Christopher J. Rossbach

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Homepage	www.cs.utexas.edu/users/rossbach

Professional Experience

2021–present	**Associate Professor of Computer Science**, *The University of Texas at Austin.*
2016–2021	**Assistant Professor of Computer Science**, *The University of Texas at Austin.*
2020–present	**Chief Technology Officer**, *Katana Graph*, Austin, CA.
2016–2020	**Senior Affiliated Researcher**, *VMware Research Group*, Palo Alto, CA.
2014–2016	**Senior Researcher**, *VMware Research Group*, Palo Alto, CA.
2010–2014	**Researcher**, *Microsoft Research Silicon Valley (MSR-SVC)*, Mountain View, CA.

Education

2010	**Post-doctoral Researcher**, *University of Texas at Austin*, Austin TX.
2009	**Ph.D. in Computer Science**, *University of Texas at Austin*, Austin TX.
	Disseration: *Hardware Transactional Memory: A Systems Perspective*
	Committee: Prof. Emmett Witchel (advisor), Prof. Mike Dahlin, Prof. Doug Burger, Prof. Yale Patt, Prof. Mark D. Hill
1992	**B.S. in Computer Systems Engineering**, *Stanford University*, Palo Alto, CA.

Awards

2021	ASPLOS Distinguished Paper Award for "Compiler-driven FPGA virtualization with Synergy"
2019	ApSys Best Paper Award for "USETL: Unikernels for Serverless Extract Transform and Load Why should you settle for less?"
2007	IEEE Micro Top Pick award, one of the 10 best architecture papers of 2007 for "MetaTM/TxLinux: Transactional Memory For An Operating System."

Funding

09/22–09/25	IARPA AGILE, "PANDO: Parallel Architecture for Native Data-Graph Analytics Operations," $467,338 (my share).
08/20–08/23	NSF CNS-2006943, "CNS Core:Small: Toward Automatic Virtualization of Accelerators," $499,976.

03/20-03/21	ARM Research Award: 2 x $50,000
05/19–05/24	NSF CNS-1846169, "CAREER: Operating System Support for Ephemeral and Malleable Accelerators," $505,996.
04/20–03/25	DOE-PSAAP, "Exascale Predictive Simulation of Inductively Coupled Plasma," my share (of $16.5M) is expected to cover 1 student for 5 years
09/16-09/19	VMware Early Career Award, yearly: 4 x $75,000
07/18-07/19	Huawei Grant: "Compatibility and Isolated Sharing of FPGAs (Huawei RPA)" $50,000
07/18-07/19	Huawei Grant: "Protected GPU Sharing (Huawei RPA)" $50,000
09/16–08/19	NSF CNS-1618563, "CSR:Small:Performance and Fairness with Multiple Page Sizes," with Co-PI Emmett Witchel, Rossbach PI. $500,000.
09/10–09/13	NSF CNS-1017785, "CSR: Small: Operating System Abstractions for GPU-Accelerated Interactive Applications," with PI Emmett Witchel, Rossbach Co-PI $500,000.

Publications

As of June 2023, Google Scholar reports Rossbach's h-index as 25, i10-index as 37, with 3661 citations. All publications are refereed and peer reviewed. Where provided, each entry has a page length (Xp). Each entry for a conference paper has the acceptance rate of the conference (X%), and the number of citations on Google scholar as of August 2020 (gcite:X).

Conference Publications

[1] Henrique Fingler, Isha Tarte, Hangchen Yu, Ariel Szekely, Bodun Hu, Aditya Akella, and Christopher J. Rossbach. Towards a machine learning-assisted kernel with lake. In *Proceedings of the 28th ACM International Conference on Architectural Support for Programming Languages and Operating Systems, Volume 2*, ASPLOS 2023, New York, NY, USA, 2023. Association for Computing Machinery.

[2] Joshua Landgraf, Matthew Giordano, Esther Yoon, and Christopher J. Rossbach. Reconfigurable virtual memory for fpga-driven i/o. In *Proceedings of the 28th ACM International Conference on Architectural Support for Programming Languages and Operating Systems, Volume 3*, ASPLOS 2023, New York, NY, USA, 2023. Association for Computing Machinery.

