot Interconnects V, 1997.
30. Conference Chairman of Gignet '97, London, June 1997.
31. Program Committee member, IEEE LAN/MAN Workshop, 1996.
32. Conference chair, Workshop on High Speed Switching & Routing, Stanford, 1996.

Publications

Journals

1. Stephen Ibanez, Alex Mallery, Serhat Arslan, Theo Jepsen, Muhammad Shahbaz, Changhoon Kim, Nick McKeown "Enabling the Reflex Plane with the nanoPU" *arXiv preprint arXiv:2212.06658,* https://arxiv.org/abs/2212.06658*, December 2022.*
2. Theo Jepsen, Stephen Ibanez, Gregory Valiant, Nick McKeown "From Sand to Flour: The Next Leap in Granular Computing with NanoSort", *arXiv preprint arXiv:2204.12615, https://arxiv.org/abs/2204.12615, April 2022.*
3. Bruce Spang, Serhat Arslan, Nick McKeown "Updating the Theory of Buffer Sizing" *ACM SIGMETRICS Performance Evaluation Review, Volume 49 Issue 325, pp. 55–56, https://doi.org/10.1145/3529113.3529131, March 2022.*
4. Bruce Spang, Veronica Hannan, Shravya Kunamalla, Te-Yuan Huang, Nick McKeown, Ramesh Johari "Unbiased experiments in congested networks" *IMC '21: Proceedings of the 21st ACM Internet Measurement Conference, pp. 80–95, https://doi.org/10.1145/3487552.3487851, November 2021.*
5. Serhat Arslan, Stephen Ibanez, Alex Mallery, Changhoon Kim, Nick McKeown "NanoTransport: A Low-Latency, Programmable Transport Layer for NICs" *Proceedings of the ACM SIGCOMM Symposium on SDN Research (SOSR), pp. 13-26, https://dl.acm.org/doi/abs/10.1145/3482898.3483365, October 2021.*

6. Stephen Ibanez, Alex Mallery, Serhat Arslan, Theo Jepsen, Muhammad Shahbaz, Changhoon Kim, Nick McKeown "The nanoPU: A Nanosecond Network Stack for Datacenters" *OSDI, https://www.usenix.org/system/files/osdi21-ibanez.pdf, July 2021.*

7. Bruce Spang, Serhat Arslan, Nick McKeown "Updating the theory of buffer sizing" *Performance Evaluation,Volume 151, https://doi.org/10.1016/j.peva.2021.102232, March 2022.*

8. K Bell, J Hong, N McKeown, C Voss "The Recon Approach: A New Direction for Machine Learning in Criminal Law, *Berkeley Technology Law, papers.ssrn.com, May 2021.*

9. Hari Balakrishnan, Sujata Banerjee, Israel Cidon, David Culler, Deborah Estrin, EthanKatz-Bassett, Arvind Krishnamurthy, James McCauley, Nick McKeown, Aurojit Panda, Sylvia Ratnasamy, Jennifer Rexford, Michael Schapira, Scott Shenker, Ion Stoica, David Tennenhouse, Amin Vahdat, Ellen Zegura "Revitalizing the Public Internet By Making it Extensible" *ACM SIGCOMM Computer Communication Review, April 2021.*

10. Stephen Ibanez, Alex Mallery, Serhat Arslan, Theo Jepsen, Muhammad Shahbaz, Nick McKeown, Changhoon Kim "The nanoPU: Redesigning the CPU-Network Interface to Minimize RPC Tail Latency*", Cornell University, ariv preprint arXiv:2010.12114, aixrv.org, October 2020.*

11. N Foster, N McKeown, J Rexford, G Parulkar "Using deep programmability to put network owners in control" *ACM SIGCOMM, dl.acm.org, 2020.*

12. Chris Piech, Lisa Yan, Lisa Einstein, Ana Saavedra, Baris Bozkurt, Eliska Sestakova, Ondrej Guth, Nick McKeown "Co-Teaching Computer Science Across Borders: Human-Centric Learning at Scale" *L@S '20: Proceedings of the Seventh ACM Conference on Learning @ Scale, pp. 103-113, dl.acm.org, August 2020.*

