

# JAMES R. LARUS

July 2024

School of Computer and Communication Sciences (IC)  
EPFL (École Polytechnique Fédérale de Lausanne)  
INN 238 (Station 14)  
1015 Lausanne  
Switzerland

+41 79 703 4830 (Swiss)

+1-425-417-0685 (US)

[james.larus@epfl.ch](mailto:james.larus@epfl.ch)

[larus@larusstone.org](mailto:larus@larusstone.org)

<http://people.epfl.ch/james.larus>

[ORCID 0000-0002-5820-2524](https://orcid.org/0000-0002-5820-2524)

## EDUCATION

- ◆ Ph.D. (Computer Science), University of California at Berkeley, May 1989. “Restructuring Symbolic Programs for Concurrent Execution on Multiprocessors.” (Prof. Paul Hilfinger)
- ◆ M.S. (Computer Science), University of California at Berkeley, Dec. 1982. “Glean: An Interactive Program Analysis System for Franz Lisp.” (Prof. Richard Fateman)
- ◆ A.B. magna cum laude (Applied Mathematics), Harvard University, Jun. 1980.

## ACADEMIC AND INDUSTRIAL EXPERIENCE

- ◆ Professor Emeritus, School of Computer and Communication Sciences, EPFL (Oct. 2023–).
- ◆ Dean, School of Computer and Communication Sciences, EPFL (École Polytechnique Fédérale de Lausanne), Lausanne Switzerland (Oct. 2013–Sept. 2021).
- ◆ Professor, School of Computer and Communication Sciences, EPFL (Oct. 2013–Sept. 2023).
- ◆ Principal Researcher, Microsoft Research, Redmond, Washington (Feb. 2012–Sept. 2013).
- ◆ Director, eXtreme Computing Group (XCG), Microsoft Research (May 2008–Feb. 2012).
- ◆ Research Area Manager, Microsoft Research (Dec. 2005–May 2008).
- ◆ Assistant Director, Microsoft Research (Dec. 2003–Sept. 2004).
- ◆ Affiliated Associate Professor, Computer Science Department, University of Washington (2000–2005).
- ◆ Senior Researcher, Microsoft Research, (May 1998–Dec. 2005).
- ◆ Visiting Researcher, Microsoft Research, (Aug. 1997–Jul. 1998).
- ◆ Associate Professor, Computer Sciences Department, University of Wisconsin-Madison (Jun. 1995–Jul. 1999).
- ◆ Assistant Professor, Computer Sciences Department, University of Wisconsin-Madison (Sept. 1989–Jun. 1995).
- ◆ Research Assistant, Computer Science Division, University of California Berkeley (Sept. 1984–Apr. 1989).
- ◆ Computer Scientist, Bolt Beranek and Newman, Cambridge, MA (Sept. 1983–Aug. 1984).

- ◆ Research Assistant, Computer Science Division, University of California Berkeley (Jan. 1982–Aug. 1983).
- ◆ Software Engineer, General Systems Group, Cambridge, MA (Jun. 1980–Jun. 1981).

### OTHER PROFESSIONAL EXPERIENCE

- ◆ Advisory Board, Beatdapp, 2020–.
- ◆ Consultant: Franz, Inc., H3, IBM, Mercury Interactive, and TranSwitch.
- ◆ Expert witness: Fliesler, Dubb, Meyer & Lovejoy (Pure Software v. AIB Software), Shneidman, Myers, Dowling, and Blumefield (Ackerman v. State of Wisconsin, DOA).

### HONORS AND AWARDS

- ◆ Paper selected for ISCA@50 Retrospective: 1996–2022, “A Reconfigurable Fabric for Accelerating Large-Scale Datacenter Services.”
- ◆ Michel Servit Best Paper Award, “Bitfiltrator: A General Approach for Reverse-Engineering Xilinx Bitstream Formats,” *FPL 2022*.
- ◆ 2018 MICRO Test of Time Award, “Efficient Path Profiling,” *MICRO 29*.
- ◆ EuroSys 2016 Test of Time Award, “Language Support for Fast and Reliable Message-based Communication in Singularity OS,” *EuroSys 2006*.
- ◆ IEEE MICRO Top Picks 2015, “A Reconfigurable Fabric for Accelerating Large-Scale Datacenter Services,” *ISCA 2014*.
- ◆ Best Paper, “SIMD Parallelization of Applications that Traverse Irregular Data Structures,” *Code Generation and Optimization (CGO 2013)*. SIGPLAN Research Highlights 2013.
- ◆ Best Paper, “Join-Idle-Queue: A Novel Load Balancing Algorithm for Dynamically Scalable Web Services,” *IFIPS Performance 2011*.
- ◆ IEEE Software’s 25th-Anniversary Top Picks, “Righting Software,” 2009.
- ◆ ► ACM Fellow, 2006.
- ◆ Best Paper, “Language Support for Fast and Reliable Message-based Communication in the Singularity OS,” *EuroSys 2006*.
- ◆ Paper selected for *20 Years of PLDI*, “Improving Data-Flow Analysis with Path Profiling,” 2003.
- ◆ Most Innovative Paper, “Whole Program Paths,” *PLDI 1999*.
- ◆ Paper selected for *25 Years of ISCA*, “Typhoon: A User-Level Shared-Memory System,” 1998.
- ◆ Most Influential Paper, “Exploiting Hardware Performance Counters with Flow and Context Sensitive Profiling,” *PLDI 1997*.
- ◆ IBM Partnership Award, 1996.
- ◆ ► National Science Foundation Young Investigator (NYI), 1993.
- ◆ Best Paper, “Cooperative Shared Memory: Software and Hardware for Scalable Multiprocessors,” *ASPLOS 1993*.

- ◆ California Microelectronics Fellowship, 1985–87.
- ◆ Harvard College Scholar, 1976–80.

### EDITORSHIP AND EDITORIAL BOARDS

- ◆ Editor-in-Chief, *Communications of the ACM (CACM)*, 2022–.
- ◆ Guest editor, Special Issue on PPOPP 15, *ACM Transactions on Parallel Computing*, 2016.
- ◆ Contributed and Review articles co-chair, *Communications of the ACM (CACM)*, 2015–2021.
- ◆ Associate editor, *ACM Transactions on Architecture and Code Optimization (TACO)*, 2015–2020.
- ◆ Contributed and Review articles associate editor, *Communications of the ACM (CACM)*, 2007–2015.
- ◆ Associate editor, *Computer Architecture Letters*, IEEE Computer Society, 2007–2011.
- ◆ Editorial board, *Software–Practice & Experience*, Wiley & Sons, 2007–2018.
- ◆ Editorial board, *Open Software Engineering Journal*, Bentham Science Publishers, 2007–2014.

### PROFESSIONAL BOARDS

- ◆ Steering Committee, Department of Computer Science, Mohamed Bin Zayed University of Artificial Intelligence, UAE, Sep. 2023–.
- ◆ Governing board, Institute Science, Artificial Intelligence, and Technology (INSAIT) at Sofia University St. Kliment Ohridski, Bulgaria, 2021–.
- ◆ Chair, ACM Fellow Selection Committee, 2021.
- ◆ Review committee of the Computer Science Departments, TU Delft, Nov. 2021.
- ◆ Governing board, EPFL Center for Intelligent Systems, 2021–2023.
- ◆ Academic Director, International Risk Governance Council Center (IRGC), 2019–2023.
- ◆ Founder, governing board, and steering committee, EPFL Center for Intelligent Systems, 2018–2020.
- ◆ ACM Publications Board, 2020–.
- ◆ Chair, Review Committee of the Faculty of Computer Science, Technion, Israel, 2018.
- ◆ IEEE CS Research Advisory Board, 2018–2019.
- ◆ Executive Committee, Capital Markets and Technology Association (CMTA), 2018–2023.
- ◆ Advisory board, International Risk Governance Council Center (IRGC) at EPFL, 2018–2023.
- ◆ ACM Fellow Selection Committee, 2016–2021.
- ◆ Advisory board, Zurich Digital Festival, 2016–2017.
- ◆ Steering committee, Swiss Data Science Center (SDSC), 2015–2021.
- ◆ Advisory board, Huawei American Software Lab, 2014–2016.
- ◆ Board, Informatics Europe, 2016–2019.
- ◆ Board, Swiss Informatics Society Special Interest Group SIRA, 2014–2020.

- ◆ Steering Committee, Microsoft-Swiss Joint Research Center, 2013–2023.
- ◆ Advisory board, Computer Science and Engineering, University of California, Riverside, 2012.
- ◆ Visiting committee, Harvard School of Engineering and Applied Sciences, 2009.

#### GOVERNMENT COMMITTEES

- ◆ DARPA Information Science and Technology (ISAT) study group, 2013–2016.
- ◆ *Advancing Software-Intensive Systems Producibility*, Computer Science and Telecommunications Board of the National Academies, 2006 (Report: [Critical Code: Software Producibility for Defense](#), National Research Council, 2010).
- ◆ *Workshop on Certifiably Dependable Software Systems*, Computer Science and Telecommunications Board of the National Academies, 2004.
- ◆ Evaluation Committee of the INRIA Program 2A: Software Engineering and Symbolic Computing, 2002.
- ◆ *Panel on Engineering for Complex System*, National Research Council of the National Academies, 2002.
- ◆ *Fundamentals of Computer Science*, Computer Science and Telecommunications Board of the National Academies, 2001. (Report: [Computer Science: Reflections on the Field](#), National Research Council, 2004.)

#### OTHER PROFESSIONAL ACTIVITIES

- ◆ ERC Starting grants PE6 panel, 2022.
- ◆ Panelist, Center for AI and ML opening, TU Vienna, Dec. 2021.
- ◆ IEEE Frances E. Allen Medal Committee, 2021–2023.
- ◆ Panelist, Huawei Workshop on NextGen Cloud Technology, 2020.
- ◆ 15<sup>th</sup> Berlin Debate on Science and Science Policy, Robert Bosch Stiftung, 2020.
- ◆ Academy of Finland RDI Partnership Networks Review Panel, 2020.
- ◆ WWTF (Vienna Science and Technology Fund) call jury on Digital Humanism, 2020.
- ◆ Judge, START Hack, St. Gallen, 2018.
- ◆ Most influential paper Selection Committee for PLDI 2007, 2017.
- ◆ VMware Systems Research Award Selection Committee, 2016–2018.
- ◆ Cor Baayen Award Selection Committee (CBASC), 2016–2020.
- ◆ Judge, SIX Hackathon, Zurich 2015.
- ◆ DoE review panel, Exascale Operating and Runtime Systems, 2013.
- ◆ NSF review panel, Expeditions in Computing, 2011.
- ◆ CRA CIFellows Selection Committee, 2011.
- ◆ CRA CIFellows Selection Committee, 2010.
- ◆ PLDI 2000 Best Paper Selection Committee, 2010.

- ◆ ACM Taskforce on membership, 2009.
- ◆ CRA CIFellows Selection Committee, 2009.
- ◆ ACM National lecturer.
- ◆ NSF review panel, Programming Languages, 1998.
- ◆ NSF review panel, Career Awards, 1996.
- ◆ NSF review panel, Postdoctoral Research Associates, 1995.
- ◆ NSF review panel, Research Initiation Awards, 1991.

### CONFERENCE ORGANIZING AND STEERING COMMITTEES

- ◆ Chair, ASPLOS Steering Committee, 2021–2022.
- ◆ ASPLOS Steering Committee, 2020–2023.
- ◆ Co-organizer, ISAT/DARPA Workshop on Future of Storage, New York, New York, May 2016.
- ◆ Co-organizer, ISAT/DARPA Workshop on Accuracy Trade-Offs Across the System Stack for Performance and Energy, Orlando, FL, Feb. 2014.
- ◆ Steering Committee, Workshop on Advancing Computer Architecture Research: Popular Parallel Programming, San Diego, CA, Feb. 2010.
- ◆ Steering Committee, Workshop on Programming Language Curricula, Cambridge, MA, May 2008.
- ◆ Organizing Committee, Workshop on Future Directions of Compiler Research, Irvine, CA, Feb. 2006.
- ◆ Steering Committee, Architectural Support for Programming Languages and Operating Systems (ASPLOS XII), 2006.
- ◆ Co-Organizer, Workshop on the Evaluation of Software Defect Detection Tools (Bugs 05), Jun. 2005.
- ◆ Steering committee, Workshop on Feedback-Directed and Dynamic Optimization.
- ◆ Co-Organizer and Program Committee Chair, Workshop on Compiler Support for System Software (WCSS 1999), May 1999.
- ◆ Co-Organizer, Workshop on Profile and Feedback-Directed Compilation, Oct. 1998.

### CONFERENCE CHAIR AND PROGRAM COMMITTEES

- ◆ Program committee, *Architectural Support for Programming Languages and Operating Systems (ASPLOS 2025)*, Apr. 2025.
- ◆ Review committee, OOPSLA 2024 (round 2), Oct. 2024.
- ◆ External review committee, *Principles and Practice of Parallel Programming (PPoPP 2024)*, Feb. 2024.
- ◆ Program committee, *Programming Languages Design and Implementation (PLDI 2022)*, Jun. 2022.
- ◆ External review committee, *Principles and Practice of Parallel Programming (PPoPP 2021)*, Feb. 2021.
- ◆ ► General chair, *Architectural Support for Programming Languages and Operating Systems (ASPLOS 2020)*, Lausanne, Switzerland, Mar. 2020.

