

## CURRICULUM VITAE

George Porter

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 University of California, San Diego  
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**Research Interests**

Computer networks and data-intensive computing systems

**Education**

University of California, Berkeley      Computer Science      Ph.D. (2008)  
 Dissertation: "Improving Distributed Application Reliability with End-to-End Datapath Tracing"  
 Advisor: Randy H. Katz; Committee: Scott Shenker, Ion Stoica, Randy H. Katz

University of California, Berkeley      Computer Science      M.S. (2003)  
 Thesis: "Traffic Matrix Estimation for Low-loss Routing in Hybrid Networks"  
 Advisor: Randy H. Katz; Committee: Ion Stoica and Randy H. Katz

University of Texas at Austin      Computer Sciences      B.S. (2001)  
 Undergraduate Thesis: "A Commuting Diagram Relating Threaded and Non-threaded JVM Models"  
 Advisor: J Strother Moore; Committee: J Strother Moore and Robert S. Boyer

**Academic Research Experience**

2014—Present      Assistant Professor, University of California, San Diego  
 2013—Present      Co-Director, UCSD Center for Networked Systems (CNS)  
 2010—2014      Assistant Research Scientist, University of California, San Diego  
 2009—2010      Postdoctoral Scholar, University of California, San Diego  
 2008—2009      Visiting Scholar, University of California, San Diego  
 2001—2008      Graduate Student Researcher, University of California, Berkeley  
 2001      Research Assistant, University of Texas at Austin

**Academic Teaching Experience**

2011—2014      Lecturer, Revelle College, University of California, San Diego  
 2005      Summer Instructor, University of California, Berkeley  
 2002      Teaching Assistant, University of California, Berkeley

**Industrial Research Experience**

2009      Principal Investigator, Sun Microsystems Laboratories, Burlington, MA.  
 2008—2009      Technical Staff, Chief Technology Office, Sun Microsystems, Menlo Park, CA  
 2004      Research Intern, Network Technology Office, Sun Microsystems, Menlo Park, CA  
 2002      Research Intern, Compaq Systems Research Center / HP Labs, Palo Alto, CA  
 1995 – 2000      Programmer / Analyst, NeoSoft, Inc., Houston, TX