[3] Henrique Fingler, Zhiting Zhu, Esther Yoon, Zhipeng Jia, Emmett Witchel, and Christopher J. Rossbach. DGSF: disaggregated gpus for serverless functions. In *2022 IEEE International Parallel and Distributed Processing Symposium, IPDPS 2022, Lyon, France, May 30 - June 3, 2022*. IEEE, 2022.

[4] Hochan Lee, William Ruys, Ian Henriksen, Arthur Peters, Yineng Yan, Sean Stephens, Bozhi You, Henrique Fingler, Martin Burtscher, Milos Gligoric, Karl Schulz, Keshav Pingali, Christopher J. Rossbach, Mattan Erez, and George Biros. Parla: A python orchestration system for heterogeneous architectures. In Felix Wolf, Sameer Shende, Candace Culhane, Sadaf R. Alam, and Heike Jagode, editors, *SC22: International Conference for High Performance Computing, Networking, Storage and Analysis, Dallas, TX, USA, November 13-18, 2022*. IEEE, 2022.

[5] Nader Al Awar, Kush Jain, Christopher J. Rossbach, and Milos Gligoric. Programming and execution models for parallel bounded exhaustive testing. *Proc. ACM Program. Lang.*, 5(OOPSLA), 2021.

[6] Joshua Landgraf, Tiffany Yang, Will Lin, Christopher J. Rossbach, and Eric Schkufza. Compiler-driven fpga virtualization with synergy. In *Proceedings of the 26th ACM International Conference on Architectural Support for Programming Languages and Operating Systems*, ASPLOS 2021, 2021.

[7] Rachata Ausavarungnirun, Timothy Merrifield, Jayneel Gandhi, , and **Christopher J. Rossbach**. PRISM: Architectural Support for Variable Granularity Memory Metadata. In *International Conference on Parallel Architectures and Compilation Techniques (PACT)*, 2020. 14p 25%.

[8] Robert Lyerly, Changwoo Min, Christopher J. Rossbach, and Binoy Ravindran. An openmp runtime for transparent work sharing across cache-incoherent heterogeneous nodes. In *Proceedings of the 21st International Middleware Conference*, Middleware '20, 2020.

[9] Bodun Hu and **Christopher J. Rossbach**. Altis: Modernizing GPGPU Benchmarks. In *Proceedings of the 2020 IEEE International Symposium on Performance Analysis of Systems and Software (ISPASS)*, August 2020. 14p 29.5%.

[10] Tyler Hunt, Zhipeng Jia, Vance Miller, Ariel Szekely, Yige Hu, **Christopher J. Rossbach**, and Emmett Witchel. Telekine: Secure Computing with Cloud GPUs. In *17th USENIX Symposium on Networked Systems Design and Implementation (NSDI 20)*, Santa Clara, CA, 2020. USENIX Association. 16p 21% gcite:2.

[11] Hangchen Yu, Arthur M. Peters, Amogh Akshintala, and **Christopher J. Rossbach**. AvA: Accelerated Virtualization of Accelerators. In *Proceedings of the Twenty-Fifth International Conference on Architectural Support for Programming Languages and Operating Systems, ASPLOS 2020, Lausanne, Switzerland, 2020*. ACM, 2020. 18p 18% gcite:1.

[12] Eric Schkufza, Michael Wei, and **Christopher J. Rossbach**. Just-In-Time Compilation for Verilog — A New Technique for Improving the FPGA Programming Experience. In *Proceedings of the Twenty First International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, April 2019. 16p 21% gcite:5.

[13] Chen Li, Rachata Ausavarungnirun, **Christopher J. Rossbach**, Youtao Zhang, Onur Mutlu, Yang Guo, and Jun Yang. A framework for memory oversubscription management in graphics processing units. In *Proceedings of the Twenty-Fourth International Conference on Architectural Support for Programming Languages and Operating Systems, ASPLOS 2019, Providence, RI, USA, April 13-17, 2019*, pages 49–63. ACM, 2019. 16p 21% gcite:20.

[14] Ahmet Çelik, Pengyu Nie, **Christopher J. Rossbach**, and Milos Gligoric. Design, implementation, and application of gpu-based java bytecode interpreters. *PACMPL*, 3(OOPSLA):177:1–177:28, 2019. 28p gcite:1.