- 
- ◆ External review committee, *Programming Languages Design and Implementation (PLDI 2019)*, Phoenix, AZ, Jun. 2019.
  - ◆ External review committee, *International Symposium on Computer Architecture (ISCA 2018)*, Los Angeles, CA, Jun. 2018.
  - ◆ External review committee, *Principles and Practice of Parallel Programming (PPoPP 2018)*, Vienna, Austria, Feb. 2018.
  - ◆ External review committee, *Architectural Support for Programming Languages and Operating Systems (ASPLOS 2018)*, Williamsburg, VA, Mar. 2018.
  - ◆ Program committee, *Symposium on Operating System Principles (SOSP 2015)*, Monterey, CA, Oct. 2015.
  - ◆ Program committee, *SNAPL: Inaugural Summit on Advances in Programming Languages*, Asilomar CA, May 2015.
  - ◆ ► Program committee chair, *Principles and Practice of Parallel Programming (PPoPP 2014)*, Orlando, Florida, Feb. 2014.
  - ◆ Program committee, *International Symposium on Computer Architecture and High-Performance Computing (SBAC-PAD 2012)*, Oct. 2012.
  - ◆ Program committee, *High Integrity Language Technology: SIGAda Annual Conference*, Dec. 2012.
  - ◆ External review committee, *MICRO-45*, Dec. 2012.
  - ◆ Program committee, *SPLASH 2012 RACES Workshop on Relaxing Synchronization for Multicore and Manycore Scalability*, Oct. 2012.
  - ◆ Program committee, *USENIX HotPar 2012*, Jun. 2012.
  - ◆ Program committee, *Workshop on Memory Systems Performance and Correctness (MSPC 2011)*, Jun. 2011.
  - ◆ Program committee, *SIGOPS Asia-Pacific Workshop on Systems (APSys 2011)*, Jul. 2011.
  - ◆ Program committee, *Workshop on Determinism and Correctness in Parallel Programming*, Mar. 2011.
  - ◆ Program committee, *USENIX HotPar 2011*, May 2011.
  - ◆ Program committee, *Programming Languages Design and Implementation (PLDI 2011)*, Jun. 2011.
  - ◆ Program committee, *Architectural Support for Programming Languages and Operating Systems (ASPLOS 2011)*, Mar. 2011.
  - ◆ Program committee, *Workshop on Concurrency for the Application Programmer*, Nov. 2010.
  - ◆ Program committee, *Symposium on Cloud Computing (SOCC 2010)*, Jun. 2010.
  - ◆ Program committee, *GreenMetrics 2010 Workshop*, Jun. 2010.
  - ◆ Program committee, *6<sup>th</sup> Workshop on the Interaction between Operating System and Computer Architecture (WIOSCA 2010)*, Jun. 2010.
  - ◆ External review committee, *International Symposium on Computer Architecture (ISCA 2010)*, Jun. 2010.
  - ◆ Program committee, *USENIX HotPar 2010*, Jun. 2010.
  - ◆ Program committee, *EuroSys 2010*, Apr. 2010.

- 
- ◆ Program committee, *Code Generation and Optimization (CGO)*, Mar. 2010.
  - ◆ Program committee, *GreenMetrics Workshop*, Jun. 2009.
  - ◆ Program committee, *Fun Ideas and Thoughts (FIT)*, PLDI, Jun. 2009
  - ◆ Program committee, *First Workshop on Asynchrony in the PGAS Programming Model (APGAS09)*, Jun. 2009.
  - ◆ ► Program co-chair and co-organizer, *First USENIX Workshop on Hot Topics in Parallelism (HotPar' 09)*, Mar. 2009.
  - ◆ Program committee, *Symposium on Parallel Algorithms and Architectures (SPAA 08)*, Jun. 2008.
  - ◆ ► Program committee chair, *Architectural Support for Programming Languages and Operating Systems (ASPLOS' 08)*, 2008.
  - ◆ Program committee, *Programming Language Design and Implementation (PLDI' 07)*, Jun. 2007.
  - ◆ Program committee, *Workshop on Architectural and System for Improving Software Dependability*, Oct. 2006.
  - ◆ Program committee, *Workshop on Programming Models for Ubiquitous Parallelism*, Sept. 2006.
  - ◆ Program committee, *Workshop on Transactional-Memory Workloads*, Jun. 2006.
  - ◆ Program committee, *Principles and Practice of Parallel Programming (PPoPP)*, 2006.
  - ◆ Program committee, *Formal Engineering Methods (ICFEM 2005)*, Nov. 2005.
  - ◆ Program committee, *Formal Engineering Methods (ICFEM 2004)*, Nov. 2004.
  - ◆ Program committee, *Parallel Architecture and Compilation Techniques (PACT 04)*, Sept. 2004.
  - ◆ Program committee, *Workshop on Runtime Verification (RV' 04)*, Apr. 2004.
  - ◆ Program committee, *Verification, Model Checking, and Abstract Interpretation (VMCAI 04)*, Jan. 2004.
  - ◆ Program committee, *Principles and Practices of Parallel Programming (PPoPP 03)*, May 2003.
  - ◆ Program committee, *Code Generation and Optimization (CGO-1)*, Mar. 2003.
  - ◆ Program committee, *Architectural Support for Programming Languages and Operating Systems (ASPLOS-X)*, Oct. 2002.
  - ◆ Program committee, *Workshop on Runtime Verification (RV 2002)*, Jul. 2002.
  - ◆ Program committee, *International Conference on Software Engineering (ICSE 2003)*, May 2003.
  - ◆ Program committee, *Workshop on Dynamic Program Monitoring and Analysis*, Jul. 2001.
  - ◆ Program committee, *Parallel Architecture and Compilation Techniques (PACT 2001)*, Sept. 2001.
  - ◆ Program committee, *First SIGPLAN Workshop on Optimizations of Middleware and Distributed Systems*, Jun. 2001.
  - ◆ Program committee, *Compiler Optimization meets Compiler Verification (COCV 2002)*, Apr. 2002.
  - ◆ Program committee, *Principles and Practices of Parallel Programming (PPoPP 2000)*, Jun. 2000.
  - ◆ Program committee, *Static Analysis Symposium (SAS' 01)*, Jul. 2001.

- ◆ Program committee, *The Best of PLDI Collection*, 1970–1996.
- ◆ Program committee, *Workshop on Feedback-Directed Optimization*, Dec. 2000.
- ◆ Program committee, *Workshop on Feedback-Directed Optimization*, Nov. 1999.
- ◆ Program committee, *Workshop on Binary Translation*, Nov. 1999.
- ◆ ► General Chair, *Programming Language Design and Implementation (PLDI 2000)*, Jun. 2000.
- ◆ Program committee, *Principles and Practices of Parallel Programming (PPoPP)*, May 1999.
- ◆ Program committee, *Workshop on High-Level Parallel Programming Models and Supportive Environments (HIPS' 99)*, Apr. 1999.
- ◆ Program committee, *USENIX Conference on Domain-Specific Languages*, Oct. 1999.
- ◆ Program committee, *Programming Languages Design and Implementation (PLDI 1993)*, Jun. 1993.
- ◆ Program committee, *Principles of Programming Languages (POPL 1993)*, Jan. 1993.
- ◆ Program committee, *Principles and Practices of Parallel Programming (PPoPP)*, Apr. 1991.
- ◆ Program committee, *Programming Languages Design and Implementation (PLDI 1991)*, Jun. 1991.

## BOOKS AND BOOK CHAPTERS

- ◆ James Larus, “Evolution of Computing” in Hannes Werthner, Carlo Ghezzi, Jeff Kramer, Julian Nida-Rümelin, Bashar Nuseibeh, Erich Prem, Allison Stanger, eds., [\*Introduction to Digital Humanism\*](#), Springer, 2024.
- ◆ James Larus, “[The Curation Chokepoint](#),” in Hannes Werthner, Erich Prem, Edward A. Lee, and Carlo Ghezzi, eds., [\*Perspectives on Digital Humanism\*](#), pp. 153–158, Springer, 2021.
- ◆ James Larus, Dennis Gannon, “Multicore Computing and Scientific Discovery,” in Tony Hey, Stewart Tansley, and Kristin Tolle, eds., [\*The Fourth Paradigm: Data-Intensive Scientific Discovery\*](#), Microsoft Research 2009.
- ◆ Tim Harris, James Larus, Ravi Rajwar, [\*Transactional Memory: 2<sup>nd</sup> edition\*](#), Morgan & Claypool Publishers, 2010.
- ◆ James Larus, Ravi Rajwar, [\*Transactional Memory\*](#), Morgan & Claypool Publishers, 2007.
- ◆ James Larus, Brad Richards, Guhan Viswanathan, “Parallel Programming in C\*\*<sup>\*</sup>: A Large-Grain Data-Parallel Programming Language,” in Gregory Wilson and Paul Lu, eds., [\*Parallel Programming Using C++\*](#), MIT Press, 1996
- ◆ Steven Reinhardt, Mark Hill, James Larus, Alvin Lebeck, James Lewis, David Wood, “The Wisconsin Wind Tunnel: Virtual Prototyping of Parallel Computers,” in Laxmi Bhuyan and Xiaodong Zhang, eds., *Multiprocessor Performance Measurement and Evaluation*, IEEE Computer Society Press, 1994.
- ◆ James Larus, Satish Chandra, and David Wood, “CICO: A Practical Shared-Memory Programming Performance Model,” in T. Hey and J. Ferrante, eds., *Portability and Performance for Parallel Processing*, John Wiley & Sons, 1994.
- ◆ James Larus, “Assemblers, Linkers, and SPIM,” in David Patterson and John Hennessy, *Computer Organization & Design: The Hardware/Software Interface*, Morgan Kaufman, 1993.



- ◆ Mark Hill, Susan Eggers, James Larus, et al., “Design Decisions in SPUR,” in Benjamin Wah and C. V. Ramamoorthy, eds., *Computers for Artificial Intelligence Processing*, John Wiley & Sons, 1990.

## JOURNALS

- ◆ Carmela Troncoso, Dan Bogdanov, Edouard Bugnion, Sylvain Chatel, Cas Cremers, Seda Gürses, Jean-Pierre Hubaux, Dennis Jackson, James Larus, Wouter Lueks, Rui Oliveira, Mathias Payer, Bart Preneel, Apostolos Pyrgelis, Marcel Salathé, Theresa Stadler, Michael Veale, “[Deploying Decentralized, Privacy-Preserving Proximity Tracing](#),” *Communications of the ACM (CACM)*, Vol. 65, No. 9, Sept. 2022, pp. 48–57.
- ◆ James Larus, “[CACM Community](#),” EIC’s letter, *Communications of the ACM (CACM)*, Vol. 65, No. 7, Jul. 2022, pp. 5.
- ◆ James Larus, “[Whose Smartphone is It?](#),” *Communications of the ACM (CACM)*, Vol. 64, No. 9, Sept. 2021, pp. 41–42.
- ◆ Nanina Anderegg, Daniele Antonioli, Tala Ballouz, Edouard Bugnion, Srdjan Čapkun, Dennis Jackson, Sang-Il Kim, James Larus, Nicola Low, Wouter Lueks, Dominik Menges, Cédric Moullet, Mathias Payer, Julien Riou, Theresa Stadler, Carmela Troncoso, Effy Vayena, Viktor von Wyl, “[Early evidence of effectiveness of digital contact tracing for SARS-CoV-2 in Switzerland](#),” *Swiss Medical Weekly*, 2020;150:w20457 Dec. 2020.
- ◆ James Larus, Luis Ceze, Karin Strauss, “[ASPLOS Report](#),” *IEEE Design & Test*, Vol. 37, No. 3, pp. 119–123, Jun. 2020.
- ◆ Sheath DJ, Ruiz de Castañeda R, Bempong NE, Raviglione M, Machalaba C, Pepper MS, Vayena E, Ray N, Wernli D, Escher G, Grey F, Elger BS, Helbing D, Kleineberg KK, Beran D, Miranda JJ, Huffman MD, Hersch F, Andayi F, Thumbi SM, D’Acremont V, Hartley MA, Zinsstag J, Larus J, Rodríguez-Martínez M, Guerin PJ, Merson L, Nguyen VK, Rühli F, Geissbuler A, Salathé M, Bolon I, Boehme C, Berkley S, Valleron AJ, Keiser O, Kaiser L, Eckerle I, Utzinger J, Flahault A., “[Precision global health: a roadmap for augmented action](#),” *Public Health and Emergency*, 2020.
- ◆ Carmela Troncoso, Mathias Payer, Jean-Pierre Hubaux, Marcel Salathe, James Larus, Wouter Lueks, Theresa Stadler, Apostolos Pyrgelis, Daniele Antonioli, Ludovic Barman, Sylvain Chatel, Kenneth Paterson, Srdjan Čapkun, David Basin, Jan Beutel, Dennis Jackson, Marc Roeschlin, Patrick Leu, Bart Preneel, Nigel Smart, Aysajan Abidin, Seda Gürses, Michael Veale, Cas Cremers, Michael Backes, Nils Ole Tippenhauer, Reuben Binns, Ciro Cattuto, Alain Barrat, Dario Fiore, Manuel Barbosa, Rui Oliveira, and Jose Pereira, “[Decentralized Privacy-Preserving Proximity Tracing](#),” *IEEE Computer Society Bulletin of the Technical Committee on Data Engineering, Special Issue on Data Technologies Behind Digital Contact Tracing for COVID19*, Vol. 43, No. 2, Jun. 2020.
- ◆ James Larus, Chris Hankin, “[Regulating Automated Decision Making](#),” *Communications of the ACM (CACM)*, Vol. 61, No. 8, pp. 5, Aug. 2018.
- ◆ James Larus, “[Technical Perspective: A Simple, Elegant Approach to Non-numeric Parallelization](#),” *Communications of the ACM (CACM)*, Vol. 60, No. 12, pp. 87, Dec. 2017.
- ◆ Andrew Putnam, Adrian Caulfield, Eric Chung, Derek Chiou, Kypros Constantinides, John Demmel, Hadi Esmaeilzadeh, Jeremy Fowers, Gopi PrashanthGopal, Jan Gray, Michael Haselman, Scott Hauck, Stephen Heil, Amir Hormati, Joo-Young Kim, Sitaram Lanka, James Larus, Eric Peterson, Simon Pope,