**Refereed Conference and Journal Publications**

SIGCOMM'17	William M. Mellette, Rob McGuinness, Arjun Roy, Alex Forencich, George Papen, Alex C. Snoeren, and George Porter, "RotorNet: A Scalable, Low-complexity, Optical Datacenter Network," Proceedings of the ACM SIGCOMM Conference, Los Angeles, August 2017.
ANCS'17	Conglong Li, Matthew Mukerjee, David G. Andersen, Srinivasan Seshan, Michael Kaminsky, George Porter, and Alex C. Snoeren, "Using Indirect Routing to Recover from Network Traffic Scheduling Estimation Error," Proceedings of the ACM/IEEE Symposium on Architectures for Networking and Communications Systems (ANCS), Beijing, China, 2017.
NSDI'17	Sadjad Fouladi, Riad S. Wahby, Brennan Shacklett, Karhikeyan Vasuki Balasubramaniam, William Zeng, Rahul Bhalerao, Anirudh Sivaraman, George Porter, and Keith Winstein, "Encoding, Fast and Slow: Low-Latency Video Processing Using Thousands of Tiny Threads," Proceedings of the 14th ACM/USENIX Symposium on Networked Systems Design and Implementation (NSDI), Boston, MA, March 2017.
NSDI'17	Li Chen, Kai Chen, Joshua Zhu, Minlan Yu, George Porter, Chunming Qiao, and Shan Zhong, "Enabling Wide-spread Communications on Optical Fabric with MegaSwitch," Proceedings of the 14th ACM/USENIX Symposium on Networked Systems Design and Implementation (NSDI), Boston, MA, March 2017.
Hotnets'16	William Mellette, Alex C. Snoeren, George Porter, "P-FatTree: A Multi-channel Datacenter Network Topology," Proceedings of the Fifteenth ACM Workshop on Hot Topics in Networks, Atlanta, GA, Nov. 2016.
Nanocom'16	Yeshaiahu Fainman, Andrew Grieco, George Porter, and Jordan Davis, "Nanophotonic Devices and Circuits for Communication," Proceedings of the Third Annual International Conference on Nanoscale Computing and Communication (ACM Nanocom '16), New York, NY, September 2016.
OFC'16	William Mellette, Glenn M. Schuster, George Porter, and Joseph Ford, "61 Port 1x6 Selector Switch for Data Center Networks," Proceedings of the Optical Fiber Communication Conference, Anaheim, Calif., March 2016.
ANCS'16	Pramod Subba Rao and George Porter, "Is memory disaggregation feasible? A case study with Spark SQL," Proceedings of the ACM/IEEE Symposium on Architectures for Networking and Communications Systems (ANCS), Santa Clara, Calif., March 2016.
Quantum Electronics'15	Andrew Grieco, George Porter, and Yeshaiahu Fainman, "Integrated Space-division Multiplexer for Data Center Networks," IEEE Journal of Selected Topics in Quantum Electronics, PP(99):1-1, October 2015.
CoNEXT'15	He Liu, Matthew K. Mukerjee, Conglong Li, Nicolas Feltman, George Papen, Stefan Savage, Srinivasan Seshan, Geoffrey M. Voelker, David G. Andersen, Michael Kaminsky, George Porter, and Alex C. Snoeren, "Scheduling Techniques for Hybrid Circuit/Packet Networks," Proceedings of ACM CoNEXT, Heidelberg, Germany, December 2015.
SOCC'15	Michael Conley, Amin Vahdat, and George Porter, "Achieving Cost-efficient, Data-intensive Computing in the Cloud," Proceedings of the ACM Symposium on Cloud Computing (SOCC'15), Kohala Coast, Hawaii, August 2015.
SIGCOMM'15	Arjun Roy, Hongyi Zeng, Jasmeet Bagga, George Porter, and Alex C. Snoeren, "Inside the Social Network's (Datacenter) Network," Proceedings of the ACM SIGCOMM Conference, London, England, August 2015.
OMN'15	Andrew Grieco, George Porter, and Yeshaiahu Fainman, "Nanophotonics: Technology and Application," Proceedings of the IEEE Optical MEMS and Nanophotonics Conference (OMN'15), Jerusalem, Israel, August 2015.
INFOCOM'15	Chang-Heng Wang, Tara Javidi, and George Porter, "Scheduling for Data Center Networks with Reconfiguration Delay," Proceedings of the IEEE Infocom Conference (INFOCOM'15), Hong Kong, China, April 2015.
NSDI'14	He Liu, Feng Lu, Alex Forencich, Rishi Kapoor, Malveeka Tewari, Geoffrey M. Voelker, George Papen, Alex C. Snoeren, and George Porter, "Circuit Switching Under the Radar with REACToR," Proceedings of the 11th USENIX Symposium on Networked Systems Design and