[15] Arthur Michener Peters, John A. Thywissen, and **Christopher J. Rossbach**. PorcE: a deparallelizing compiler. In Antony L. Hosking and Irene Finocchi, editors, *Proceedings of the 16th ACM SIGPLAN International Conference on Managed Programming Languages and Runtimes, MPLR 2019, Athens, Greece, October 21-22, 2019*, pages 117–130. ACM, 2019. 14p gcite:1.

[16] Ahmed Khawaja, , Joshua Landgraf, Rohith Prakash, Michael Wei, Eric Schkufza, and **Christopher J. Rossbach**. "Sharing, Protection and Compatibility for Reconfigurable Fabric with AmorphOS". In *Proceedings of the 12th USENIX Symposium on Operating Systems Design and Implementation. (OSDI)*, Carlsbad, CA, October 2018. 23p 17.8% gcite:33.

[17] Rachata Ausavarungnirun, Vance Miller Joshua Landgraf, Saugata Ghose, Jayneel Gandhi, Adwait Job, **Christopher J. Rossbach**, and Onur Mutlu. "MASK: Redesigning the GPU Memory Hierarchy to Support Multi-Application Concurrency". In *Proceedings of the Twenty First International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, April 2018. 16p 18% gcite:38.

[18] Rachata Ausavarungnirun, Joshua Landgraf, Vance Miller, Saugata Ghose, Jayneel Gandhi, **Christopher J. Rossbach**, and Onur Mutlu. "MOSIAC: Transparent hardware-software cooperative memory management for gpus". In *The 51st Annual IEEE/ACM International Symposium on Microarchitecture (MICRO)*, 2017. 15p 22% gcite:58.

[19] Youngjin Kwon, Hangchen Yu, Simon Peter, **Christopher J. Rossbach**, and Emmett Witchel. Coordinated and Efficient Huge Page Management with Ingens. In *Proceedings of the 12th USENIX Symposium on Operating Systems Design and Implementation. (OSDI)*, Savannah, GA, November 2016. 18p 18% gcite:90.

[20] John Vilk, David Molnar, Eyal Ofek, **Christopher J. Rossbach**, Benjamin Livshits, Alexander Moshchuk, Helen J. Wang, and Ran Gal. Surroundweb : Mitigating privacy concerns in a 3d web browser. In *IEEE Symposium on Security and Privacy*, May 2015. 16p 13.5% gcite:30.

[21] Naila Farooqui, **Christopher J. Rossbach**, Yuan Yu, and Karsten Schwan. Leo: A profile-driven dynamic optimization framework for GPU applications. In *2014 Conference on Timely Results in Operating Systems, TRIOS '14, Broomfield, CO, USA, October 5, 2014.*, 2014. 12p 64% gcite:12.

[22] **Christopher J. Rossbach**, Yuan Yu, Jon Currey, Jean-Philippe Martin, and Dennis Fetterly. Dandelion: a compiler and runtime for heterogeneous systems. In *Proceedings of the 22nd ACM Symposium on Operating Systems Principles (SOSP)*, Framhingham, Pennsylvania, October 2013. 16p 18% gcite:146.

[23] **Christopher J. Rossbach**, Jon Currey, Mark Silberstein, Baishakhi Ray, and Emmett Witchel. PTask: Operating system abstractions to manage GPUs as compute devices. In *Proceedings of the 22nd ACM Symposium on Operating Systems Principles (SOSP)*, Cascais, Portugal, October 2011. 16p 18% gcite:270.

[24] Scott Wolchok, Owen S. Hofmann, Nadia Heninger, Edward W. Felten, J. Alex Halderman, **Christopher J. Rossbach**, Brent Waters, and Emmett Witchel. Defeating vanish with low-cost sybil attacks against large DHTs. In *Proceedings of the Network and Distributed*

System Security Symposium (NDSS), February 2010. 15p 15% gcite:142, Reported in the New York Times `http://www.nytimes.com/2009/09/22/science/22decode.html`.

[25] **Christopher J. Rossbach**, Owen S. Hofmann, and Emmett Witchel. Is transactional memory programming actually easier? In *Proceedings of the 15th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP)*, January 2010. 10p 17% gcite:160.

[26] Donald E. Porter, Owen S. Hofmann, **Christopher J. Rossbach**, Alex Benn, and Emmett Witchel. Operating system transactions. In *Proceedings of the 22nd ACM Symposium on Operating Systems Principles (SOSP)*, Big Sky, MT, October 2009. 14p 16% gcite:132.