- 
- Aaron Smith, Jason Thong, Phillip Yi Xiao, Doug Burger, "[A Reconfigurable Fabric for Accelerating Large-Scale Datacenter Services](#)," *Communications of the ACM (CACM)*, Vol. 59, No. 11, pp. 10–22, Nov. 2016.
- ◆ James Larus, "[The Power of Parallelizing Computations](#)," *Communications of the ACM (CACM)*, Vol. 59, No. 10, pp. 84–84, Oct. 2015.
  - ◆ Andrew Putnam, Adrian Caulfield, Eric Chung, Derek Chiou, Kypros Constantinides, John Demmel, Hadi Esmaeilzadeh, Jeremy Fowers, Gopi PrashanthGopal, Jan Gray, Michael Haselman, Scott Hauck, Stephen Heil, Amir Hormati, Joo-Young Kim, Sitaram Lanka, James Larus, Eric Peterson, Simon Pope, Aaron Smith, Jason Thong, Phillip Yi Xiao, Doug Burger, "[A Reconfigurable Fabric for Accelerating Large-Scale Datacenter Services](#)," *IEEE Micro*, Vol. 35, No. 3, pp. 10-22, May/Jun. 2015.
  - ◆ James Larus, "[Programming Multicore Computers: Technical Perspective](#)," *Communications of the ACM (CACM)*, Vol. 58, No. 5, pp. 76–76, May 2015.
  - ◆ Daniel Reed, Dennis Gannon, James Larus, "[Imaging the Future: Thoughts on Computing](#)," *IEEE Computer*, Vol. 45, No. 1, pp. 25–30, Jan. 2012.
  - ◆ Yi Lu, Qiaomin Xie, Gabriel Kliot, Alan Geller, James Larus, Albert Greenberg, "[Join-Idle-Queue: A Novel Load Balancing Algorithm for Dynamically Scalable Web Services](#)," *Performance Evaluation*, Vol. 68, No. 11, pp. 1056–1071, Nov. 2011.
  - ◆ James Larus, Galen Hunt, "[The Singularity System](#)," *Communications of the ACM (CACM)*, Vol. 53, No. 8, pp. 72–79, Aug. 2010.
  - ◆ James Larus, "[Spending Moore’s Dividend](#)," *Communications of the ACM (CACM)*, Vol. 52, No. 5, pp. 62–69, May 2009.
  - ◆ James Larus, "[PL Research and Its Consequences on PL Curriculum](#)," *SIGPLAN Notices*, Vol. 43, No. 11, pp. 84–86, Nov. 2008.
  - ◆ James Larus, Christos Kozyrakis, "[Transactional Memory](#)," *Communications of the ACM (CACM)*, Vol. 51, No. 7, pp. 80–88, Jul. 2008.
  - ◆ Galen Hunt, James Larus, "[Singularity: Rethinking the Software Stack](#)," *Operating Systems Review*, Vol. 41, No. 2, pp. 37–49, Apr. 2007.
  - ◆ James Larus, Galen Hunt, and David Tarditi, "[Singularity](#)," *MSDN Magazine*, Vol. 21, No. 7, pp. 176, Jun. 2006.
  - ◆ Herb Sutter, James Larus, "[Software and the Concurrency Revolution](#)," *ACM Queue*, Vol. 3, No. 7, pp. 54–62, Sept. 2005.
  - ◆ James Larus, Thomas Ball, Manuvir Das, Rob DeLine, Manuel Fähndrich, Jon Pincus, Sriram Rajamani, Ramanathan Venkatapathy, "[Righting Software](#)," *IEEE Software*, Vol. 21, No. 3, pp. 92–100, May/Jun. 2004. ► **IEEE Software 25th-Anniversary Top Picks.**
  - ◆ Trishul Chilimbi, Mark Hill, and James Larus, "[Making Pointer-Based Data Structures Cache Conscious](#)," *IEEE Computer*, Vol. 33, Num. 12, pp. 67–74, Dec. 2000.
  - ◆ Shubhendu Mukherjee, Steven Reinhardt, Babak Falsafi, Mike Litzkow, Mark Hill, David Wood, Steven Huss-Lederman, and James Larus, "[Wisconsin Wind Tunnel II: A Fast, Portable Parallel Architecture Simulator](#)," *IEEE Concurrency*, Vol. 8, No. 4, pp. 12–20, Oct. 2000.
  - ◆ Thomas Ball, James Larus, "[Using Paths to Measure, Explain, and Enhance Program Behavior](#)," *IEEE Computer*, Vol. 33, No. 7, pp. 57–65, Jul. 2000.

- ◆ Satish Chandra, James Larus, Bradley Richards, "[Teapot: A Domain-Specific Language for Writing Cache Coherence Protocols](#)," *IEEE Transactions on Software Engineering*, Vol. 25, No. 3, pp. 317–334, May/June. 1999.
- ◆ Mark Hill, James Larus, and David Wood, "[Portably Supporting Parallel Programming Languages](#)," *IEEE Computer*, Vol. 28, No. 8, pp. 28–29, Aug. 1995.
- ◆ David Wood, Satish Chandra, Babak Falsafi, Mark Hill, James Larus, Alvin Lebeck, James Lewis, Shubhendu Mukherjee, Subbarao Palacharla, Steven Reinhardt, "[Mechanisms for Cooperative Shared Memory](#)," *CMG Transactions*, Issue 84, pp. 51–62, Spring 1994.
- ◆ Thomas Ball and James Larus, "[Optimally Profiling and Tracing Programs](#)," *ACM Transactions on Programming Languages and Systems (TOPLAS)*, Vol. 16, No. 4, pp. 1319–1360, Jul. 1994.
- ◆ James Larus and Thomas Ball, "[Rewriting Executable Files to Measure Program Behavior](#)," *Software Practice & Experience*, Vol. 24, No. 2, pp. 197–218, Feb. 1994.
- ◆ James Larus, "[Compiling for Shared-Memory and Message-Passing Computers](#)," *ACM Letters on Programming Languages and Systems*, Vol. 2, No. 1–4, pp. 165–180, Mar.–Dec. 1993.
- ◆ Mark Hill, James Larus, Steven Reinhardt, and David Wood, "[Cooperative Shared Memory: Software and Hardware for Scalable Multiprocessors](#)," *ACM Transactions on Computer Systems (TOCS)*, Vol. 11, No. 4, pp. 300–318, Nov. 1993.
- ◆ James Larus, "[Efficient Program Tracing](#)," *IEEE Computer*, Vol. 26, No. 5, pp. 52–61, May 1993.
- ◆ James Larus, "[Loop-Level Parallelism in Numeric and Symbolic Programs](#)," *IEEE Transactions on Parallel and Distributed Systems*, Vol. 4, No. 7, pp. 812–826, Jul. 1993.
- ◆ James Larus, "[Compiling Lisp Programs for Parallel Execution](#)," *Lisp and Symbolic Computation*, Vol. 4, No. 1, pp. 29–99, Jan. 1991.
- ◆ James Larus, "[Abstract Execution: A Technique for Efficiently Tracing Programs](#)," *Software–Practice & Experience*, Vol. 20, No. 12, pp. 1241–1258, Dec. 1990.
- ◆ Mark Hill and James Larus, "[Cache Considerations for Programmers of Multiprocessors](#)," *Communications of the ACM*, Vol. 18, No. 8, pp. 97–102, Aug. 1990.
- ◆ Benjamin Zorn, Kinson Ho, James Larus, Luigi Semenzato, and Paul Hilfinger, "[Multiprocessing Extensions in SPUR Lisp](#)," *IEEE Software*, pp. 41–49, Jul. 1989.
- ◆ Mark Hill, Susan Eggers, James Larus, et al., "[Design Decisions in SPUR](#)," *IEEE Computer*, Vol. 18, No. 11, pp. 8–24, Nov. 1986.

## REFEREED CONFERENCES AND WORKSHOPS

- ◆ Qingyuan Liu, Yanning Yang, Dong Du, Yubin Xia, Ping Zhang, Jia Feng, James Larus, and Haibo Chen, "[Harmonizing Efficiency and Practicability: Optimizing Resource Utilization in Serverless Computing with Jiagu](#)," *USENIX Annual Technical Conference (ATC 2024)*, Jul. 2024.
- ◆ Mahyar Emami, Sahand Kashani, Keisuke Kamahori, Mohammad Sepehr Pourghannad, Ritik Raj, James Larus, "[A 475 MHz Manycore FPGA Accelerator for RTL Simulation](#)," *32nd ACM/SIGDA International Symposium on Field-Programmable Gate Arrays (FPGA 2024)*, Apr. 2024.

- 
- ◆ Mahyar Emami, Sahand Kashani, Keisuke Kamahori, Mohammad Sepehr Pourghannad, Ritik Raj, James Larus, "[Manticore: Hardware-Accelerated RTL Simulation with Static Bulk-Synchronous Parallelism](#)," *28<sup>th</sup> Architectural Support for Programming Languages and Operating Systems (ASPLOS' 23)*, Mar. 2023.
  - ◆ Mahyar Emami, Endri Bezati, Jorn W. Janneck, James Larus, "[Auto-Partitioning Heterogeneous Task-Parallel Programs with StreamBlocks](#)," *31<sup>st</sup> Parallel Architectures and Compilation Techniques (PACT 2022)*, Oct. 2022.
  - ◆ Sahand Kashani, Mahyar Emami, James Larus, "[Bitfiltrator: A General Approach for Reverse-Engineering Xilinx Bitstream Formats](#)," *32<sup>nd</sup> Field Programmable Logic and Applications (FPL 2022)*, Aug. 2022. ► **Best Paper Award**.
  - ◆ Xiaoting Li, Lingwei Chen, Jinqun Zhang, James Larus, and Dinghao Wu, "[Watermarking-based Defense against Adversarial Attacks on Deep Neural Networks](#)," *2021 International Joint Conference on Neural Networks (IJCNN)*, Jul. 2021.
  - ◆ Sahand Kashani, James Larus, "[Compile-Time RTL Interpreters](#)," First Workshop on Languages, Tools, and Techniques for Accelerator Design (LATTE 2021), Apr. 2021.
  - ◆ Qinkun Bao, Zihao Wang, James Larus, Dinghao Wu, "[Abacus: Precise Side-Channel Analysis](#)," *43<sup>rd</sup> International Conference on Software Engineering (ICSE 2021)*, Madrid, Spain, May 2021.
  - ◆ Adrien Ghosn, Marios Kogias, Mathias Payer, James Larus, Edouard Bugnion, "[Enclosures: language-based restriction of untrusted libraries](#)," *26<sup>th</sup> Architectural Support for Programming Languages and Operating Systems (ASPLOS' 21)*, Apr. 2021.
  - ◆ Stuart Byma, Akash Dhasade, Adrian Altenhoff, Christophe Dessimoz, and James Larus. "[Parallel and Scalable Precise Clustering](#)," *Parallel Architectures and Compilation Techniques (PACT' 20)*, Georgia, Oct. 2020.
  - ◆ Endri Bezati, Mahyar Emami, James Larus, "[Advanced Dataflow Programming using Actor Machines for High-Level Synthesis](#)," *28<sup>th</sup> Symposium on Field-Programmable Gate Arrays (FPGA 2020)*, Seaside CA, Feb. 2020.
  - ◆ Bogdan-Alexandru Stoica, Swarup Sahoo, James Larus, and Vikram Adve. "[Wok: Statistical Program Slicing in Production](#)," *41<sup>st</sup> International Conference on Software Engineering (ICSE 2019)*, Montreal, Canada, pp. 324-325, May 2019.
  - ◆ Adrien Ghosn, James Larus, Edouard Bugnion, "[Secured Routines: Language-based Construction of Trusted Execution Environments](#)," *USENIX Annual Technical Conference (ATC 2019)*, Renton WA, pp. 571–586, Jul. 2019.
  - ◆ Nachshon Cohen, David Aksun, James Larus, "[Fine-Grain Checkpointing with In Cache Line Logging](#)," *24<sup>th</sup> Architectural Support for Programming Languages and Operating Systems (ASPLOS 2019)*, Providence RI, pp. 441–454, Apr. 2019.
  - ◆ Nachshon Cohen, David Aksun, James Larus, "[Object-Oriented Recovery for Non-Volatile Memory](#)," *10<sup>th</sup> Annual Non-Volatile Memories Workshop*, San Diego, Mar. 2019.
  - ◆ Sahand Kashani, Stuart Byma, James Larus, "[IMPACT: Interval-based Multi-pass Proteomic Alignment with Constant Traceback](#)," *2<sup>nd</sup> HPCA Workshop on Accelerator Architectures in Computational Biology and Bioinformatics*, Washington DC, Feb. 2019.
  - ◆ Nachshon Cohen, David Aksun, James Larus, "[Object-Oriented Recovery for Non-Volatile Memory](#)," *Proceedings of the ACM on Programming Languages 2*, OOPSLA, Article 153 (Nov. 2018), 22 pages.