	Implementation (NSDI 2014), Seattle, WA, April 2014.
NSDI'14	Sivasankar Radhakrishnan, Yilong Geng, Vimalkumar Jeyakumar, Abdul Kabbani, George Porter, and Amin Vahdat, "SENIC: A Scalable NIC for End-Host Rate Limiting," Proceedings of the 11th USENIX Symposium on Networked Systems Design and Implementation (NSDI 2014), Seattle, WA, April 2014.
Optics Express	Ryan Aguinaldo, Alex Forencich, Christopher DeRose, Anthony Lentine, Douglas C. Trotter, Yeshaiahu Fainman, George Porter, George Papen, and Shayan Mookherjea, "Wideband silicon-photonics thermo-optic switch in a wavelength-division multiplexed ring network," Optics Express, 22(7):8205–8218, April 2014.
Science	Yeshaiahu Fainman and George Porter, "Directing Data Center Traffic," Science 342(6155):202-203, 2013.
CoNEXT'13	Rishi Kapoor, Alex C. Snoeren, Geoffrey M. Voelker, and George Porter, "Bullet Trains: A study of NIC burst behavior at microsecond timescales," Proceedings of ACM CoNEXT, Santa Barbara, CA, December 2013. (Short paper)
CoNEXT'13	Radhika Niranjan Mysore, George Porter, and Amin Vahdat, "FasTrak: Enabling Express Lanes in Multi-Tenant Data Centers," Proceedings of ACM CoNEXT, Santa Barbara, CA, December 2013.
ANCS'13	Sivasankar Radhakrishnan, Malveeka Tewari, Rishi Kapoor, George Porter, and Amin Vahdat, "Dahu: Commodity Switches for Direct Connect Data Center Networks," Proceedings of the ACM/IEEE Symposium on Architectures for Networking and Communications Systems (ANCS), San Jose, Calif., October 2013.
IEEE PTL	Nathan Farrington, Alex Forencich, George Porter, Pang-Chen Sun, Joseph Ford, Yeshaiahu Fainman, George C. Papen, and Amin Vahdat, "A Multiport Microsecond Optical Circuit Switch for Data Center Networking," IEEE Photonics Technology Letters, 25(16):1589-1592, 2013.
SIGCOMM'13	George Porter, Richard Strong, Nathan Farrington, Alex Forencich, Pang-Chen Sun, Tajana Rosing, Yeshaiahu Fainman, George Papen, and Amin Vahdat, "Integrating Microsecond Circuit Switching into the Data Center," Proceedings of the ACM SIGCOMM Conference, Hong Kong, China, August 2013.
PS'13	Nathan Farrington, George Porter, Alex Forencich, Joseph Ford, Yeshaiahu Fainman, Amin Vahdat, and George Papen, "Optical/Electrical Hybrid Switching for Datacenter Communications," Proceedings of the 18th OptoElectronics and Communications Conference (OECC2013) / Photonics in Switching (PS2013), Kyoto, Japan, July 8-10, 2013.
OFC'13	Nathan Farrington, Alex Forencich, Pang-Chen Sun, Shaya Fainman, Joe Ford, Amin Vahdat, George Porter, and George C. Papen, "A 10 us Hybrid Optical-Circuit/Electrical-Packet Network for Data Centers," Proceedings of OFC/NFOEC, Anaheim, CA, March 2013.
ACM TOCS	Alexander Rasmussen, George Porter, Michael Conley, Harsha Madhyastha, Radhika Niranjan Mysore, Alexander Pucher, and Amin Vahdat, "TritonSort: A Balanced and Energy-efficient Large-scale Sorting System," ACM Transactions on Computing Systems, vol. 31, no. 1, February 2013.
SoCC'12	Rishi Kapoor, George Porter, Malveeka Tewari, Geoffrey M. Voelker, and Amin Vahdat, "Chronos: Predictable Low Latency for Data Center Applications," Proceedings of the ACM Symposium on Cloud Computing (SOCC'12), San Jose, Calif., October 2012.
SoCC'12	Alexander Rasmussen, Michael Conley, Rishi Kapoor, Vinh The Lam, George Porter, and Amin Vahdat, "ThemisMR: An I/O-Efficient MapReduce," Proceedings of the ACM Symposium on Cloud Computing (SOCC'12), San Jose, Calif., October 2012.
ANCS'12	Mohammad Al-Fares, Rishi Kapoor, George Porter, Sambit Das, Hakim Weatherspoon, Balaji Prabhakar, and Amin Vahdat, "NetBump: User-extensible Active Queue Management with Bumps on the Wire," Proceedings of the ACM/IEEE Symposium on Architectures for Networking and Communications Systems (ANCS), Austin, Texas, October 2012.
ANCS'12	James W. Anderson, Ryan Braud, Rishi Kapoor, George Porter, and Amin Vahdat, "xOMB: Extensible Open Middleboxes with Commodity Servers," Proceedings of the ACM/IEEE Symposium on Architectures for Networking and Communications Systems (ANCS), Austin, Texas, October 2012.