[27] Owen S. Hofmann, **Christopher J. Rossbach**, and Emmett Witchel. Maximum benefit from a minimal HTM. In *Proceedings of the Fourteenth International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, March 2009. 12p 26% gcite:28.

[28] Hany E. Ramadan, **Christopher J. Rossbach**, and Emmett Witchel. Dependence-aware transactions for increased concurrency. In *Proceedings of the 41st Annual International Symposium on Microarchitecture (MICRO-41)*, November 2008. 12p 19% gcite:123.

[29] **Christopher J. Rossbach**, Owen S. Hofmann, Donald E. Porter, Hany E. Ramadan, Aditya Bhandari, and Emmett Witchel. TxLinux: Using and managing transactional memory in an operating system. In *Proceedings of the 21st ACM Symposium on Operating Systems Principles (SOSP)*, Stevenson, WA, October 2007. 14p 19% gcite:164.

[30] Hany E. Ramadan, **Christopher J. Rossbach**, Donald E. Porter, Owen Hofmann, Aditdya Bhandari, and Emmett Witchel. MetaTM/TxLinux: Transactional memory for an operating system. In *Proceedings of the 34th International Symposium on Computer Architecture (ISCA)*, San Diego, CA, June 2007. 12p 23% gcite:105.

[31] Jungwoo Ha, **Christopher J. Rossbach**, Jason V. Davis, Indrajit Roy, Hany E. Ramadan, Donald E. Porder, David L. Chen, and Emmett Witchel. Improved error reporting for software that uses black-box components. In *Proceedings of the ACM SIGPLAN 2007 Conference on Programming Language Design and Implementation (PLDI)*, San Diego, CA, 2007. 11p 25% gcite:61.

[32] Robert Lyerly, Carlos Bilbao, Changwoo Min, Christopher J. Rossbach, and Binoy Ravindran. An openmp runtime for transparent work sharing across cache-incoherent heterogeneous nodes. *ACM Trans. Comput. Syst.*, 39(1-4), 2021.

Journal Publications

[33] **Christopher J. Rossbach**, Hany E. Ramadan, Owen S. Hofmann, Donald E. Porter, Aditya Bhandari, and Emmett Witchel. TxLinux and MetaTM: Transactional memory and the operating system. *Communications of the ACM (CACM)*, 51(9), September 2008. 8p.

[34] Hany E. Ramadan, **Christopher J. Rossbach**, Donald E. Porter, Owen S. Hofmann, Aditya Bhandari, and Emmett Witchel. MetaTM/TxLinux: Transactional memory for an

operating system. In *IEEE Micro Top Picks in Computer Architecture 2007*, January 2008. 6p.

[35] Rachata Ausavarungnirun, Joshua Landgraf, Vance Miller, Saugata Ghose, Jayneel Gandhi, **Christopher J. Rossbach**, and Onur Mutlu. Mosaic: Enabling application-transparent support for multiple page sizes in throughput processors. *ACM SIGOPS Operating Systems Review*, 52(1), 2018.

[36] Medhavi Dhawan, Gurprit Johal, Jim Stabile, Vjekoslav Brajkovic, James Chang, Kapil Goyal, Kevin James, Zeeshan Lokhandwala, Anny Martínez Manzanilla, Roger Michoud, Maithem Munshed, Srinivas Neginhal, Konstantin Spirov, Michael Wei, Scott Fritchie, **Christopher J. Rossbach**, Ittai Abraham, and Dahlia Malkhi. Consistent clustered applications with corfu. *ACM SIGOPS Oper. Syst. Rev.*, 51(1), 2017.

[37] Youngjin Kwon, Hangchen Yu, Simon Peter, **Christopher J. Rossbach**, and Emmett Witchel. Ingens: Huge Page Support for the OS and Hypervisor. *ACM SIGOPS Oper. Syst. Rev.*, 51(1), 2017.

Workshop and Other Publications

[38] Henrique Fingler, Amogh Akshintala, and **Christopher J. Rossbach**. USETL: unikernels for serverless extract transform and load why should you settle for less? In *Proceedings of the 10th ACM SIGOPS Asia-Pacific Workshop on Systems, APSys 2019, Hangzhou, China, Augsut 19-20, 2019*, pages 23–30. ACM, 2019. 8p 33% gcite:4.