- Appeared *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA 2018)*, Boston, MA, Nov. 2018.
- ◆ Stuart Byma, James Larus, [“Detailed Heap Profiling,”](#) *International Symposium on Memory Management (ISMM)*, Philadelphia, PA, Jun. 2018. ► **Best Student Presentation Award.**
  - ◆ Nachshon Cohen, James Larus, Erez Petrank, [“Reducing Transaction Aborts by Looking to the Future,”](#) (Poster) *Principles and Practice of Parallel Programming 2018 (PPoPP 2018)*, Wien, Austria, Feb. 2018.
  - ◆ Nachshon Cohen, Michal Friedman, James Larus, [“Efficient Logging in Non-volatile Memory by Exploiting Coherency Protocols,”](#) *Proceedings of the ACM on Programming Languages 1*, OOPSLA, Article 67 (Oct. 2017), 24 pages. Appeared *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA 2017)*, Vancouver, CA, Oct. 2017.
  - ◆ Stuart Byma, Sam Whitlock, Laura Flueratoru, Ethan Tseng, Christos Kozyrakis, Edouard Bugnion, James Larus, [“Persona: A High-Performance Bioinformatics Framework,”](#) *2017 USENIX Annual Technical Conference (ATC 2017)*, Santa Clara CA, Jul. 2017.
  - ◆ Andrew Putnam, Adrian Caulfield, Eric Chung, Derek Chiou, Kypros Constantinides, John Demmel, Hadi Esmaeilzadeh, Jeremy Fowers, Gopi Prashanth Gopal, Jan Gray, Michael Haselman, Scott Hauck, Stephen Heil, Amir Hormati, Joo-Young Kim, Sitaram Lanka, James Larus, Eric Peterson, Simon Pope, Aaron Smith, Jason Thong, Phillip Yi Xiao, Doug Burger, [“A Reconfigurable Fabric for Accelerating Large-Scale Datacenter Services,”](#) *41<sup>st</sup> International Symposium on Computer Architecture (ISCA 2014)*, Minneapolis NM, Jun. 2014. ► **IEEE Micro Top Picks 2015** ► **ISCA@50 Retrospective Paper**
  - ◆ Tiejun Gao, Karin Strauss, Kathryn McKinley, Steve Blackburn, James Larus, Doug Burger, [“Using Managed Runtime Systems to Tolerate Holes in Wearable Memories,”](#) *5<sup>th</sup> Annual UCSD Non-Volatile Memories Workshop*, San Diego, CA, Mar. 2014.
  - ◆ James Larus, [“Look Up! Your Future is in the Cloud,”](#) Keynote abstract, *34<sup>th</sup> Programming Language Design and Implementation (PLDI 2013)*, Seattle, WA, pp. 1–2, Jun. 2013.
  - ◆ Tiejun Gao, Karin Strauss, Kathryn McKinley, Steve Blackburn, James Larus, Doug Burger, [“Using Managed Runtime Systems to Tolerate Holes in Wearable Memories,”](#) *34<sup>th</sup> Programming Language Design and Implementation (PLDI 2013)*, Seattle, WA, pp. 297–308, Jun. 2013.
  - ◆ Bin Ren, Gagan Agrawal, James Larus, Todd Mytkowicz, Tomi Poutanen, Wolfram Schulte, [“SIMD Parallelization of Applications that Traverse Irregular Data Structures,”](#) *Code Generation and Optimization (CGO 2013)*, Shenzhen, China, Feb. 2013. ► **Best paper award.** ► **SIGPLAN Research Highlights (Sept. 2013)**
  - ◆ Yuxiong He, Sameh Elnikety, James Larus, Chenyu Yan, [“Zeta: Scheduling Interactive Services with Partial Execution,”](#) *Symposium on Cloud Computing (SOCC 2012)*, San Jose, CA, Oct. 2012.
  - ◆ James Larus, [“It’s the End of the World as We Know It \(And I Feel Fine\),”](#) Keynote abstract, *Runtime Verification 2012 (RV 2012)*, Istanbul, Turkey, Sept. 2012.
  - ◆ Bin Ren, Gagan Agrawal, James Larus, Todd Mytkowicz, Tomi Poutanen, Wolfram Schulte, [“Fine-Grained Parallel Traversal of Irregular Data Structures,”](#) Poster, *21<sup>st</sup> Parallel Architectures and Compilation Techniques (PACT 2012)*, Minneapolis, MN, Sept. 2012.
  - ◆ Sergey Bykov, Alan Geller, Gabriel Kliot, James Larus, Ravi Pandya, Jorgen Thelin, [“Orleans: Cloud Computing for Everyone,”](#) *Symposium on Cloud Computing (SOCC 2011)*, Portugal, Oct. 2011.



- ◆ Yi Lu, Qiaomin Xie, Gabriel Kliot, Alan Geller, James Larus, Albert Greenberg, "[Join-Idle-Queue: A Novel Load Balancing Algorithm for Dynamically Scalable Web Services](#)," *IFIP Performance 2011*, Oct. 2011. ► **Best paper award.**
- ◆ James Larus, "[Programming the Cloud](#)," Keynote abstract, *16<sup>th</sup> Principles and Practice of Parallel Programming (PPoPP 2011)*, San Antonio, TX, pp. 1–2, Feb. 2011.
- ◆ James Larus, "[Programming Clouds](#)," Keynote abstract, *Compiler Construction (CC 2010)*, Paphos, Cyprus, LNCS 6011, pp. 1–9, Mar. 2010.
- ◆ James Larus, "[The Real Value of Testing](#)," Keynote abstract, *International Symposium on Software Testing and Analysis (ISSTA 2008)*, pp. 1-2, Jul. 2008.
- ◆ James Larus, "[Singularity: Designing Better Software](#)," Invited talk abstract, *Computer-Aided Verification (CAV 2008)*, LNCS 5123, Jul. 2008.
- ◆ Virendra Marathe, Time Harris, James Larus, "[Featherweight Transactions: Decoupling Threads and Atomic Blocks](#)," *12<sup>th</sup> Principles and Practices of Parallel Programming (PPoPP 2007)*, pp. 134–135, Mar. 2007.
- ◆ Galen Hunt, Mark Aiken, Manuel Fähndrich, Chris Hawblitzel, Orion Hodson, James Larus, Steven Levi, Bjarne Steensgaard, David Tarditi, Ted Wobber, "[Sealing OS Processes to Improve Dependability and Safety](#)," pp. 341–354, *2<sup>nd</sup> EuroSys Conference on Computer Systems (EuroSys 2007)*, Mar. 2007.
- ◆ James Larus, "[Is Process or Architecture the Solution?](#)" Invited keynote talk abstract, *First Workshop on Architectural and System Support for Improving Software Dependability (ASID)*, at *Architectural Support for Programming Languages and Operating Systems (ASPLOS XII)*, Oct. 2006.
- ◆ Mark Aiken, Manuel Fähndrich, Chris Hawblitzel, Galen Hunt, James Larus, "[Deconstructing Process Isolation](#)," *Workshop on Memory Systems Performance and Correctness (MSPC 2006)*, at *Architectural Support for Programming Languages and Operating Systems (ASPLOS XII)*, pp. 1–10, Oct. 2006.
- ◆ Manuel Fähndrich, Michal Carbin, James Larus, "[Reflective Program Generation with Patterns](#)," *Generative Programming and Component Engineering (GPCE 2006)*, Oct. 2006.
- ◆ James Larus "[Abolish Runtime Systems: Operating Systems Should Control the Execution Environment](#)," Invited talk abstract, *2<sup>nd</sup> Conference on Virtual Execution Environments (VEE 2006)*, Jun. 2006.
- ◆ Manuel Fähndrich, Mark Aiken, Chris Hawblitzel, Orion Hodson, Galen Hunt, James Larus, and Steven Levi, "[Language Support for Fast and Reliable Message-based Communication in the Singularity OS](#)," *EuroSys 2006*, pp. 177–190, Apr. 2006. ► **Best paper award.** ► **Test of time award.**
- ◆ Galen Hunt, James Larus, David Tarditi, and Ted Wobber, "[Broad New OS Research: Challenges and Opportunities](#)," *USENIX 10<sup>th</sup> Workshop on Hot Topics in Operating Systems (HOTOS X)*, Jun. 2005.
- ◆ Glenn Ammons, James Larus, "[Improving Data-Flow Analysis with Path Profiling](#)," in *20 Years of the ACM/SIGPLAN Conference on Programming Language Design and Implementation (1979–1999): A Selection*, 2003.
- ◆ Glenn Ammons, David Mandelin, Rastislav Bodik, James Larus, "[Debugging Temporal Specifications with Concept Analysis](#)," *Programming Language Design and Implementation (PLDI 2003)*, Jun. 2003, pp. 182–196.
- ◆ James Larus and Michael Parkes, "[Using Cohort Scheduling to Enhance Server Performance](#)," *USENIX Annual Technical Conference (ATC 2002)*, Jun. 2002, pp. 103–114.

- 
- ◆ Glenn Ammons, Ras Bodik, and James Larus, "[Mining Specifications](#)," *29<sup>th</sup> Principles of Programming Languages (POPL 2002)*, Jan. 2002, pp. 4–16.
  - ◆ James Larus and Michael Parkes, "[Using Cohort Scheduling to Enhance Server Performance \(Extended Abstract\)](#)," *Workshop on Optimization of Middleware and Distributed Systems*, Jun. 2001, pp. 182–187 (Invited Paper).
  - ◆ Eric Schnarr, Mark Hill, James Larus, "[Facile: A Language and Compiler for High-Performance Processor Simulators](#)," *Programming Language Design and Implementation (PLDI 2001)*, Jun. 2001, pp. 321–331.
  - ◆ James Larus, "[Whole Program Paths](#)," *Programming Language Design and Implementation (PLDI 1999)*, May 1999, pp. 259–269. ► **Most Innovative Paper award.**
  - ◆ Trishul Chilimbi, Mark Hill, James Larus, "[Cache-Conscious Structure Layout](#)," *Programming Language Design and Implementation (PLD 1999)*, May 1999, pp. 1–12.
  - ◆ Trishul Chilimbi, Bob Davidson, James Larus, "[Cache-Conscious Structure Definition](#)," *Programming Language Design and Implementation (PLDI 1999)*, May 1999, pp. 13–24.
  - ◆ Trishul Chilimbi and James Larus, "[Using Generational Garbage Collection to Implement Cache-Conscious Data Placement](#)," *International Symposium on Memory Management (ISMM 1998)*, Oct. 1998.
  - ◆ Ioannis Schoinas, Babak Falsafi, Mark Hill, James Larus, and David Wood, "[Sirocco: Cost-Effective Fine-Grain Distributed Shared Memory](#)," *Parallel Architecture and Compilation Techniques (PACT 1998)*, Oct. 1998, pp. 40–51.
  - ◆ Thomas Ball, James Larus, Genevieve Rosay, "Analyzing Path Profiles with the Hot Path Browser," *Workshop on Profile and Feedback-Directed Compilation*, Paris, France, Oct. 1998.
  - ◆ Eric Schnarr and James Larus, "[Fast Out-of-Order Processor Simulation Using Memoization](#)," *8<sup>th</sup> Architectural Support for Programming Languages and Operating Systems (ASPLOS-VIII)*, Oct. 1998, pp. 283–294.
  - ◆ Brad Richards and James Larus, "[Protocol-Based Race Detection](#)," *Symposium on Parallel and Distributed Tools (SPDT 1998)*, Aug. 1998.
  - ◆ Steven Reinhardt, James Larus, and David Wood, "[Typhoon: A User-Level Shared-Memory System](#)," *25 Years of the International Symposium on Computer Architecture (Selected Papers)*, pp. 497–508, Jun. 1998.
  - ◆ Steven Reinhardt, James Larus, and David Wood, "[Retrospective: Typhoon: A User-Level Shared-Memory System](#)," *25 Years of the International Symposium on Computer Architecture (Selected Papers)*, pp. 98–102, Jun. 1998.
  - ◆ Glenn Ammons and James Larus, "[Improving Data-flow Analysis with Path Profiles](#)," *Programming Language Design and Implementation (PLDI 1998)*, Jun. 1998, pp. 72–84. ► Selected for *20 Years of the ACM/SIGPLAN Conference on Programming Language Design and Implementation*.
  - ◆ Satish Chandra, Michael Dahlin, Bradley Richards, Randolph Wang, Thomas Anderson, and James Larus, "[Experience with a Language for Writing Coherence Protocols](#)," *USENIX Conference on Domain-Specific Languages*, Oct. 1997, pp. 51–66.

- ◆ Thomas Reps, Thomas Ball, Manuvir Das, and James Larus, "[The Use of Program Profiling for Software Maintenance with Applications to the Year 2000 Problem](#)," *5<sup>th</sup> Foundations of Software Engineering (FSE 1997)*, Sept. 1997, pp. 432–449.
- ◆ Zhichen Xu, James Larus, and Bart Miller, "[Shared-Memory Performance Profiling](#)," *6<sup>th</sup> Principles and Practice of Parallel Programming (PPoPP 1997)*, Jun. 1997, pp. 240–251.
- ◆ Satish Chandra and James Larus, "[Optimizing Communication in HPF Programs for Fine-Grain Distributed Shared Memory](#)," *6<sup>th</sup> Principles and Practice of Parallel Programming (PPoPP 1997)*, Jun. 1997, pp. 100–111.
- ◆ Glenn Ammons, Thomas Ball, James Larus, "[Exploiting Hardware Performance Counters with Flow-Sensitive and Context-Sensitive Program Profiling](#)," *Programming Language Design and Implementation (PLDI 1997)*, Jun. 1997, pp. 85–96. ► **Most influential 1997 PLDI paper award.**
- ◆ Shubhendu Mukherjee, Steven Reinhardt, Babak Falsafi, Mike Litzkow, Steve Huss-Lederman, Mark Hill, James Larus, and David Wood, "[Wisconsin Wind Tunnel II: A Fast and Portable Parallel Architecture Simulator](#)," *Workshop on Performance Analysis and Its Impact on Design (PAID 1997)*, Jun. 1997.
- ◆ Eric Schnarr and James Larus, "[Instruction Scheduling and Executable Editing](#)," *29<sup>th</sup> International Symposium on Microarchitecture (MICRO 29)*, Dec. 1996, pp. 288–297.
- ◆ Thomas Ball and James Larus, "[Efficient Path Profiling](#)," *29<sup>th</sup> International Symposium on Microarchitecture (MICRO 29)*, Dec. 1996, pp. 46–57. ► **Test of time award (MICRO 51).**
- ◆ Guhan Viswanathan and James Larus, "[Compiler-directed Shared-Memory Communication for Iterative Parallel Applications](#)," *Supercomputing*, Nov. 1996.
- ◆ Satish Chandra and James Larus, "[HPF on Fine-Grain Distributed Shared Memory: Early Experience](#)," *9<sup>th</sup> Workshop on Languages and Compilers for Parallel Computing, Lecture Notes in Computer Science 1239*, Springer-Verlag, 1997.
- ◆ Mark Hill, James Larus, and David Wood, "Parallel Computer Research in the Wisconsin Wind Tunnel Project," *NSF Conference on Experimental Research in Computer Systems*, Jun. 1996.
- ◆ Satish Chandra, Brad Richards, and James Larus, "[Teapot: Language Support for Writing Memory Coherence Protocols](#)," *Programming Language Design and Implementation (PLDI 1996)*, May 1996, pp. 237–248.
- ◆ Trishul Chilimbi, Thomas Ball, Stephen Eick, and James Larus, "[StormWatch: A Tool for Visualizing Memory System Protocols](#)," *Supercomputing*, Dec. 1995.
- ◆ Shubhendu Mukherjee, Shamik Sharma, Mark Hill, James Larus, Anne Rogers, and Joel Saltz, "[Efficient Support for Irregular Applications on Distributed-Memory Machines](#)," *5<sup>th</sup> Principles and Practice of Parallel Programming (PPoPP 1995)*, Jul. 1995, pp. 68–79.
- ◆ James Larus and Eric Schnarr, "[EEL: Machine-Independent Executable Editing](#)," *Programming Languages Design and Implementation (PLDI 1995)*, Jun. 1995, pp. 291–300.
- ◆ Mark Hill, James Larus, and David Wood, "[Tempest: A Substrate for Portable Parallel Programs](#)," *COMPCON 1995*, Mar. 1995, pp. 327–332. *Invited paper.*
- ◆ Youfeng Wu and James Larus, "[Static Branch Frequency and Program Profile Analysis](#)," *27<sup>th</sup> International Symposium on Microarchitecture (MICRO 27)*, Nov. 1994, pp. 1–11.