13. S Ibanez, A Mallery, S Arslan, T Jepsen, M Shahbaz, N McKeown, C Kim "The nanoPU: Redesigning the CPU-Network Interface to Minimize RPC Tail Latency"*arXiv preprint arXiv:2010.12114, October 2020.*

14. Larry Peterson, Tom Anderson, Sachin Katti, Nick McKeown, Guru Parulkar, Jennifer Rexford, Mahadev Satyanarayanan, Oguz Sunay, Amin Vahdat "Democratizing the Network Edge" *ACM SIGCOMM Computer Communication Review, April 2019.*

15. Lisa Yan, Nick McKeown "Learning Networking by Reproducing Research Results" *ACM CCR Journal, April 2017.*

16. Changhoon Kim, Ron Kao, Nick McKeown "Programming the Network Dataplane in P4 (in Chinese)" *Communications of the CCF (China Computer Federation), July 2016.*

17. Gianni Antichi, Muhammad Shahbaz, Yilong Geng, Noa Zilberman, Adam Covington, Marc Bruyere, Nick McKeown, Nick Feamster "OSNT: Open Source Network Tester" *Network, IEEE, September 2014.*

18. Pat Bosshart, Dan Daly, Glen Gibb, Martin Izzard, Nick McKeown, Jennifer Rexford, Cole Schlesinger, Dan Talayco, Amin Vahdat, George Varghese, David Walker "P4: Programming Protocol-Independent Packet Processors" *ACM Sigcomm Computer Communications Review (CCR). Volume 44, Issue #3, July 2014.*

19. Masayoshi Kobayashi, Srini Seetharaman, Guru Parulkar, Guido Appenzeller, Joseph Little, Johan Van Reijendam, Paul Weissmann, Nick McKeown "Maturing of OpenFlow and Software-defined Networking through deployments" *Computer Networks, Vol 61, pp. 151-175, March 2014.*

20. Hongyi Zeng, Peyman Kazemian, George Varghese, Nick McKeown "Automatic Test Packet

Generation" *IEEE/ACM Transactions on Networking*

21. Saurav Das, Guru Parulkar, Nick McKeown "Rethinking IP Core Networks" *Journal of Optical Communications and Networking, December 2013.*

22. Masayoshi Kobayashi, Srini Seetharaman, Guru Parulkar, Guido Appenzeller, Joseph Little, Johan van Reijendam, Paul Weissmann, Nick McKeown "Maturing of OpenFlow and Software-defined Networking through Deployments" *Elsevier October 2013.*

23. Brandon Heller, Rob Sherwood, Nick McKeown "The Controller Placement Problem" *Computer Communication Review 42(4): 473-478, 2012.*

24. Masayoshi Kobayashi, Srini Seetharaman, Guru Parulkar, Guido Appenzeller, Joseph Little Johan van Reijendam, Paul Weissmann, Nick McKeown "Maturing of OpenFlow and Software Defined Networking through Deployments" *Elsevier August 14, 2012.*

25. Hongyi Zeng, Peyman Kazemian, George Varghese, Nick McKeown "Formal Network Testing" *Technical Report : Stanford University, Stanford, CA USA, UCSD, San Diego and Yahoo! Labs, Santa Clara, CA, USA*

26. Kok-Kiong Yap, Te-Yuan Huang, Yiannis Yiakoumis, Masayoshi Kobayashi, Sachin Katti, Guru Parulkar, Nick McKeown "Making Use of All the Networks Around Us: A Case Study in Android" *ACM CellNet Workshop 2012, Aug., Helsinki, Finland (Affiliated with ACM SIGCOMM 2012). Also in Computer Communication Review 42(4): 455-460 (2012)*

27. Saurav Das, Guru Parulkar, Nick McKeown "Why OpenFlow/SDN Can Succeed Where GMPLS Failed" *ECOC Technical Digest, 2012 OSA*