EuroSys'12	Bhanu C. Vattikonda, George Porter, Amin Vahdat, Alex C. Snoeren, "Practical TDMA for Datacenter Ethernet," Proceedings of the 7th European Conference in Computing Systems (EuroSys'12), Bern, Switzerland, Apr 10-13, 2012.
FAST'12	Harsha V. Madhyastha, John C. McCullough, George Porter, Rishi Kapoor, Stefan Savage, Alex C. Snoeren, Amin Vahdat, "scc: Cluster Storage Provisioning Informed by Application Characteristics and SLAs," Proceedings of the 10th USENIX Conference on File and Storage Technologies (FAST'12), San Jose, Calif., Feb 14-17, 2012.
SoCC'11	Hamid Bazzaz, Malveeka Tewari, Guohui Wang, George Porter, T. S. Eugene Ng, David Anderson, Michael Kaminsky, Michael Kozuch, Amin Vahdat, "Switching the Optical Divide: Fundamental Challenges for Hybrid Electrical/Optical Datacenter Networks," Proceedings of the 2nd ACM Symposium on Cloud Computing (SOCC'11), Cascais, Portugal, Oct 27-28, 2011.
NSDI'11	Alexander Rasmussen, George Porter, Michael Conley, Harsha Madhyastha, Radhika Mysore, Alexander Pucher, Amin Vahdat, "TritonSort: A Balanced Large-Scale Sorting System," Proceedings of the 8th USENIX Symposium on Networked Systems Design and Implementation (NSDI 2011), Boston, MA, Mar 30-Apr 1, 2011.
SIGCOMM'10	Nathan Farrington, George Porter, Sivasankar Radhakrishnan, Hamid Bazzaz, Vikram Subramanya, Yeshaiahu Fainman, George Papen, Amin Vahdat, "A Hybrid Electrical/Optical Switch Architecture for Modular Data Centers," Proceedings of the ACM SIGCOMM 2010 Conference on Data Communication (SIGCOMM 2010), New Delhi, India, Aug 30-Sept 3, 2010.
SIGOPS OSR	George Porter, "Decoupling Storage and Computation in Hadoop with SuperDataNodes," SIGOPS Operating Systems Review. Vol. 44, Issue 2, April 2010.
NSDI'07	Rodrigo Fonseca, George Porter, Randy H. Katz, Scott Shenker, Ion Stoica, "X-Trace: A Pervasive Network Tracing Facility," Fourth USENIX Symposium on Networked Systems Design and Implementation (NSDI 2007), Cambridge, MA., April 2007.
NOMS'04	George Porter and Minwen Ji, "Delta Routing: Improving the Price-Performance of Hybrid Private Networks," IEEE/IFIP Network Operations & Management Symposium (NOMS 2004), Seoul, Korea, April 2004.
ACM TOPLAS	J Strother Moore and George Porter, "The apprentice challenge," ACM Transactions on Programming Languages and Systems (TOPLAS), Vol 24, No. 3, May 2002.
JVM'01	J Strother Moore and George Porter, "An Executable Formal Java Virtual Machine Thread Model," 2001 Java Virtual Machine USENIX Symposium (JVM 2001), Monterey, CA, Apr 2001.