- 
- ◆ Babak Falsafi, Alvin Lebeck, Steven Reinhardt, Ioannis Schoinas, Mark Hill, James Larus, Anne Rogers, and David Wood, "[Application-Specific Protocols for User-Level Shared Memory](#)," *Supercomputing*, Nov. 1994, pp. 380–389.
  - ◆ Satish Chandra, James Larus, and Anne Rogers, "[Where is Time Spent in Message-Passing and Shared-Memory Programs?](#)," *6<sup>th</sup> Architectural Support for Programming Languages and Operating Systems (ASPLOS-VI)*, Oct. 1994, pp. 61–75.
  - ◆ James Larus, Brad Richards, and Guhan Viswanathan, "[LCM: System Support for Language Implementation](#)," *6<sup>th</sup> Architectural Support for Programming Languages and Operating Systems (ASPLOS-VI)*, Oct. 1994, pp. 208–218.
  - ◆ Ioannis Schoinas, Babak Falsafi, Alvin Lebeck, Steven Reinhardt, James Larus, and David Wood, "[Fine-grain Access Control for Distributed Shared Memory](#)," *6<sup>th</sup> Architectural Support for Programming Languages and Operating Systems (ASPLOS-VI)*, Oct. 1994, pp. 297–307.
  - ◆ Trishul Chilimbi and James Larus, "[Cachier: A Tool for Automatically Inserting CICO Annotations](#)," *International Conference on Parallel Programming (ICPP)*, pp. 89–98, Aug. 1994.
  - ◆ Lorenz Huelsbergen, James Larus, and Alexander Aiken, "[Using the Run-Time Sizes of Data Structures to Guide Parallel-Thread Creation](#)," *Lisp and Functional Programming (LFP 1994)*, pp. 79–90, Jun. 1994.
  - ◆ Steven Reinhardt, James Larus, and David Wood, "[Typhoon: A User-Level Shared-Memory System](#)," *International Symposium on Computer Architecture (ISCA 1994)*, pp. 325–337, Apr. 1994.
  - ◆ James Larus, "[C\\*: A Large-Grain, Object-Oriented, Data-Parallel Programming Language](#)," in U. Banerjee, D. Gelernter, A. Nicolau, and D. Padua, eds., *Languages and Compilers for Parallel Computing (5<sup>th</sup> Workshop)*, *Lecture Notes in Computer Science 757*, Springer-Verlag, 1994.
  - ◆ Thomas Ball and James Larus, "[Branch Prediction for Free](#)," *Programming Language Design and Implementation (PLDI 1993)*, pp. 300–313, Jun. 1993.
  - ◆ David Wood, Satish Chandra, Babak Falsafi, Mark Hill, James Larus, Alvin Lebeck, James Lewis, Shubhendu Mukherjee, Subbarao Palacharla, Steven Reinhardt, "[Mechanisms for Cooperative Shared Memory](#)," *International Symposium on Computer Architecture (ISCA 1993)*, pp. 156–168, May 1993.
  - ◆ Steven Reinhardt, Mark Hill, James Larus, Alvin Lebeck, James Lewis, David Wood, "[The Wisconsin Wind Tunnel: Virtual Prototyping of Parallel Computers](#)," *SIGMETRICS Conference on Measurement & Modeling of Computer Systems (SIGMETRICS 1993)*, pp. 48–60, May 1993.
  - ◆ Lorenz Huelsbergen and James Larus, "[A Concurrent Copying Garbage Collector for Languages that Distinguish \(Im\)mutable Data](#)," *4<sup>th</sup> Principles and Practice of Parallel Programming (PPoPP 1993)*, pp. 73–82, May 1993.
  - ◆ Mark Hill, James Larus, Steven Reinhardt, and David Wood, "[Cooperative Shared Memory: Software and Hardware for Scalable Multiprocessors](#)," *5<sup>th</sup> Architectural Support for Programming Languages and Operating Systems (ASPLOS-V)*, pp. 262–273, Oct. 1992. ► **Best Paper award.**
  - ◆ Lorenz Huelsbergen and James Larus, "[Dynamic Program Parallelization](#)," *1992 Lisp and Functional Programming (LFP 1992)*, pp. 311–323, Jun. 1992.
  - ◆ Thomas Ball and James Larus, "[Optimally Profiling and Tracing Programs](#)," *19<sup>th</sup> Principles of Programming Languages (POPL 1992)*, pp. 59–70, Jan. 1992.

- ◆ James Larus, "[Parallelism in Numeric and Symbolic Programs](#)," in A. Nicolau, D. Gelernter, T. Gross, and D. Padua, eds. *3<sup>rd</sup> Workshop on Programming Languages and Compilers for Parallel Computing*, MIT Press, 1991, pp. 331–349.
- ◆ Lorenz Huelsbergen, Douglas Hahn, and James Larus, "Exact Data Dependence Analysis Using Data Access Descriptors (Extended Abstract)," *International Conference on Parallel Processing (ICPP)*, Aug. 1990.
- ◆ Benjamin Zorn, Kinson Ho, James Larus, Luigi Semenzato, and Paul Hilfinger, "[Lisp Extensions for Multiprocessing](#)," *22<sup>nd</sup> Hawaii Conference on System Sciences (HCSS)*, pp. 761–770, Jan. 1989.
- ◆ James Larus and Paul Hilfinger, "[Restructuring Lisp Programs for Concurrent Execution](#)," *ACM/SIGPLAN Parallel Programming: Experience with Applications, Languages, and Systems (PPEALS 1988)*, pp. 100–110, Jul. 1988.
- ◆ James Larus and Paul Hilfinger, "[Detecting Conflicts Between Structure Accesses](#)," *Programming Language Design and Implementation (PLDI 1988)*, pp. 21–34, Jun. 1988.
- ◆ James Larus and Paul Hilfinger, "[Register Allocation in the SPUR Lisp Compiler](#)," *SIGPLAN '86 Symposium on Compiler Construction*, pp. 255–263, Jun. 1986.
- ◆ George Taylor, Paul Hilfinger, James Larus, Benjamin Zorn, and David Patterson, "[Evaluation of the SPUR Lisp Architecture](#)," *13<sup>th</sup> International Symposium on Computer Architecture*, pp. 444–452, Jun. 1986.

## PREFACES, SPECIAL ISSUES

- ◆ Claude Kirchner, James Larus, "[Ethics in Research - Introduction](#)," *ERCIM News*, pp. 4, Jan. 2019.
- ◆ Claude Kirchner, James Larus, "[Introduction to the section 'Research and Society': Ethics in Research](#)," *ERCIM News*, No. 116, Jan. 2019.
- ◆ James Larus, Preface to Andreas Zeller, *Why Programs Fail: A Guide to Systematic Debugging*, Morgan Kaufmann, 2005.
- ◆ James Larus, Preface to Michael Scott, *Programming Language Pragmatics*, Morgan Kaufmann, 2005.

## OTHER PUBLICATIONS AND REPORTS

- ◆ Mahyar Emami, Sahand Kashani, Keisuke Kamahori, Mohammad Sepeh Pourghannad, Ritik Raj, James Larus, "Manticore: Hardware-Accelerated RTL Simulation with Static Bulk-Synchronous Parallelism," arXiv:2301.09413, Mar. 2023.
- ◆ Marcel Salathé, Christian L Althaus, Nanina Anderegg, Daniele Antonioli, Tala Ballouz, Edouard Bugnion, Srdjan Čapkun, Dennis Jackson, Sang-Il Kim, James Larus, Nicola Low, Wouter Lueks, Dominik Menges, Cedric Moullet, Mathias Payer, Julien Riou, Theresa Stadler, Carmela Troncoso, Effy Vayena, Viktor von Wyl, "Early Evidence of Effectiveness of Digital Contact Tracing for SARS-CoV-2 in Switzerland," medRxiv:2020.09.07.20189274, Sept. 2020.
- ◆ James Larus, Luis Ceze, Karin Strauss, "The ASPLOS 2020 Online Conference Experience," *Blog@CACM, ACM SIGARCH Blog*, Mar. 2020.
- ◆ Sam Whitlock, James Larus, Edouard Bugnion, "Extending TensorFlow's Semantics with Pipelined Execution," arXiv:1908.09291, Aug. 2019.

- 
- ◆ Sahand Kashani, Stuart Byma, James Larus, “IMPACT: Interval-based Multi-pass Proteomic Alignment with Constant Traceback,” arXiv:1902.03238, Feb. 2019.
  - ◆ Nachshon Cohen, David Aksun, Hillel Avni, James Larus, “Fine-Grain Checkpointing with In-Cache-Line Logging,” arXiv:1902.00660v1, Feb. 2019.
  - ◆ Albert Cohen, Xipeng Shen, Josep Torrellas, James Tuck, Yuanyuan Zhou, Sarita Adve, Ismail Akturk, Saurabh Bagchi, Rajeev Balasubramanian, Rajkishore Barik, Micah Beck, Ras Bodik, Ali Butt, Luis Ceze, Haibo Chen, Yiran Chen, Trishul Chilimbi, Mihai Christodorescu, John Criswell, Chen Ding, Yufei Ding, Sandhya Dwarkadas, Erik Elmroth, Phil Gibbons, Xiaochen Guo, Rajesh Gupta, Gernot Heiser, Hank Hoffman, Jian Huang, Hillery Hunter, John Kim, Sam King, James Larus, Chen Liu, Shan Lu, Brandon Lucia, Saeed Maleki, Somnath Mazumdar, Iulian Neamtiu, Keshav Pingali, Paolo Rech, Michael Scott, Yan Solihin, Dawn Song, Jakub Szefer, Dan Tsafir, Bhuvan Uргаonkar, Marilyn Wolf, Yuan Xie, Jishen Zhao, Lin Zhong, Yuhao Zhu, “Inter-Disciplinary Research Challenges in Computer Systems for the 2020s,” Report to the NSF, Sept. 2018.
  - ◆ James Larus, “Data Privacy and Its Consequences,” Forum Mag, No. 24, Autumn-Winter 2018, pp. 24–25.
  - ◆ James Larus and Chris Hankin, ed., “When Computers Decide: European Recommendations on Machine-Learned Automated Decision Making,” Informatics Europe and EUACM, Feb. 2018.
  - ◆ Nachshon Cohen, Michal Friedman, James Larus, “Efficient Logging in Non-Volatile Memory by Exploiting Coherency Protocols,” arXiv:1709.02610, Sept. 2017.
  - ◆ James Larus, “Responsible Programming Not a Technical Issue,” Letter to the Editor, Communications of the ACM (CACM), Oct. 2014.
  - ◆ Sergey Bykov, Alan Geller, Gabriel Kliot, James Larus, Ravi Pandya, and Jorgen Thelin, “Orleans: A Framework for Cloud Computing,” Microsoft Research Technical Report, MSR-TR-2010-159, Nov. 2010.
  - ◆ James Larus, “Spending Moore’s Dividend,” Microsoft Research Technical Report MSR-TR-2008-69, May 2008.
  - ◆ Galen Hunt, Mark Aiken, Paul Barham, Manuel Fähndrich, Orion Hodson, James Larus, Steven Levi, Nick Murphy, Bjarne Steensgaard, David Tarditi, Ted Wobber, Brian Zill, “Sealing OS Processes to Improve Dependability and Security,” Microsoft Research Technical Report MSR-TR-2006-51, Apr. 2006.
  - ◆ Mark Aiken, Manuel Fähndrich, Chris Hawblitzel, Galen Hunt, James Larus, “Deconstructing Process Isolation,” Microsoft Research Technical Report MSR-TR-2006-43, Apr. 2006.
  - ◆ Galen Hunt, James Larus, Martin Abadi, Mark Aiken, Paul Barham, Manuel Fähndrich, Chris Hawblitzel, Orion Hodson, Steven Levi, Nick Murphy, Bjarne Steensgaard, David Tarditi, Ted Wobber, Brian Zill, “An Overview of the Singularity Project,” Microsoft Research Technical Report MSR-TR-2005-135, Oct. 2005.
  - ◆ Galen Hunt, James Larus, “Singularity Technical Report 1: Singularity Design Motivation,” Microsoft Research Technical Report MSR-TR-2004-105, Nov. 2004.
  - ◆ Jeremy Condit, James Larus, Sriram Rajamani, Jakob Rehof, “Region-Based Model Abstraction,” Microsoft Research Technical Report MSR-TR-2003-47, Aug. 2003.
  - ◆ James Larus and Michael Parkes, “Using Cohort Scheduling to Enhance Server Performance,” Microsoft Research Technical Report MSR-TR-2001-39, Mar. 2001.