28. Kok-Kiong Yap, Yiannis Yiakoumis, Masayoshi Kobayashi, Sachin Katti, Guru Parulkar, and Nick McKeown "Separating Authentication, Access and Accounting: A Case Study with OpenWiFi" *Stanford University NEC OPENFLOW-TR-2011-1*

29. Daniel J. Blumenthal, John Barton, Neda Beheshti, John E. Bowers, Emily Burmeister, Larry A. Coldren, Matt Dummer, Garry Epps, Alexander Fang, Yashar Ganjali, John Garcia, Brian Koch, Vikrant Lal, Erica Lively, John Mack, Milan Masanovic, Nick McKeown, Kim Nguyen, Steven C. Nicholes, Hyundai Park, Biljana Stamenic, Anna Tauke-Pedretti, Henrik Poulsen, and Matt Sysak "Integrated Photonics for Low-Power Packet Networking". IEEE Journal of Selected Topics in Quantum Electronics, Vol 17, No. 2, March/April 2011.

30. Neda Beheshti, Emily Burmeister, Yashar Ganjali, John Bowers, Dan Blumenthal, and Nick McKeown "Optical Packet Buffers for Backbone Internet Routers". IEEE Transactions on Networking, Vol. 18, No. 5, Oct 2010.

31. Kok-Kiong Yap, Masayoshi Kobayashi, Rob Sherwood, Te-Yuan Huang, Michael Chan, Nikhil Handigol, and Nick McKeown. "OpenRoads: empowering research in mobile networks." *SIGCOMM Comput. Commun. Rev.* 40, 1 (January 2010).

32. Martin Casado, Michael J. Freedman, Justin Pettit, Jianying Luo, Natasha Gude, Nick McKeown, and Scott Shenker, "Rethinking Enterprise Network Control," *Transactions on Networking (ToN),* Vol. 17, No. 4, pp. 1270-1283, August 2009.

33. Ashvin Lakshmikantha, R. Srikant, Nandita Dukkipati, Nick McKeown, and Carolyn Beck, "Buffer Sizing results for RCP Congestion Control under Connection Arrivals and Departures," *ACM SIGCOMM Computer Communications Review*, Vol. 39, No. 1, pp. 5-15, January 2009.

34. Sundar Iyer, Ramana Kompella, and Nick McKeown, "Designing packet buffers for router linecards," *IEEE Transactions on Networking,* Vol. 16, No. 3, pp. 705-717, June 2008.

35. 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 Communication Review,* Vol. 38, No. 2, pp. 69-74, April 2008.

36. Natasha Gude, Teemu Koponen, Justin Pettit, Ben Pfaff, Martin Casado, Nick McKeown, and Scott Shenker, "NOX: Towards an Operating System for Networks," *ACM Computer Communications Review*, Vol. 38, No. 3, pp. 105-110, April 2008.

37. Glen Gibb, John W. Lockwood, Jad Naous, Paul Hartke, and Nick McKeown, "NetFPGA -- Open Platform for Teaching How to Build Gigabit-rate Network Switches and Routers," *IEEE Transactions on Education,* Vol. 51, No. 3, pp. 364-369, 2008.

38. Hamsa Balakrishnan, Nandita Dukkipati, Nick McKeown, and Claire Tomlin, "Stability Analysis of Explicit Congestion Control Protocols," *IEEE Communications Letters,* Vol. 11, No. 10, pp. 823-825, October 2007.

39. Yashar Ganjali, and Nick McKeown, "Update on Buffer Sizing in Internet Routers," *Computer Communications Review (CCR),* Vol. 36, No. 5, pp. 67-70, October 2006.

40. Nandita Dukkipati, and Nick McKeown, "Why flow-completion time is the right metric for congestion control," *ACM SIGCOMM Computer Communication Review,* Vol. 36, No. 1, pp. 59-62, January 2006.

41. Damon Wischik, and Nick McKeown, "Part I: Buffer Sizes for Core Routers," *ACM/SIGCOMM Computer Communication Review,* Vol. 35, No. 3, pp. 75-78, July 2005.