[39] Hangchen Yu, Arthur M. Peters, Amogh Akshintala, and **Christopher J. Rossbach**. Automatic virtualization of accelerators. In *Proceedings of the Workshop on Hot Topics in Operating Systems, HotOS 2019, Bertinoro, Italy, May 13-15, 2019*, pages 58–65. ACM, 2019. 8p 22% gcite:3.

[40] Tyler Hunt, Zhipeng Jia, Vance Miller, **Christopher J. Rossbach**, and Emmett Witchel. Isolation and beyond: Challenges for system security. In *Proceedings of the Workshop on Hot Topics in Operating Systems, HotOS 2019, Bertinoro, Italy, May 13-15, 2019*, pages 96–104. ACM, 2019. 9p 22% gcite:4.

[41] Amogh Akshintala, Vance Miller, Donald E. Porter, and **Christopher J. Rossbach**. "Talk to My Neighbors Transport: Decentralized Data Transfer and Scheduling Among Accelerators". In *SFMA*, 2018.

[42] Arthur Michener Peters, John A. Thywissen, and **Christopher J. Rossbach**. "PorcE: A Deparallelizing Compiler". In *SFMA*, 2018.

[43] John A. Thywissen, Arthur Michener Peters, and **Christopher J. Rossbach**. "Local Operations Should Appear to Be Remote: Consistent Semantics Enable Transparent Distribution". In *SFMA*, 2018.

[44] Henrique Fingler and **Christopher J. Rossbach**. "CELDA: Cloud Edge Local Dataflow Architecture". In *SFMA*, 2018.

[45] Hangchen Yu and **Christopher J. Rossbach**. "Full Virtualization for GPUs Reconsidered". In *WDDD*, 2017.

[46] Arthur Peters, John Thywissen, William R. Cook, and **Christopher J. Rossbach**. "PITCHFORC: Concurrent programming at rack-scale". In *MaRS*, 2017.

[47] Michael Wei, **Christopher J. Rossbach**, Ittai Abraham, Udi Wieder, Steven Swanson, Dahlia Malkhi, and Amy Tai. Silver: A scalable, distributed, multi-versioning, always growing (Ag) file system. In *8th USENIX Workshop on Hot Topics in Storage and File Systems, HotStorage 2016, Denver, CO, June 20-21, 2016.*, 2016. 5p 41.1% gcite:6.

[48] **Christopher J. Rossbach** and Emmett Witchel. Albatross: Systems Support for Augmented Reality. In *Proceedings of the 5th Workshop on Systems for Future Multicore Architectures*, SFMA 2015, 2015.

[49] Dong Yu, Adam Eversole, Mike Seltzer, Kaisheng Yao, Oleksii Kuchaiev, Yu Zhang, Frank Seide, Zhiheng Huang, Brian Guenter, Huaming Wang, Jasha Droppo, Geoffrey Zweig, Chris Rossbach, Jie Gao, Andreas Stolcke, Jon Currey, Malcolm Slaney, Guoguo Chen, Amit Agarwal, Chris Basoglu, Marko Padmilac, Alexey Kamenev, Vladimir Ivanov, Scott Cypher, Hari Parthasarathi, Bhaskar Mitra, Baolin Peng, and Xuedong Huang. An introduction to computational networks and the computational network toolkit. Technical Report MSR-TR-2014-112, October 2014.

[50] **Christopher J. Rossbach,** Jon Currey, Simon Baker. Supporting iteration in a heterogeneous dataflow engine. In *SFMA 2013*. The 3rd Workshop on Systems for Future Multicore Architectures, April 2013.

[51] Jean-Philippe Martin, Christopher J. Rossbach, Derek G. Murray, and Michael Isard. Supporting efficient aggregation in a task-based STM. In *Proceedings of the 3rd Workshop on Systems for Future Multicore Architectures*, SFMA 2013, 2013.

[52] **Christopher J. Rossbach**, Jon Currey, and Emmett Witchel. Operating systems must support GPU abstractions. In *The 13th Workshop on Hot Topics in Operating Systems (HotOS)*, 2011. 5p 25%.