- 
- ◆ Thomas Ball, James Larus, “Programs Follow Paths,” Microsoft Research Technical Report, MSR-TR-99-01, Jan. 1999.
  - ◆ Krishna Kunchithapadam, James Larus, “Using Lightweight Procedures to Improve Instruction Cache Performance,” Computer Sciences Technical Report #1390, University of Wisconsin-Madison, Jan. 1999.
  - ◆ Trishul Chilimbi, James Larus, and Mark Hill, “Improving Pointer-Based Codes Through Cache-Conscious Data Placement,” Computer Sciences Technical Report #1365, University of Wisconsin-Madison, Mar. 1998.
  - ◆ Guhan Viswanathan and James Larus, “User-defined Reductions for Communication in Data-Parallel Languages,” Computer Sciences Technical Report #1293, University of Wisconsin-Madison, Jan. 1996.
  - ◆ Mark Hill, James Larus, and David Wood, “The Wisconsin Wind Tunnel Project: An Annotated Bibliography,” Computer Architecture News, pp. 19–26, Dec. 1994.
  - ◆ Mark Hill, James Larus, Alvin Lebeck, Madhusudan Talluri, and David Wood, “Wisconsin Architectural Research Tool Set,” Computer Architecture News, Aug. 1993.
  - ◆ James Larus and Satish Chandra, “Using Tracing and Slicing to Tune Compilers,” Computer Sciences Technical Report #1174, University of Wisconsin-Madison, Aug. 1993.
  - ◆ James Larus, “SPIM S20: A MIPS R2000 Simulator,” Computer Sciences Technical Report #966, University of Wisconsin-Madison, Sept. 1990.
  - ◆ James Larus, “Predicting the Effects of Optimization on Parallel Programs,” Computer Sciences Technical Report #953, University of Wisconsin-Madison, Aug. 1990.
  - ◆ James Larus, “Restructuring Symbolic Programs for Concurrent Execution on Multiprocessors,” Computer Science Division-EECS, University of California at Berkeley, Technical Report No. UCB/CSD 89/502, May 1989. (Ph.D. dissertation)
  - ◆ Benjamin Zorn, Paul Hilfinger, Kinson Ho, James Larus, and Luigi Semenzato, “Features for Multiprocessing in SPUR Lisp,” Computer Science Division-EECS, University of California at Berkeley, Technical Report No. UCB/CSD 88/406, Mar. 1988.
  - ◆ Benjamin Zorn, Paul Hilfinger, Kinson Ho, and James Larus, “SPUR Lisp: Design and Implementation,” Computer Science Division-EECS, University of California at Berkeley, Technical Report No. UCB/CSD 87/373, Sept. 1987.
  - ◆ James Larus, “Curare: Restructuring Lisp Programs for Concurrent Execution,” Computer Science Division-EECS, University of California at Berkeley, Technical Report No. UCB/CSD 87/344, Feb. 1987.
  - ◆ James Larus and Benjamin Zorn, “Intensive Introduction to Franz Lisp,” Course notes for Franz Inc., Alameda, CA, 1985.
  - ◆ James Larus, “On the Performance of Courier Remote Procedure Calls Under 4.1c BSD UNIX,” Computer Science Division-EECS, University of California at Berkeley, Technical Report No. UCB/CSD 123 (also Progress Report 83.4), Jun. 1983.
  - ◆ James Larus and William Bush, “Classy: An Efficient Method for Compiling Smalltalk,” Proceedings of CS292R: Smalltalk on a RISC, Architectural Investigations, Computer Science Division-EECS, University of California at Berkeley, Technical Report, Apr. 1983.

- ◆ James Larus, “Parlez-Vous Franz? An Informal Introduction to Interfacing Foreign Functions to Franz Lisp,” Center for Pure and Applied Mathematics, University of California at Berkeley, Report PAM-124, Jan. 1983.
- ◆ James Larus, “A Comparison of Microcode, Assembly Code, and High-Level Languages on the VAX-11 and RISC-1,” *Computer Architecture News*, Sept. 1982.

## PATENTS

- ◆ Burger; Douglas, Larus; James, Putnam; Andrew, Gray; Jan, [Parallel decision tree processor architecture](#), U.S Patent 10,332,008, Jun. 25, 2019.
- ◆ Belady; Christian, Larus; James, Reed; Danny, Borgs; Christian, Chayes; Jennifer, Lobel; Ilan, Menache; Ishai, Nazerzadeh; Hamid, Jain; Navendu, [Data center system that accommodates episodic computation](#), U.S Patent 9,886,316, Feb. 6, 2018.
- ◆ He; Yuxiong, Elnikety; Sameh, Larus; James, Yan; Chenyu, [Scheduling execution requests to allow partial results](#), U.S Patent 9,817,698, Nov. 14, 2017.
- ◆ Meijer; Henricus, Gates, III; William, Flake; Gary, Bergstraesser; Thomas, Blinn; Arnold, Brumme; Christopher, Cheng; Lili, Connolly; Michael, Glasser; Daniel, Gounares; Alexander, Larus; James, MacLaurin; Matthew, Mishra; Mital; Amit, Snyder, Jr.; Ira, Zaner-Godsey; Melora, [Transformations for virtual quest representation](#), U.S Patent 9,746,912, Aug. 29, 2017.
- ◆ Steven Maillet, Michael Hall, James Larus, Jeremiah Spradlin, [Memory manager with enhanced application metadata](#), U.S. Patent 9,558,040, Jan. 31, 2017.
- ◆ Jan Gray, Timothy L Harris, James Larus, Burton Smith, [Cache metadata for accelerating software transactional memory](#), U.S. Patent 8,898,652, Nov. 25, 2014.
- ◆ Hunt; Galen, Larus; James, Gounares; Alexander, Endres; Raymond, [Secure and stable hosting of third-party extensions to web services](#), U.S. Patent 8,849,968, Sept. 30, 2014.
- ◆ Christian Belady, James Larus, Danny Reed, Christian Borgs, Jennifer Chayes, Ilan Lobel, Ishai Menache, Hamid Nazerzadeh, Navendu Jain, [Data center system that accommodates episodic computation](#), U.S. Patent 8,849,469, Sept. 2014.
- ◆ Gray; Jan, Harris; Timothy, Larus; James, Smith; Burton, [Cache metadata for implementing bounded transactional memory](#), U.S. Patent 8,849,469, Aug. 19, 2014.
- ◆ Larus; James, Harris; Timothy, Marathe; Virendra, [Lightweight transactional memory for data parallel programming](#), U.S. Patent 8,806,495, Aug. 14, 2014.
- ◆ Meijer; Henricus, Flake; Gary, Blinn; Arnold, Bolosky; William, Cheng; Lili, Connolly; Michael, Gounares; Alexander, Larus; James, MacLaurin; Matthew, Mishra; Debi, Mital; Amit, Snyder, Jr.; Ira, Treadwell, III; David, [Determination of optimized location for services and data](#), U.S. Patent 8,719,143, May 6, 2014.
- ◆ Meijer; Henricus Johannes Maria, Gates, III; William H., Ozzie; Raymond E., Flake; Gary W., Bergstraesser; Thomas F., Blinn; Arnold N., Brumme; Christopher W., Cheng; Lili, Dani; Nishant V., Glasser; Daniel S., Gounares; Alexander G., Hunt; Galen C., Larus; James, MacLaurin; Matthew B., Mishra; Debi P., Mital; Amit, Snyder, Jr.; Ira L., Thekkath; Chandramohan A., [Remote Provisioning of Information Technology](#), U.S. Patent 8,402,110, Mar. 2013.
- ◆ Burger; Doug, Larus; James, Strauss; Karin, Condit; Jeremy, [Managing Memory Faults](#), U.S. Patent 8,386,836, Feb. 2013.

- 
- ◆ Gray; Jan, Harris; Timothy, Larus; James, Smith; Burton, [Cache Metadata Identifiers for Isolation and Sharing](#), U.S. Patent 8,225,297, Jul. 2012.
  - ◆ Jain; Navendu, Williams; Charles, Larus; James, Reed; Dan, [Energy-aware Server Management](#), U.S. Patent 8,225,119, Jul. 2012.
  - ◆ Burger; Doug, Larus; James, Strauss; Karin, Condit; Jeremy, [Managing Memory Faults](#), U.S. Patent 8,201,024, Jun. 2012.
  - ◆ Hunt; Galen C, Larus; James, Fährndrich; Manuel A, Hodson; Orion, Tarditi; David R., Spear; Michael, Carbin; Michael, Levi; Steven P., Steensgaard; Bjame, [Configuration of isolated extensions and device drivers](#), U.S. Patent 8,074,231, Dec. 2011.
  - ◆ Hunt; Galen C, Larus; James, Fährndrich; Manuel, Steensgaard; Bjarne, Tarditi; David R., Zill; Brian, [Kernel Interface with Categorized Kernel Objects](#), U.S. Patent 8,032,898, Oct. 2011.
  - ◆ Hunt; Galen C., Larus; James, DeTreville; John D., Wobber; Edward P., Abadi; Martin, Jones; Michael B., Chilimbi; Trishul, [Operating-system Process Construction](#), U.S. Patent 8,020,141, Sept. 2011.
  - ◆ Gates, III; William H., Flake; Gary W., Bolosky; William J., Dani; Nishant V., Glasser; Daniel S., Gounares; Alexander G., Larus; James, MacLaurin; Matthew B., Meijer; Henricus Johannes Maria, [Hardware Architecture for Cloud Services](#), U.S. Patent 8,014,308, Sept. 2011.
  - ◆ Gates, III; William H., Flake; Gary W., Gounares; Alexander G., Bergstraesser; Thomas F., Blinn; Arnold N., Brumme; Christopher W., Cheng; Lili, Connolly; Michael, Glasser; Daniel S., Larus; James, MacLaurin; Matthew B., Meijer; Henricus Johannes Maria, Mishra; Debi P., Mital; Amit, Snyder, Jr.; Ira L., Zaner-Godsey; Melora, [Virtual Entertainment](#), U.S. Patent 8,012,023, Sept. 2011.
  - ◆ Jan Gray, Timothy Harris, James Larus, Burton Smith, [Software Accessible Cache Metadata](#), U.S. Patent 8,001,538, Aug. 2011.
  - ◆ Ozzie; Raymond, Gates, III; William, Flake; Gary, Bergstraesser; Thomas, Blinn; Arnold, Brumme; Christopher, Cheng; Lili, Connolly; Michael, Dani; Nishant, Glasgow; Dane, Glasser; Daniel, Gounares; Alexander, Larus; James, MacLaurin; Matthew, Meijer; Henricus, Mishra; Debi, Mital; Amit, Snyder, Jr.; Ira, Thekkath; A, Treadwell, III; David, Zaner-Godsey; Melora, [Personal Data Mining](#), U.S. Patent 7,930,197, Apr. 2011.
  - ◆ Hunt; Galen C, Hawblitzel; Chris K., Larus; James, Fährndrich; Manuel A, Aiken; Mark, [Process isolation using protection domains](#), U.S. Patent 7,882,317, Feb. 2011.
  - ◆ Meijer; Henricus Johannes Maria, Bergstraesser; Thomas F., Brumme; Christopher W, Cheng; Lili, Gounares; Alexander G., Larus; James, Mishra; Debi P., Snyder, Jr.; Ira L., [Resource Standardization in an Off-premise Environment](#), U.S. Patent 7,797,453, Sept. 2010.
  - ◆ Hunt; Galen, Larus; James, DeTreville; John, Wobber; Edward, Abadi; Martin, Jones; Michael, Chilimbi; Trishul, [Operating system process identification](#), Patent 7,788,637, Aug. 2010.
  - ◆ Meijer; Henricus Johannes Maria, Gates, III; William H., Ozzie; Raymond E., Flake; Gary W., Cheng; Lili, Dani; Nishant V., Glasser; Daniel S., Gounares; Alexander G., Larus; James, Mishra; Debi P., Mital; Amit, Snyder, Jr.; Ira L., Thekkath; Chandramohan A., [State Reflection](#), U.S. Patent 7,716,280, May 2010.
  - ◆ Cheng; Lili, Flake; Gary W., Gounares; Alexander G., Larus; James, MacLaurin; Matthew B., Ozzie; Raymond E., Bergstraesser; Thomas F., Blinn; Arnold N., Brumme; Christopher W., Connolly; Michael, Glasser; Daniel S., Meijer; Henricus Johannes Maria, Mishra; Debi P., Zaner-Godsey; Melora, [Machine](#)

- 
- [\*Learning System for Analyzing and Establishing Tagging Trends Based on Convergence Criteria\*](#), U.S. Patent 7,716,150, May 2010.
- ◆ Rehof; Jakob, Larus; James, Rajamani; Sriram K., [\*Programming Model to Detect Deadlocks in Concurrent Programs\*](#), U.S. Patent 7,703,077, Apr. 2010.
  - ◆ Hunt; Galen C., Larus; James, DeTreville; John D., Jones; Michael B., Chilimbi; Trishul A., [\*Inter-process Interference Elimination\*](#), U.S. Patent 7,694,300, Apr. 2010.
  - ◆ Larus; James, Rajamani; Sriram K., Rehof; Jakob, [\*Contracts and Futures in an Asynchronous Programming Language\*](#), U.S. Patent 7,694,276, Apr. 2010.
  - ◆ Ozzie; Raymond E., Gates, III; William H., Flake; Gary W., Bergstraesser; Thomas F., Blinn; Arnold N., Bolosky; William J., Brumme; Christopher W., Cheng; Lili, Connolly; Michael, Glasgow; Dane A., Glasser; Daniel S., Gounares; Alexander G., Larus; James, MacLaurin; Matthew B., Meijer; Henricus Johannes Maria, Mishra; Debi P., Mital; Amit, Snyder, Jr.; Ira L., Thekkath; Chandramohan A., Zaner-Godsey; Melora, [\*Dynamic Environment Evaluation and Service Adjustment Based on Multiple User Profiles Including Data Classification and Information Sharing with Authorized Other Users\*](#), U.S. Patent 7,689,524, Mar. 2010.
  - ◆ Gates, III; William H., Flake; Gary W., Larus; James, Mishra; Debi P., Thekkath; Chandramohan A., Ozzie; Raymond E., Cheng; Lili, Dani; Nishant V., Glasser; Daniel S., Gounares; Alexander G., Meijer; Henricus Johannes Maria, Mital; Amit, Snyder, Jr.; Ira L., [\*State Replication\*](#), U.S. Patent 7,680,908, Mar. 2010.
  - ◆ Henricus Johannes Maria Meijer, William Gates, III, Raymond Ozzie, Gary Flake, Thomas Bergstraesser, Arnold Blinn, Christopher Brumme, Lili Cheng, Michael Connolly, Nishant Dani, Dane Glasgow, Daniel Glasser, Alexander Gounares, James Larus, Matthew MacLaurin, Debi Mishra, Amit Mital, Ira Snyder, Jr., Chandramohan Thekkath, David Treadwell, III, and Melora Zaner-Godsey, [\*Recommendation System that Identifies a Valuable User Action by Mining Data Supplied by a Plurality of Users to Find a Correlation that Suggests One or More Actions for Notification\*](#), U.S. Patent 7,657,493, Feb. 2010.
  - ◆ Henricus Johannes Maria Meijer, Raymond Ozzie, Gary Flake, Thomas Bergstraesser, Arnold Blinn, Christopher Brumme, Michael Connolly, Dane Glasgow, Alexander Gounares, Galen Hunt, James Larus, Matthew MacLaurin, and David Treadwell, III, [\*Operating system with Corrective Action Service and Isolation\*](#), U.S. Patent 7,647,522, Jan. 2010.
  - ◆ Galen Hunt, James Larus, Manuel Fähndrich, Edward Wobber, Martin Abadi, and John DeTreville, [\*Inter-process Communications Employing Bi-directional Message Conduits\*](#), U.S. Patent 7,600,232, Jan. 2010.
  - ◆ Galen Hunt, Thomas Roeder, James Larus, Manuel Fähndrich, John DeTreville, Steven Levi, Benjamin Zorn, Wolfgang Grieskamp, [\*Self-Describing Artifacts and Application Abstractions\*](#), U.S. Patent 7,451,435, Nov. 2008.
  - ◆ James Larus, [\*Virtual Machine for Operating N-core Application on M-core Processor\*](#), U.S. Patent 7,406,407, Jul. 2008.
  - ◆ Michael Parkes, James Larus, [\*Method and System for Performing a Task on a Computer\*](#), U.S. Patent 7,137,116, Nov. 2006.
  - ◆ James Larus, Robert Davidson, Trishul Chilimbi, [\*Field Reordering to Optimize Cache Utilization\*](#), U.S. Patent 6,360,361, Mar. 2002.
  - ◆ Trishul Chilimbi, James Larus, Robert Davidson, [\*Data Structure Partitioning to Optimize Cache Utilization\*](#), U.S. Patent 6,330,556, Dec. 2001.