### Refereed Workshops and magazines

HotCloud'13	Sivasankar Radhakrishnan, Vimalkumar Jeyakumar, Abdul Kabbani, George Porter, and Amin Vahdat, "NicPic: Scalable and Accurate End-Host Rate Limiting," Proceedings of the 5th USENIX Workshop on Hot Topics in Cloud Computing (HotCloud-V), San Jose, CA, June 2013.
Hotnets'12	Nathan Farrington, George Porter, Yeshaiahu Fainman, George Papen, and Amin Vahdat, "Hunting Mice with Microsecond Circuit Switches," Proceedings of the 11th ACM Workshop on Hot Topics in Networks (HotNets-XI), Redmond, WA., October 2012.
Usenix ;login	Harsha V. Madhyastha, John C. McCullough, George Porter, Rishi Kapoor, Stefan Savage, Alex C. Snoeren, and Amin Vahdat, "scc: Cluster Storage Provisioning Informed by Application Characteristics and SLAs," USENIX ;login: 37(3), June 2012.
IEEE Micro	Amin Vahdat, Mohammad Al-Fares, Nathan Farrington, Radhika Niranjan Mysore, George Porter, and Sivasankar Radhakrishnan, "Scale Out Networking in the Data Center", IEEE Micro, July/August 2010.
INM/WREN'10	Rodrigo Fonseca, Michael J. Freedman, George Porter, "Experiences with Tracing Causality in Networked Services," Internet Network Management Workshop / Workshop on Research on Enterprise Networking (INM/WREN 2010), San Jose, CA., April 2010.
LADIS'09	George Porter, "Towards Decoupling Storage and Computation in Hadoop with SuperDataNodes," Third ACM SIGOPS International Workshop on Large Scale Distributed

Systems and Middleware (LADIS 2009), Big Sky, MT., October 2009.

ACM CACM	George Porter and Randy H. Katz, "Self Managed Systems and Services: Effective Web Service Load Balancing Through Statistical Monitoring," Communications of the ACM, Vol. 49, No. 3, March 2006.
SelfMan'05	George Porter and Randy H. Katz, "Effective 'Small Site' Web Load Balancing Through Statistical Monitoring," IEEE/IFIP International Workshop on Self-Managed Systems and Services (SelfMan 2005), Nice, France, May 2005.
ECOOP'01	J Strother Moore, Robert Krug, Hanbing Liu, and George Porter, "Formal Models of Java at the JVM Level--a Survey from the ACL2 Perspective," Workshop on Formal Techniques for Java Programs / ECOOP 2001, Budapest Hungary, June 2001.

### **Non-refereed publications and posters**

George Porter, "See Straight Through Data Center Bandwidth Limitations with X-Rays," Proceedings of TinyTOCS, April 2013.

George Porter, "TinyTOCS as an Experimental Laboratory," in TinyTOCS, vol. 1, no. 1, Sept 2012.

Nathan Farrington, George Porter, Pang-Chen Sun, Alex Forench, Joseph Ford, Yeshaiah Fainman, George Papen, and Amin Vahdat, "A Demonstration of Ultra-low Latency Data Center Optical Circuit Switching (Demo Session)," Proceedings of ACM SIGCOMM Conference, Helsinki, Finland, August 2012.

Harsha Madhyastha, George Porter, Meg Walraed-Sullivan, and Amin Vahdat, "TuneStore: A Tunable Storage System," Sixth USENIX Symposium on Networked Systems Design and Implementation (NSDI 2009) Poster Session, Boston, MA., April 2009.

Randy H. Katz, George Porter, Scott Shenker, Ion Stoica, and Mel Tsai, "COPS: Quality of Service vs. Any Service at All," International Workshop on Quality of Service (IWQoS 2005), Passau, Germany, June 2005. Invited Paper.

Rodrigo Fonseca, George Porter, Randy H. Katz, Scott Shenker, and Ion Stoica, "IP Options are not an option," University of California, Berkeley, Berkeley, CA, Tech. Rep. UCB/EECS-2005-24, 2005.

George Porter and Randy H. Katz, "In-network Video Prioritization via iBox Classification Predicates," University of California, Berkeley, Berkeley, CA, Tech. Rep. UCB/EECS-2005-1, 2005.