[53] **Christopher J. Rossbach**, Owen S. Hofmann, and Emmett Witchel. Is transactional memory programming actually easier? In *The 8th Annual Workshop on Duplicating, Deconstructing, and Debunking (WDDD)*, 2009. 9p.

[54] Hany E. Ramadan, **Christopher J. Rossbach**, and Emmett Witchel. The Linux kernel: A challenging workload for transactional memory. In *Proceedings of the Workshop on Transactional Memory Workloads (WTW)*, June 2006. 6p.

Software

Rossbach's group hosts its public code on GitHub at `https://github.com/rossbach/` and `https://github.com/utcs-scea/`.

Patents

2023   11,573,817 Compiler-driver programmable device virtualization in a computing system. Eric Schkufza, **Christopher John Rossbach**. U.S Patent, filed 2021, granted February 2023.

2020   10,635,600 Decoupling Memory Metadata Granularity from Page Size. Jayneel Gandhi, **Christopher John Rossbach**, Timothy Merrifield. U.S. Patent, filed March 8, 2018, granted April 28, 2020.

2018   9,996,394 Scheduling accelerator tasks on accelerators using graphs. **Christopher John Rossbach**, Jonathan J. Currey. U.S. Patent, filed August 8, 2013, granted June 12, 2018.

2016   9,424,079 Iteration support in a heterogeneous dataflow engine. **Christopher John Rossbach**, Jonathan J. Currey. U.S. Patent, filed June 27, 2013, granted August 23, 2016.

2011   8,661,449 Transactional Computation on Clusters. **Christopher John Rossbach**, Jean-Philippe Martin, Michael Isard. U.S. Patent, filed February 25, 2011, granted June 17, 2011.

2006   8,134,637 Method and system to increase X-Y resolution in a depth (Z) camera using red, blue, green (RGB) sensing. **Christopher J. Rossbach**, Abbas Rafii, Peiqian Zhao. U.S. Patent, filed June 1, 2006, granted March 13, 2012.

Professional Service

Departmental Service

2019-2023   Co-director, Texas Computer Science Business (CSB) Honors Program.

2019-2023   UTCS Representative and Advocate, LEAP Alliance.

2017-2023   Admissions Committee, Turing Scholars Honors Program and CSB.

2016   Faculty Evaluation Committee.

Program committee chair

2019   VEE, SIGPLAN/SIGOPS Symposium on Virtual Execution Environments (Co-Chair).

2018   SoCC, ACM Symposium on Cloud Computing (Co-Chair).

Program committee membership

2024   ASPLOS, Architectural Support for Programming Languages and Operating Systems.

2023   ASPLOS, Architectural Support for Programming Languages and Operating Systems.

2023   OSDI, Operating systems design and implementation.

2022   ASPLOS, Architectural Support for Programming Languages and Operating Systems.

2021   OSDI, Operating systems design and implementation.

2021   SOSP, Symposium on operating systems principles.

2021   Eurosys, European Systems Conference.

2021   ASPLOS, Architectural Support for Programming Languages and Operating Systems.

2021   NSDI, Networked Systems Design and Implementation.

2020 ASPLOS, Architectural Support for Programming Languages and Operating Systems.
2019 SOSP, Symposium on operating systems principles.
2019 Usenix Annual Techical Conference (ATC).
2019 ASPLOS, Architectural Support for Programming Languages and Operating Systems.
2019 VEE, SIGPLAN/SIGOPS Symposium on Virtual Execution Environments **(Co-Chair)**.
2018 SoCC, ACM Symposium on Cloud Computing **(Co-Chair)**.
2018 Usenix Annual Techical Conference (ATC).
2018 ASPLOS, Architectural Support for Programming Languages and Operating Systems.
2017 SOSP, Symposium on operating systems principles.
2017 SoCC, ACM Symposium on Cloud Computing.
2017 Usenix Annual Techical Conference (ATC).
2017 Program co-chair for WWW Conference 2017: Infrastructure and Systems Track.
2016 OSDI, Operating systems design and implementation.
2016 OSDI Poster Session, **(chair)**.
2016 Eurosys, European Systems Conference.
2016 PPoPP, Symposium on Principles and Practice of Parallel Programming.
2016 VEE, Virtual Execution Environments.
2013 IPDPS, IEEE International Parallel and Distributed Processing Symposium.
2012 IPDPS, IEEE International Parallel and Distributed Processing Symposium.