- ◆ James Larus, [Whole Program Path Profiling](#), U.S. Patent 6,327,699, Dec. 2001.
- ◆ Trishul Chilimbi, James Larus, [Data Structure Partitioning with Garbage Collection to Optimize Cache Utilization](#), U.S. Patent 6,321,240, Nov. 2001.

## KEYNOTE TALKS

- ◆ “Speed and Scale: Compatible with Democracy?,” *Digital Days*, WWTF (Vienna Science and Technology Fund), Vienna, Austria, Oct. 2022.
- ◆ “Protein Clustering: Parallelizing an Expensive, Irregular Computation,” *Workshop on Accelerator Architecture in Computational Biology and Bioinformatics (AACBB 2020)*, San Diego, CA, Mar. 2020.
- ◆ “Is AI Different?” *An Insightful Farewell to the Dean’s Team*, TU Wein, Vienna, Austria, Dec. 2019.
- ◆ “Caches Are Not Your Friend: Programming Non-Volatile Memory,” *SYSTOR 2019*, Haifa Israel, Jun. 2019.
- ◆ “It’s the End of the World as We Know It,” *HiPEAC 2015*, Amsterdam, Netherlands, Jan. 2015.
- ◆ — *Compiler Architecture and Tools 2014*, Haifa, Israel, Dec. 2014.
- ◆ “Look Up! Your Future is in the Cloud,” *Programming Language Design and Implementation (PLDI 2013)*, Seattle, WA, Jun. 2013.
- ◆ “It’s the End of the World as We Know It (And I Feel Fine),” *Middleware 2012*, Montreal, Canada, Dec. 2012.
- ◆ — *Runtime Verification 2012 (RV 12)*, Istanbul, Turkey, Sept. 2012.
- ◆ — *Swedish Multicore Day*, Stockholm, Sweden, Sept. 2012.
- ◆ “The Cloud Will Change Everything,” *EcoCloud Opening*, EPFL, Lausanne, Switzerland, May 2011.
- ◆ — *Architectural Support for Programming Languages and Operating Systems (ASPLOS 2011)*, Mar. 2011.
- ◆ “Programming the Cloud,” *High-Performance Computer Architecture (HPCA) and Principles and Practice of Parallel Programming (PPoPP)*, Feb. 2011.
- ◆ “Programming Clouds,” *Compiler Construction (CC 2010)*, Paphos, Cyprus, Mar. 2010.
- ◆ “Multicore and Cloud Computing – Time to Start Afresh,” *High Confidence Software and Systems*, Baltimore, MD, May 2009.
- ◆ “The Real Value of Testing,” *International Symposium on Software Testing and Analysis (ISSTA 2008)*, Seattle, WA, Jul. 2008.
- ◆ “Is Architecture the Solution?” *First Workshop on Architectural and System Support for Improving Software Dependability (ASID)*, San Jose, CA, Oct. 2006.
- ◆ “Abolish Runtime Systems: The Operating System Should Control the Execution Environment,” *2<sup>nd</sup> Virtual Execution Environments (VEE 2006)*, Ottawa, Canada, Jun. 2006.
- ◆ “Building Dependable Software,” *I&C Research Day*, EPFL, Jun. 2005.
- ◆ — *Architectural Support for Programming Languages and Operating Systems (ASPLOS-XI)*, Boston, MA, Oct. 2004.



- ◆ “Righting Software: Tools to Improve Software Development,” *Third Annual Southeastern Software Engineering Conference*, Huntsville AL, Mar. 2004.
- ◆ “Why Write Real Software (in a University)?,” *3<sup>rd</sup> Annual Workshop on Computer Architecture Education (WCAE3)*, San Antonio, Texas, Feb. 1997.

## DISTINGUISHED LECTURES

- ◆ “Programming NVM,” IST/INESC-ID Distinguished Lecture, IST, Lisbon, Portugal, Oct. 2019.
- ◆ — Informatics Colloquium, Sorbonne University, Paris, France, Oct. 2018.
- ◆ “It’s the End of the World as We Know It (And I Feel Fine),” University of Chicago, Oct. 2015.
- ◆ “Look Up! Your Future is in the Cloud,” Distinguished Lecture, Cray Distinguished Speaker Series, University of Minnesota, Minneapolis, MN, Feb. 2014.
- ◆ “Programming the Cloud,” *Gerard Salton Memorial Lecture*, Cornell University, Nov. 2010.
- ◆ “Spending Moore’s Dividend,” Distinguished Lecture, University of California at Davis, May 2009.
- ◆ — Distinguished Lecture, Texas A&M University, Feb. 2009.
- ◆ “The Real Value of Testing,” Distinguished Lecture, Information Trust Institute, University of Illinois at Urbana Champagne, Jan. 2009.
- ◆ “Singularity: Rethinking the Software Stack,” Distinguished Lecture, University of Pennsylvania, Nov. 2006.
- ◆ “Singularity Overview,” Distinguished Lecture, University of Illinois at Urbana Champagne, Jan. 2006.
- ◆ — Distinguished Colloquium, University of California at Berkeley, Nov. 2005.
- ◆ “Building Dependable Software,” Distinguished Lecture, Rice University, Oct. 2004.
- ◆ “Righting Software: Tools to Improve Software Development,” Distinguished Colloquium, University of Maryland, Nov. 2003.
- ◆ “A New Generation of Systematic Programming Tools,” Distinguished Lecturer, University of Pittsburgh, Oct. 2002.
- ◆ — Distinguished Lecture, University of California, Berkeley, Mar. 2002.

## INVITED TALKS

- ◆ “Hardware-Accelerated, Fine-Grain BSP,” *EMERALD Workshop*, PODC/SPAA, Nantes, Jun. 2024
- ◆ “Computation is changing; Programming must change as well!,” Huawei Software Engineering Strategy Workshop, Singapore, Nov. 2022.
- ◆ “Regulating Artificial Intelligence? Reflecting on Several International Recommendations,” *Vienna Workshop on Digital Humanism*, Vienna Austria, Apr. 2019.
- ◆ “Programming NVM,” *SPLASH-I at SPLASH 2018*, Boston, MA, Nov. 2018.
- ◆ “Computational Thinking is for Everyone,” *Informatics Europe Pre-Summit Workshop for Deans and Department Heads*, Lisbon, Oct. 2017.

- 
- ◆ “Tom Was Right: Integration is Hard,” *Tom (Reps) at 60*, at SAS 2016, Edinburgh, Sept. 2016.
  - ◆ “Catapult the Masses,” *Workshop on Reconfigurable Computing for the Masses, Really?* FPL 2015, London, Sept. 2015.
  - ◆ “What Happened to the Promise of Software Tools?,” *Software Correctness and Reliability Workshop*, ETH Zurich, Oct. 2014.
  - ◆ “Tune, Rewrite, Reinvent,” *Microsoft Research Faculty Summit Workshop: Approaching the End of Moore’s Law: Time to Reinvent the System Stack?* Microsoft Research, Jul. 2014.
  - ◆ “Tech Transfer of Software Tools,” *High Confidence Software and Systems (HCSS)*, May 2012.
  - ◆ “It’s the End of the World as We Know It (And I Feel Fine),” *DARPA/ISAT Workshop: Advancing Computer Systems without Technology Progress*, Mar. 2012.
  - ◆ “Orleans: Cloud Programming for Everyone,” *Barcelona Multicore Workshop*, Nov. 2011.
  - ◆ “The Cloud Will Change Everything,” *Microsoft Research Cloud Futures Workshop*, Jun. 2011.
  - ◆ — AMD, Apr. 2011.
  - ◆ “Cloud Programming,” *Microsoft Faculty Summit*, Jul. 2010.
  - ◆ — *16<sup>th</sup> Monterey Workshop on Modeling, Development, and Verification of Adaptive Computer Systems*, Apr. 2010.
  - ◆ “Should We Fear Concurrency?,” *Workshop on Advancing Computer Architecture Research (ACAR)*, Feb. 2010.
  - ◆ “Programming Clouds,” *First Mysore-Park Workshop on Building and Programming the Cloud*, Mysore India, Jan. 2010.
  - ◆ “Hardware Can Make Data Center Software Simpler and More Robust,” *Workshop on Architectural Concerns in Large Datacenters*, ISCA 2009, Austin, TX, Jun. 2009.
  - ◆ “Singularity: Designing Better Software,” *Computer-Aided Verification (CAV 08)*, Princeton NJ, Jul. 2008.
  - ◆ “Spending Moore’s Dividend,” *Workshop on Exploiting Concurrency: Efficiency and Correctness (EC<sup>2</sup>)*, at CAV 2008, Princeton NJ, Jul. 2008.
  - ◆ “It is the Software, Stupid,” *Presentation to the Computer Science Technical Board panel on Sustaining Growth in Computing Performance*, San Jose, CA, Dec. 2007.
  - ◆ “Challenges in Compiler Technology for Software Reliability and Productivity,” *Workshop on Future Directions for Compiler Research and Education*, Feb. 2007.
  - ◆ “Can Architecture Enhance Verifiability? The Singularity Project at Microsoft Research,” *7<sup>th</sup> Verification, Model Checking and Abstract Interpretation*, Charleston, SC, Jan. 2006.
  - ◆ “Building Dependable Software,” *Microsoft Academic Days*, Silicon Valley, San Jose, CA, Oct. 2004.
  - ◆ “Software Matters,” *Presentation to the Computer Science Technical Board panel on Certifiably Dependable Software*, Washington DC, Oct. 2004.
  - ◆ “Righting Software: Tools to Improve Software Development,” *German American Frontiers of Engineering Symposium*, National Academy of Engineering, Apr. 2004.

- ◆ “Righting Software: Tools to Improve Software Development,” *Microsoft Faculty Summit & Microsoft European Faculty Summit*, Jul. 2003.
- ◆ “Programs Follow Paths,” *IEEE Conference on Computer Languages (ICCL 1998)*, May 1998.
- ◆ “Introduction to Java,” *WILS World 1997 Conference*, Madison WI, May 1997.
- ◆ “A Case for Custom Coherence Protocols,” *IBM Research 50<sup>th</sup> Anniversary Symposium on Parallel Computing*, IBM Tokyo Research Laboratory, Tokyo Japan, Mar. 1996.
- ◆ “Tempest: A Substrate for Portable Parallel Programs,” Plenary talk, *17<sup>th</sup> Boundary Elements (BEM 17)*, Madison, WI, Jul. 1995.
- ◆ “LCM: Memory System Support for Parallel Language Implementation,” *Parallel Object-Oriented Methods & Applications (POOMA)*, Santa Fe, New Mexico, Dec. 1994.
- ◆ “Compiling for Shared-Memory and Message-Passing Computers,” *DIMACS Workshop on Models, Architectures, and Technologies for Parallel Computation*, Rutgers University, Sept. 1993.
- ◆ “CICO: A Practical Shared-Memory Programming Performance Model,” *Workshop on Portability and Performance for Parallel Processing*, Southampton, England, Jul. 1993.
- ◆ “Compilers: Catching Up with Computer Architecture,” *IBM Rochester*, Jun. 1993.
- ◆ “C\*\*”: A Large-Grain, Object-Oriented, Data-Parallel Programming Language,” *Fifth Workshop on Languages and Compilers for Parallel Computers*, New Haven CT, Aug. 1992.
- ◆ “Parallelism in Numeric and Symbolic Programs,” *Workshop on Compilers for Parallel Machines*, Paris, France, Dec. 1990.
- ◆ — *Third Workshop on Languages and Compilers for Parallel Computers*, Irvine, CA, Aug. 1990.
- ◆ — *Workshop on Parallelization in the Presence of Pointers*, Leesburg, VA, Mar. 1990.
- ◆ “Parallel Lisp for SPUR,” *Asilomar Microcomputer Workshop*, Asilomar, CA, 1985.