B. Raman, S. Agarwal, Y. Chen, M. Caesar, W. Cui, P. Johanson, K. Lai, T. Lavian, S. Machiraju, Z. Mao, G. Porter, T. Roscoe, M. Seshadri, J. Shih, K. Sklower, L. Subramanian, T. Suzuki, S. Zhuang, A. D. Joseph, R. H. Katz, and I. Stoica, "The SAHARA Model for Service Composition Across Multiple Providers," International Conference on Pervasive Computing (Pervasive 2002), Zurich, Switzerland, August 2002, Invited Paper.

### **Patents**

George Porter and William Mellette, "Circuit switched network interface device," In submission.

Joseph Ford, William Mellette, George Papen, George Porter, and Alex C. Snoeren, "Partially configurable switch and network architecture," In submission.

George Porter and David Vengerov, "Method for determining whether to dynamically replicate data," US Patent Application #12/649,466 (filing date Dec 30, 2009).

Minwen Ji and George Porter, "Method of Routing Packet," US Patent #7,697,438 (Issued Apr 4, 2010).

Postdocs

- William Mellette (2016—)

Students

- Lixiang Ao (Ph.D., 2016—; joint w/ Geoff Voelker)
- Shelby Thomas (Ph.D., 2016—)
- Rob McGuinness (Ph.D., 2015—)
- Karthikeyan Vasuki Balasubramaniam (M.S., 2017)
- Rahul Bhalerao (M.S., 2015—2016)
- Vishal Parekh (M.S., 2015—2016)
- Mrinmayee Hingolikar (M.S., 2015—2016)
- Brajesh Kushwaha (M.S., 2015—2016)
- Pramod Subba-Rao (M.S., 2015)
- Malveeka Tewari (Ph.D., 2015, now at Google)
- Michael Conley (Ph.D., 2015; co/ with Amin Vadhat, now at Google)
- Rishi Kapoor (Ph.D., 2015, now at Google)
- Changkun Chen (M.S., 2011—2012)

Awards

2017	NSDI 10-year Test of Time award
2016	Recipient of the NSF CAREER award
2012 and 2013	Recipient of a Google Focused Research Award, Networking
2011	NetApp Faculty Fellowship
2001	NSF Graduate Fellowship Honorable Mention in Computer Sciences
2001	Special Departmental Honors, Dept. of Computer Sciences, University of Texas at Austin
2001	Dean's Honored Graduate, College of Natural Sciences, University of Texas at Austin
2001	Phi Beta Kappa
2000	Tenpas Scholarship in Computer Sciences
1997 – 2001	The Williams Companies Merit Scholarship
1997 – 2001	The University of Texas at Austin Merit Scholarship
1997	National Merit Finalist
1997	Tandy Corporation Award for Excellence in Mathematics, Science, and Computer Science

Support

Dates	Role	Source/Agency	Type	Amount
2016-2017	Co-PI	Dept of Energy ARPA-e: “LEED: A Lightweight Energy-Efficient Datacenter”	Grant	\$3.8M
2016	PI	Facebook faculty research program	Gift	\$30k
2016-2018	PI	National Science Foundation: “NeTS: Medium: Improving Network Performance and Efficiency through Multi-Channel Network Links	Grant	\$1.2M
2016-2021	PI	National Science Foundation: “CAREER: A Scalable Multiplane Data Center Network”	Grant	\$700k
2015	PI	Facebook faculty research program	Gift	\$30k
2014-2015	PI	National Science Foundation: “NeTS: Large: Collaborative Research: HCPN: Hybrid Circuit/Packet Networking” (Research Experiences for Undergraduates)	Grant	\$16k
2014	PI	Amazon: AWS in Education Grant	Gift	\$7k
2013-2014	PI	Microsoft: “High Performance Network Stack Design”	Gift	\$37k