42. Mihaela Enachescu, Yashar Ganjali, Ashish Goel, Tim Roughgarden, and Nick McKeown, "Part III: Routers with Very Small Buffers," *ACM/SIGCOMM Computer Communication Review,* Vol. 35, No. 3, pp. 83-90, July 2005.

43. Mingjie Lin, and Nick McKeown, "The Throughput of a Buffered Crossbar Switch," *IEEE Communications Letters*, Vol. 9, No. 5, pp. 465-467, May 2005.

44. Srikanth Arekapudi, Shang-Tse Chuang, Isaac Keslassy, Nick McKeown, "Using Hardware to Configure a Load-Balanced Switch," *IEEE Micro*, vol. 25, No. 1, pp. 70-78, January/February 2005.

45. Isaac Keslassy, Rui Zhang-Shen, and Nick McKeown, "Maximum Size Matching is Unstable for Any Packet Switch," *IEEE Communications Letters,* Vol. 7, No. 10, pp. 496-498, October 2003.

46. Sundar Iyer, and Nick McKeown, "Using Constraint Sets to Achieve Delay Bounds in CIOQ Switches," *IEEE Communication Letters*, Vol. 7, No. 6, pp. 275-277, June 2003.

47. Sundar Iyer, and Nick McKeown, "Analysis of the Parallel Packet Switch Architecture," *IEEE/ACM Transactions on Networking,* pp. 314-324, April 2003.

48. Pablo Molinero-Fernandez, and Nick McKeown, "The performance of circuit switching in the Internet," *OSA Journal of Optical Networking,* Vol. 2, No. 4, pp.1-14, March 2003.

49. Pablo Molinero-Fernandez, Nick McKeown, and Hui Zhang "Is IP going to take over the world (of communications)?" *ACM Computer Communications Review*, Vol. 33, No. 1, pp. 113-118, January 2003.

50. Sundar Iyer, Rui Zhang, and Nick McKeown, "Routers with a Single Stage of Buffering," *ACM Computer Communication Review,* Vol. 32, No. 4, pp. 251-264, October 2002.

51. Martin Casado, Vikram Vijayaraghavan, Guido Appenzeller, and Nick McKeown, "The Stanford Virtual Router: a teaching tool and network simulator," *ACM SIGCOMM Computer*

Communication Review, Vol. 32, No. 3, pp. 26-26, July 2002.

52. Pablo Molinero-Fernandez, and Nick McKeown, "The performance of circuit switching in the Internet," *ACM SIGCOMM Computer Communication Review/Abstract,* Vol. 32, No. 3, pp. 12-12, July 2002.

53. Pablo Molinero-Fernandez, and Nick McKeown, "TCP Switching: Exposing circuits to IP," *IEEE Micro Magazine,* Vol. 22, No. 1, pp. 82-89, January-February 2002.

54. Devavrat Shah, Sundar Iyer, Balaji Prabhakar, and Nick McKeown, *"*Maintaining Statistics Counters in Router Line Cards," *IEEE MicroMagazine,* Vol. 22, No. 1, pp. 76-81*,* January-February 2002.

55. Sundar Iyer, and Nick McKeown, "On the Speedup Required for a Multicast Parallel Packet Switch," *IEEE Communication Letters,* Vol. 5, No. 6, pp. 269-271, June 2001.

56. Pankaj Gupta, and Nick McKeown, "Algorithms for Packet Classification," *IEEE Network*, Vol. 15, No. 2, pp. 24-32, March-April 2001.

57. Pankaj Gupta, and Nick McKeown, "Packet Classification using Hierarchical Intelligent Cuttings," *IEEE Micro Magazine*, Vol. 20, No. 1, pp. 34-41, January-February 2000.

58. Shang-Tse Chuang, Ashish Goel, Nick McKeown, and Balaji Prabhakar, "Matching Output Queueing with a Combined Input Output Queued Switch," *IEEE Journal on Selected Areas in Communications*, Vol. 17, No. 6, pp. 1030-1039, December 1999.

59. Balaji Prabhakar, and Nick McKeown, "On the Speedup Required for Combined Input and Output Queued Switching," *Automatica,* Vol. 35, No. 12, pp. 1909-1929, December 1999.