External review committees

2017 Eurosys, European Systems Conference.
2017 ASPLOS, Architectural Support for Programming Languages and Operating Systems.
2016 ASPLOS, Architectural Support for Programming Languages and Operating Systems.

Workshop program committees

2018 SFMA, Workshop on Systems for Future Multicore Architectures **(PC-chair)**.
2017 HotOS, Hot Topics on Operating Systems.
2016-2017 MaRS, Workshop on Multicore and Rack-scale Systems **(PC-chair)**.
2013-2015 SFMA, Workshop on Systems for Future Multicore Architectures **(PC-chair)**.
2012 SFMA, Workshop on Systems for Future Multicore Architectures.
2010 TRANSACT, ACM SIGPLAN Workshop on transactional computing.

Journal Editor

2016-2023 Operating Systems Review.

Doctoral Students

2016 Arthur Peters (graduated: 10/2020)
2016 John Thywissen (graduated: 11/2020)
2017 Hangchen Yu (graduated: 11/2020)

2016	Vance Miller
2016	Joshua Landgraf
2017	Ahmed Khawaja
2018	Henrique Fingler
2021	Taeklim Kim
2021	Aditya Tewari
2021	Yineng Yan

Masters Students

2018-2020	Tiffany Yang (Graduated)
2018-2020	Sarah Masimore (Graduated)
2018-2020	Noah Thornton (Graduated)
2020	Bodun Hu

Dissertation committees

2021/08	Jayashree Mohan (advisor: Vijay Chidambaram) "Analyzing and Mitigating Data Stalls in Deep Neural Network Training"
2020/10	Amogh Akshintala (advisor: Donald E. Porter) "Toward Efficient and Realizable Hardware Virtualization"
2021/08	Yongkee Kwon (advisor: Mattan Erez) "Hardware and software mechanisms to reduce effective memory access latency"
2020/08	Kai Wang (advisor: Calvin Lin and Don Fussell) "Hardware and Software Specializations for GPUs"
2020/07	Hao Wu (advisor: Calvin Lin) "Practical Irregular Prefetching"
2020/05	Roshan Dathathri (advisor: Keshav Pingali) "Programming Systems for Graph Analytics, Querying, Mining, and Homomorphic Encryption on Distributed and Heterogeneous Architectures"
2020/07	Tyler Hunt (advisor: Emmett Witchel) "Private Computation on Public Clouds"
2020/07	Wei-Ju Chen (advisor: Al Mok) "Resource Scheduling and Design of Real-Time Cyber-Physical Systems in the Open System Environment"
2020/02	Gurbinder Gill (advisor: Keshav Pingali) "Compiler and Runtime System for Resilient Distributed Heterogeneous Graph Analytics"
2019/04	Faruk Guvenilir (advisor: Yale Patt) "Scalable Virtual Memory via Tailored and Larger Page Sizes"
2019/08	Kyushick Lee (advisor: Mattan Erez) "Resilient Heterogeneous System with Containment Domains"
2019/05	Ahmet Cilik (advisor: Milos Gligoric) "Incremental and Parallel Software Testing and Proof Checking"
2018/09	Chunzhi Su (advisor: Lorenzo Alvisi) "Bringing Modular Concurrency Control to the Next Level"

2018/08   Youngjin Kwon (advisor: Emmett Witchel) "Designing Systems for Emerging Memory Technologies"

2016/09   Sankar Panneerselvam (advisor: Mike Swift) "System Design for Heterogeneous Architectures"

2017/10   Rachata Ausavarignirun (advisor: Onur Mutlu) "Techniques for Shared Resource Management in Systems with GPUs"

Invited lectures

2021/08   "Automatic Virtualization of Accelerators," Presented at Facebook

2016/04   "Making Reconfigurable Fabric Actually Reconfigurable," Presented at ASPLOS WACI Session, Atlanta Georgia

2016/04   "Sweet Spots and Limits for Virtualization," VEE, Atlanta, GA

2012   Invited Speaker at Microprocessor/SoC Test and Verification (MTV 2012).

2009   Panel member at WDDD, ACM SIGPLAN Workshop on Duplicating, Deconstructing, and Debunking.