Updated: 8/31/17

2013-2016	PI	National Science Foundation: “NeTS:Large:Collaborative Research:HCPN:Hybrid Circuit/Packet Networking”	Grant	\$1.8M
2013-2014	Co-PI	Google, Inc.: “Mordia: A Microsecond Optical Research Datacenter Interconnect Architecture”	Gift	\$160k
2012-2013	Co-PI	Google, Inc.: “Mordia: A Microsecond Optical Research Datacenter Interconnect Architecture”	Gift	\$160k
2012-2013	Co-PI	Ericsson: “Optical switching in datacenters”	Gift	\$50k
2012-2013	Co-PI	Cisco Systems: “Microsecond Optical Research Datacenter Interconnect Architecture”	Gift	\$75k
2011-2014	PI	National Science Foundation: “CSR:Small:Highly Efficient, Pipeline-oriented Data-intensive Scalable Computing”	Grant	\$350k
2011	PI	NetApp Faculty Fellowship	Gift	\$40k
2011-2012	PI	Center for Networked Systems / Cisco Systems: “Incorporating Networked Storage within Highly Efficient Data-intensive Computing”	Gift	\$100k
2010—2015	PI	National Science Foundation: “CSR:Medium:Scale, Isolation, and Performance in Data Center Networks”	Grant	\$750k
2010-2012	PI	Center for Networked Systems / Cisco Systems: “TritonSort: A Balanced Sorting System”	Gift	\$148k
2010-2012	Co-PI	Google, Inc.: “Mordia: A Microsecond Optical Research Datacenter Interconnect Architecture”	Gift	\$250k
		<b>Subtotal (PI):</b>		<b>\$5.2M</b>
		<b>Subtotal (Co-PI):</b>		<b>\$4.5M</b>
		<b>Total (PI and Co-PI):</b>		<b>\$9.7M</b>

## Service

NSF grant selection panel member, 2014—2015

Steering committee: NSF Workshop on Scaling Terabit Networks: Breaking Through Capacity Barriers and Lowering Cost with New Architectures and Technologies (2013)

PC Co-Chair: HotCloud 2013

Poster session co-chair, OSDI 2016

Program Committees: NSDI 2018, HotConNet 2017, ASPLOS 2017, NSDI 2017, OSDI 2016, HotNets 2015, NSDI 2015, SIGCOMM 2015, NSDI 2014, SoCC 2013, LADIS 2013, ANCS 2013, NSDI 2013, OSDI 2012 (External), HotCloud 2012, 2010 ISSRE (Fast Abstracts)

Other Committees: SOSP Travel Grant committee 2013, OSDI poster session co-chair 2016, EuroSys Doctoral Workshop committee, 2017.

Journal Editing: Co-editor, IEEE Micro special issue on “Novel architectures for high-speed datacenter network fabrics” (2014)

Journal Reviewing: OSA Optics Express (2013), ACM Computer Communication Review 2012, IEEE/ACM Transactions on Networking (2011 and 2012), IEEE Journal on Selected Areas in Communications (2009), International Journal of Information Security (2008 and 2009), IEEE Transactions on Network and Service Management (2008), Annual Computer Security Applications Conference (ACSAC) (2006)

Ph.D. Committee: Jian Xu (2016), Jing Li (2016), Joe Deblasio (2015), Mark Gahagan (2015), Yang Liu (2015), Michael Wei (2014), Jing Zheng (2013), Richard Strong (2013), He (Lonnie) Liu (2013), Michael Conley (2013), Sivasankar Radhakrishnan (2013), Jun Rong Ong (2013), Ryan Aguinaldo (2012)

Ph.D. Research Exam Committee: Michael Conley (2012), Sivasankar Radhakrishnan (2012), Neha Chachra (2012), He Liu (2012), Alexander Eisner (2012)

2012—Present UCSD CSE Ph.D. Admissions Committee  
 2010—2015 NSF CIAN Working Group 1 (Datacenter) Coordinator