60. Nick McKeown, Adisak Mekkittikul, Venkat Anantharam, and Jean Walrand, "Achieving 100% Throughput in an Input-Queued Switch (Extended Version)," *IEEE Transactions on Communications,* Vol. 47, No. 8, pp. 1260-1267, August 1999.

61. Nick McKeown, "iSLIP: A Scheduling Algorithm for Input-Queued Switches," *IEEE Transactions on Networking,* Vol. 7, No. 2, pp. 188-201, April 1999.

62. Pankaj Gupta, and Nick McKeown, "Design and Implementation of a Fast Crossbar Scheduler," *IEEE Micro Magazine*, Vol. 19, No.1, pp. 20-28, January-February 1999.

63. Kun-Yung Ken Chang, Shang-Tse Chuang, Nick McKeown, and Mark Horowitz, "A 50 Gb/s 32*32 CMOS crossbar chip using asymmetric serial links," *1999 Symposium on VLSI Circuits. Digest of Technical Papers,* pp. 19-22, 1999.

64. Nick McKeown, and Thomas E. Anderson, "A Quantitative Comparison of Scheduling Algorithms for Input-Queued Switches," *Computer Networks and ISDN Systems*, Vol. 30, No. 24, pp. 2309-2326, December 1998.

65. Nick McKeown, "A Fast Switched Backplane for a Gigabit Switched Router," *Business Communications Review,* Vol. 27, No. 12, December 1997.

66. Ritesh Ahuja, Balaji Prabhakar, and Nick McKeown, "Multicast Scheduling for Input-Queued Switches," *IEEE Journal on Selected Areas in Communications,* Boston, MA, Vol. 15, No. 15, pp. 885-866, June 1997.

67. Nick McKeown, Martin Izzard, Adisak Mekkittikul, Bill Ellersick, and Mark Horowitz, "The Tiny Tera: A Small High-Bandwidth Packet Switch Core," *IEEE Micro Magazine,* Vol. 17, No. 1*,* pp. 26 - 33, January-February 1997.

68. Richard Edell, Nick McKeown, and Pravin Varaiya, "Billing Users and Pricing for TCP," *IEEE JSAC Special Issue on Advances in the Fundamentals of Networking,* Vol. 13, No. 7, pp. 1162-75,

September 1995.

69. Nick McKeown, Pravin Varaiya, and Jean Walrand, "Scheduling Cells in an Input-Queued Switch," *IEE Electronics Letters*, Vol. 29, No. 25, pp.2174-2175, December 1993.

70. Nick McKeown, Richard Edell, and My T. Le, "The Bay Bridge: A High Speed Bridge/Router," *IFIP Transactions C (Communications Systems*), Vol. C-9, pp. 203-218, November 1993.

71. Steven E. Schladover, Charles A. Desoer, J. Karl Hedrick, Masayoshi Tomizuka, Jean Walrand, Wei-Bin Zhang, Donn H. McMahon, Huei Peng, Shahab Sheikholeslam, and Nick McKeown, "Automatic Vehicle Control Developments in the PATH Program," *IEEE Transactions on Vehicular Technology,* Vol. 40, No.1, pp. 114-130, February 1991.

Conferences and Workshops

1. Sundararajan Renganathan, Benny Rubin, Hyojoon Kim, Pier Luigi Ventre, Carmelo Cascone, Daniele Moro, Charles Chan, Nick McKeown, and Nate Foster. "Hydra: Effective Runtime Network Verification". *In Proceedings of the ACM SIGCOMM 2023 Conference (ACM SIGCOMM '23). Association for Computing Machinery, New York, NY, USA, 182–194. https://doi.org/10.1145/3603269.3604856*

2. Bruce Spang, Shravya Kunamalla, Renata Teixeira, Te-Yuan Huang, Grenville Armitage, Ramesh Johari, and Nick McKeown."Sammy: smoothing video traffic to be a friendly internet neighbor." *In Proceedings of the ACM SIGCOMM 2023 Conference (ACM SIGCOMM '23). Association for Computing Machinery, New York, NY, USA, 754–768. https://doi.org/10.1145/3603269.3604839*