### **Presentations**

- 2017 “Datacenter Networking in the Era of Plentiful Bandwidth,” Photonics 2017, Austin, TX.
- 2016 “Data-intensive Video Computing: Low-Latency processing using thousands of tiny threads,” Amazon, Seattle, WA.
- 2016 “Data-intensive Video Computing: Low-Latency processing using thousands of tiny threads,” Google YouTube, Mountain View, CA.
- 2015 “Building IO-efficient Data-intensive Applications,” Randy@60 Symposium, UC Berkeley.
- 2015 “Data Center Networks (DCN),” SIGCOMM 2015 Topic Preview Sessions, London.
- 2014 “Going beyond scalability to build resource-efficient data-intensive applications,” UC Berkeley AMPLab Seminar, Berkeley, CA
- 2013 “Integrating Microsecond Circuit Switching into the Data Center,” Microsoft Research, Redmond, WA
- 2013 “Themis: I/O Efficient MapReduce,” UCSD BigData Workshop, La Jolla, CA
- 2013 “Integrating Microsecond Circuit Switching into the Data Center,” SIGCOMM 2013, Hong Kong
- 2013 “Themis: An I/O Efficient MapReduce Implementation,” Google, Inc., Mountain View, CA
- 2012 “Towards Balanced, Data-intensive Scalable Computing,” University of Southern California CSE Departmental Colloquium, Los Angeles, CA.
- 2011 “Towards Balanced, Data-intensive Scalable Computing,” University of Washington CSE Departmental Colloquium, Seattle, WA.
- 2011 “Achieving High Performance, Energy-efficient, Data-intensive computing through cross-resource balance,” HP Labs, Palo Alto, CA
- 2011 “NetBump: User-extensible Active Queue Management with ‘Bumps on the wire,’” Stanford University
- 2010 “Helios: A Hybrid Electrical/Optical Switch Architecture for Modular Data Centers”, Computer Sciences Departmental Colloquium, University of Texas at Austin.
- 2010 “Efficient Data-intensive Scalable Computing,” HP Labs, Palo Alto, CA
- 2010 “Efficiency and Scale in Datacenter Networks,” Toronto Networking Seminar Series, University of Toronto
- 2009 “Towards Decoupling Storage and Computation in Hadoop with SuperDataNodes,” LADIS 2009, Big Sky, MT.
- 2009 “Using Grid Engine to Power Hadoop Applications,” CommunityOne, San Francisco, CA
- 2008 “Improving Virtualization and Performance Tracing of Hadoop with OpenSolaris,” Hadoop Camp (ApacheCon), New Orleans, LA
- 2008 “X-Trace: A Pervasive Network Tracing Framework,” Sun Labs, Menlo Park, CA
- 2007 “X-Trace: A Pervasive Network Tracing Framework,” Google, Inc., Mountain View, CA
- 2007 “X-Trace: A Pervasive Network Tracing Framework,” Splunk, Inc. San Francisco, CA
- 2007 “X-Trace: A Pervasive Network Tracing Framework,” Facebook, Inc. Palo Alto, CA
- 2007 “Berkeley RAD Lab Overview and X-Trace Presentation,” Cisco Central Technology Group, San Jose, CA
- 2007 “Berkeley RAD Lab Overview and X-Trace Presentation,” Nortel Networks, Santa Clara, CA



- 2005 “Effective 'Small Site' Web Load Balancing Through Statistical Monitoring,”  
SelfMan Workshop, Nice, France
- 2004 “Delta Routing: Improving Price-Performance of Hybrid Private Networks,”  
IEEE/IFIP Network Operations and Management Symposium, Seoul, Korea
- 2003 “Programmable Network Testbed,”  
NTT Multimedia Communications Laboratories, Palo Alto, CA
- 2003 “Overlays and Active Services for Inter-networked Storage,”  
University of California CITRIS Poster Session, Santa Cruz, CA