3. Bruce Spang, Veronica Hannan, Shravya Kunamalla, Te-Yuan Huang, Nick McKeown, Ramesh Johari, "Unbiased experiments in congested network" *IMC '21: Proceedings of the 21st ACM Internet Measurement Conference, pp 80-95, https://doi.org/10.1145/3487552.3487851*

4. Serhat Arslan, Stephen Ibanez, Alex Mallery, Changhoon Kim, Nick McKeown "NanoTransport: A Low-Latency, Programmable Transport Layer for NICs" *SOSR '21: Proceedings of the ACM SIGCOMM Symposium on SDN Research (SOSR), pp 13-26, https://doi.org/10.1145/3482898.3483365*

5. Stephen Ibanez, Alex Mallery, Serhat Arslan, Theo Jepsen, Muhammad Shahbaz★, Changhoon Kim, and Nick McKeown *"The nanoPU: A Nanosecond Network Stack for Datacenters", OSDI 2021.*

6. Chris Piech, Lisa Einstein, Lisa Yan, Baris Bozkurt, Ana Saavedra and Nick Mckeown "Co-teaching Computer Science Across Borders" *ACM Learning@Scale, Virtual Event 2020.* **Best Paper Award**

7. Bruce Spang, Nick McKeown "On Estimating the Number of Flows" *In Proceedings of Buffer Sizing Workshop (BS '19). ACM, 2019, Stanford, CA, December 2019.*

8. Bruce Spang, Brady Walsh, Te-Yuan Huang, Tom Rusnock, Joe Lawrence, Nick McKeown "Buffer Sizing and Video QoE Measurements at Netflix" *In Proceedings of Buffer Sizing Workshop (BS '19). ACM, 2019, Stanford, CA, December 2019.*

9. Serhat Arslan, Nick McKeown "Switches Know the Exact Amount of Congestion" *In Proceedings of Buffer Sizing Workshop (BS '19). ACM, 2019, Stanford, CA, December 2019.*

10. Stephen Ibanez, Muhammad Shahbaz, Nick McKeown "The Case for a Network Fast Path to the CPU" *HotNets '19 Princeton, NJ, November 2019.*

11. Stephen Ibanez, Gianni Antichi, Gorden Brebner, Nick McKeown "Event-Driven Packet Processing" *HotNets '19 Princeton, NJ November 201*9.

12. Lavanya Jose, Stephen Ibanez, Mohammad Alizadeh, Nick McKeown "A Distributed Algorithm to Calculate Max-Min Fair Rates Without Per-Flow State" *ACM Sigmetrics, Phoenix, AZ. June 2019.*

13. Stephen Ibanez, Gordon Brebner, Nick McKeown, Noa Zilberman "The P4→NetFPGA Workflow for Line-Rate Packet Processing" *FPGA '19, Seaside, CA, February 2019.*

14. Jed Liu, William Hallahan, Cole Schlesinger, Milad Sharif, Jeongkeun Lee, Robert Soule, Han Wang Calin Cascaval, Nick McKeown, Nate Foster "p4v: Practical Verification for Programmable Data Planes" *SIGCOMM '18, Budapest, Hungary, August 2018.*

15. Lisa Yan, Nick McKeown, Mehran Sahami, and Chris Piech "TMOSS: Using Intermediate Assignment Work to Understand Excessive Collaboration in Large Classes" *SIGCSE '18 Baltimore, MD, February 2018.*

16. Eyal Cidon, Sean Choi, Sachin Katti, Nick McKeown "AppSwitch: Application-layer Load Balancing within a Software Switch" *APNeto '17, Hong Kong, August 2017.*

17. Anirudh Sivaraman, Alvin Cheung, Mihai Budiu, Changhoon Kim, Mohammad Alizadeh, Hari Balakrishnan, George Varghese, Nick McKeown, Steve Licking "Packet Transactions: High-Level Programming for Line-Rate Switches" *SIGCOMM '16, Florianopolis, Brazil, August 2016.*

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