## PRESENTATIONS AT SYMPOSIA, WORKSHOPS, AND TUTORIALS

- ◆ “Why AI?,” Meeting on Precision Global Health, Rockefeller Foundation Bellagio Italy, Nov. 2017.
- ◆ Panelist, “It’s time: academic systems venues should require authors to make their code and data publicly available; those that do not will be held to a higher standard,” *ASPLOS 2015*, Istanbul Turkey, Mar. 2015.
- ◆ Panelist, “Discussion on industry vs. government funding for data center research,” *Workshop on Exascale Evaluation and Research Techniques (EXERT)*, at ASPLOS 2011, Santa Anna, CA Mar. 2011.
- ◆ Debater, “There is a free lunch: you can have strong parallel safety guarantees with little programmer effort,” *Workshop on Deterministic Multiprocessing and Parallel Programming*, University of Washington, Nov. 2009.
- ◆ Panelist, “Teach Parallel Panel,” *Supercomputing 2009*, Portland, OR, Nov. 2009.
- ◆ Panelist, “Cloud Computing Challenges and Realities,” *5<sup>th</sup> Workshop on the Interaction between Operating System and Computer Architecture (WIOSCA 09)*, at ISCA 2009, Austin, TX, Jun. 2009.
- ◆ Panelist, “Memory Systems Panel,” *Workshop on Memory Systems Performance and Correctness*, ASPLOS 2008, Seattle, WA, Mar. 2008.

- ◆ “Reconsidering Transactional Memory,” *Dagstuhl Seminar*, Sept. 2007.
- ◆ Panelist, “Corezilla: Build and Tame the Multicore Beast,” *44<sup>th</sup> Design Automation Conference (DAC)*, Jun. 2007.
- ◆ “What do Bell Bottoms, Peace Signs, and Computer Architecture Have in Common?,” Wild and Crazy Idea Session, *Architectural Support for Programming Languages and Operating Systems (ASPLOS XII)*, San Jose, CA, Oct. 2006.
- ◆ “Software Challenges in Nanoscale Technologies,” *CRA Workshop on Grand Challenges in Architecture*, Dec. 2005.
- ◆ “It’s the Software, Stupid,” *Workshop on Transactional Memory*, Apr. 2005.
- ◆ “The End of Compiler Research,” *Dagstuhl Vision Seminar*, Aug. 2003.
- ◆ “Cache-Conscious Compilation: Can Compilers Hack It?,” *Dagstuhl Seminar*, Sept. 2000.
- ◆ Tutorial: “Parallel Programming Languages,” *Programming Language Design and Implementation (PLDI 1993)*, Jun. 1993.
- ◆ Panelist: “SPUR Retrospective,” *ONR/NSF/DARPA Workshop on Research in Experimental Computer Science*, Oct. 1991.
- ◆ Tutorial: “Parallel Lisp,” *Programming Language Design and Implementation (PLDI 1991)*, Jun. 1991.
- ◆ Panelist: “Problems and Issues in Parallel C Programming,” *Principles and Practice of Parallel Programming (PPoPP 1991)*, Apr. 1991.

#### LECTURES AT UNIVERSITIES AND RESEARCH INSTITUTES

- ◆ “It’s the End of the World as We Know It (And I Feel Fine),” IBM Research Zurich, Sept. 2015.
- ◆ “What Happened to the Promise of Software Tools?,” UC Berkeley, Nov. 2014.
- ◆ “Technology Trends and Research Opportunities,” ETH Zurich, May 2014.
- ◆ “Orleans: Cloud Programming for Everyone,” IBM Research, Mar. 2013.
- ◆ “It’s the End of the World as We Know It (And I Feel Fine),” EPFL, Lausanne, Switzerland, Sept. 2012.
- ◆ “The Cloud Will Change Everything,” University of California, Riverside, Apr. 2012.
- ◆ “Orleans: Cloud Computing for the Masses,” Bell Laboratories, Sept. 2011.
- ◆ — Harvard University, Sept. 2011.
- ◆ “Orleans: A Platform for Cloud Computing,” Harvard University, Nov. 2009.
- ◆ “Spending Moore’s Dividend,” University of Texas, Austin, Feb. 2009.
- ◆ — Carnegie-Mellon, Apr. 2008.
- ◆ “Singularity: Rethinking the Software Stack,” University of Chicago, Jan. 2008.
- ◆ — University of Texas at Austin, Nov. 2007.
- ◆ — Rice University, Mar. 2007.
- ◆ “Singularity Overview,” University of Wisconsin Computer Architecture Colloquia, Nov. 2005.

- ◆ “Righting Software: Tools to Improve Software Development,” École Nationale Supérieure d’Électronique et de Radioélectricité de Bordeaux, Jul. 2003.
- ◆ “A New Generation of Systematic Programming Tools,” Universitat Politècnica de Catalunya, Barcelona, Spain, Oct. 2002.
- ◆ — University of Wisconsin—Madison, May 2002.
- ◆ “Using Cohort Scheduling to Enhance Server Performance,” Compaq Systems Research Center, Jun. 2001.
- ◆ — University of Washington, Apr. 2001.
- ◆ “Enhanced Server Performance with Staged Server,” University of California, Berkeley, Oct. 2000.
- ◆ — University of Wisconsin, Madison, Oct. 2000.
- ◆ “Whole Program Paths,” University of Maryland, Oct. 1999.
- ◆ — CMU, Mar. 1999.
- ◆ “Fast Out-of-Order Processor Simulation,” University of Washington, Apr. 1998.
- ◆ “Cache-Conscious Data Structures,” University of Washington, Jan. 1998.
- ◆ “Efficient Path Profiling,” Silicon Graphics, May 1997.
- ◆ — University of California, Berkeley, May 1997.
- ◆ — Sun Microsystems, Apr. 1997.
- ◆ — University of California, San Diego, Apr. 1997.
- ◆ — University of Toronto and IBM Toronto, Mar. 1997.
- ◆ — Microsoft Research Laboratory, Feb. 1997.
- ◆ — Hewlett Packard Research Laboratory, Aug. 1996.
- ◆ “EEL: Machine-Independent Executable Editing,” Intel Corporation, Sept. 1996.
- ◆ — Princeton University, Apr. 1996.
- ◆ — Sun Microsystems, Dec. 1995.
- ◆ — Microsoft Research, Jun. 1995.
- ◆ “Tempest: A Substrate for Portable Parallel Programs,” University of Wisconsin-Milwaukee, Nov. 1995.
- ◆ — University of Washington, Jun. 1995.
- ◆ — University of Massachusetts, Apr. 1995.
- ◆ — Harvard University, Apr. 1995.
- ◆ “Tempest: User-Level Shared Memory,” Rice University, Mar. 1994.
- ◆ — University of Texas, Mar. 1994.
- ◆ — University of Maryland, Mar. 1994.
- ◆ “EEL: A Library for Editing Program Executables,” AT&T Bell Laboratories, Naperville, Dec. 1993.

- ◆ “Cooperative Shared Memory and the Wisconsin Wind Tunnel,” IBM Hawthorne Research Laboratory, Jul. 1993.
- ◆ — Los Alamos National Laboratory, Jun. 1993.
- ◆ — University of California, Santa Barbara, Feb. 1993.
- ◆ — Duke University, Jan. 1993.
- ◆ — Washington University, Dec. 1992.
- ◆ — Princeton University, Dec. 1992.
- ◆ — Carnegie-Mellon University, Nov. 1992.
- ◆ — University of Colorado, Sept. 1992.
- ◆ — University of Washington, Sept. 1992.
- ◆ “Optimally Profiling and Tracing Programs,” Rutgers University, Aug. 1992.
- ◆ — University of Texas at Austin, Jan. 1992.
- ◆ — Yale University, Oct. 1991.
- ◆ — Stanford University, Aug. 1991.
- ◆ “Parallelism in Numeric and Symbolic Programs,” University of California at Berkeley, Aug. 1991.
- ◆ — AT&T Bell Laboratories, Murray Hill, Aug. 1991.
- ◆ — Hewlett-Packard Laboratories, Apr. 1991.
- ◆ — Center for Supercomputing Research and Development, University of Illinois, Nov. 1990.
- ◆ — MIT, Jun. 1990.
- ◆ — IBM Hawthorne Research Laboratory, Jun. 1990.
- ◆ “Restructuring Symbolic Programs for Concurrent Execution on Multiprocessors,” University of California at Berkeley, Feb. 1989.
- ◆ — IBM Hawthorne Research Laboratory, Jul. 1988.
- ◆ “Restructuring Symbolic Programs for Concurrent Execution on Multiprocessors,” (Interview talk) Stanford University, Feb. 1989.
- ◆ — University of Washington, Mar. 1989.
- ◆ — Princeton University, Mar. 1989.
- ◆ — University of Maryland, Mar. 1989.
- ◆ — MIT, Mar. 1989.
- ◆ — Yale University, Mar. 1989.
- ◆ — CMU, Mar. 1989.
- ◆ — University of Wisconsin-Madison, Apr. 1989.

## VIDEOS

- ◆ [Orleans: A Framework for Scalable Client+Cloud Computing](#), Channel 9 video, Dec. 2010.
- ◆ [Singularity III: Revenge of the SIP](#), Channel 9 video, Aug. 2006.
- ◆ [Singularity Revisited](#), Channel 9 video, Dec. 2005.
- ◆ [Singularity: A Research OS Written in C#](#), Channel 9 video, May 2005.

## PODCASTS

- ◆ James Larus, "[Privacy-preserving Covid Tracing and the Hardware-Software Stack with Dr. James Larus, EPFL](#)," *Computer Architecture Podcast*, Jan. 2021.

## GRANTS AND AWARDS

- ◆ Huawei Technologies, 4,880,000 CHF, PI James Larus, EPFL-Huawei Cloud, *Intelligent Cloud Technologies Initiative*, 2020.
- ◆ Botnar Foundation, 5,000,000 CHF, PI Carmela Troncoso, co-PIs James Larus, Edouard Bugnion, Marcel Salathé, Mathias Payer, Martin Jaggi, Klaus Schönenberger, Srdjan Čapkun, Seda Gürses, Michael Veale, *EPFL Real Time Epidemiology I-DAIR Pathfinder*, 2020.
- ◆ Sun Microsystems: \$100,000 cash grant to Wisconsin Wind Tunnel project, 1998.
- ◆ Intel \$20,860 equipment grant (Wisconsin Wind Tunnel project), 1997.
- ◆ Sun Microsystems \$100,000 cash grant, 1997.
- ◆ Sun Microsystems \$2,450,940 equipment grant (MIDSHIP project), 1997.
- ◆ Hewlett-Packard \$175,337 equipment grant (UW CS), 1997.
- ◆ IBM \$79,605 cash and equipment (IBM Partnership Award), 1997.
- ◆ Sun Microsystems \$100,000 cash grant (Wisconsin Wind Tunnel project), 1996.
- ◆ Hewlett-Packard \$56,268 cash and equipment grant, 1996.
- ◆ Microsoft \$100,000 cash grant (UW CS), 1996.
- ◆ NSF: \$1,208,251 co-PI, Tornado: Fine-Grain Distributed Shared Memory for SMP Clusters, 1996.
- ◆ NSF: \$1,600,000 co-PD, CISE Research Infrastructure grant, *MIDSHIP: Managing Image Data for Scalable High Performance*, 1996.
- ◆ IBM \$1,255,000 equipment grant (Wisconsin Wind Tunnel project), 1995.
- ◆ Portland Group \$90,000 software grant, 1995.
- ◆ Hewlett-Packard \$62,338 cash and equipment grant, 1995.
- ◆ Sun Microsystems \$74,780 Equipment grant (Wisconsin Wind Tunnel project), (1994).
- ◆ NSF \$224,896 co-PI, *Cooperative Shared Memory and the Wisconsin Wind Tunnel (Supplement)*, 1994.
- ◆ DARPA \$2,371,525 co-PI, *Blizzard and Paradyn: Infrastructure and Scalable Tools for Multi-Paradigm Parallel Computers*, 1994.

- ◆ Digital Equipment Corp. \$73,381 *Editing Program Executables*, NYI matching grant, 1993.
- ◆ DOE \$900,000 co-PI, *The Parallel Programmer's Workbench: Programming Tools in Support of the Computational Sciences*, 1993.
- ◆ NSF \$312,500 PI, NSF Young Investigator (NYI) Award. *Programming Massively Parallel Computers*, 1993.
- ◆ 1993 \$39,861 PI, Software Capitalization Grant, *Editing Program Executables*, 1993.
- ◆ NSF \$1,428,308 co-PI, *Cooperative Shared Memory and the Wisconsin Wind Tunnel*, 1993.
- ◆ Sun Microsystems \$18,095 equipment grant, *Tools for Optimal Profiling and Tracing*, 1992.
- ◆ NASA \$21,620 National Fellowship in Parallel Processing (L. Huelsbergen), *Dynamic Program Parallelization*, 1992.
- ◆ NSF \$125,500 PI, *Parallel Symbolic Computation*, 1991.
- ◆ NSF \$2,000,000 Participating Faculty, Departmental Institutional Infrastructure grant, *PRISM-A Laboratory for Research in Future High-Performance Parallel Computing*, 1991.

## PHD STUDENTS

- ◆ Seyedmahyar Emami, Ph.D. EPFL, "Highly Parallel RTL Simulation," July 2024.
- ◆ Shand Kashani-Akhavan, Ph.D. EPFL, "Building Chips Faster: Hardware-Compiler Co-Design for Accelerated RTL Simulation," Sep. 2023.
- ◆ Adrian Ghosn, Ph.D. EPFL, "Trust as a Programming Primitive," Oct. 2020 (co-supervised with Prof. Edouard Bugnion).
- ◆ David Aksun, Ph.D. EPFL, "Software Support for Non-Volatile Memory (NVM) Programming," Jul. 2020.
- ◆ Stuart Byma, Ph.D. EPFL, "Parallel and Scalable Bioinformatics," May 2020.
- ◆ Glenn Ammons, Ph.D. Univ. Wisconsin, "Strauss: A Specification Miner," Apr. 2003 (co-supervised by Prof. Ras Bodik).
- ◆ Eric Schnarr, Ph.D. Univ. Wisconsin, "[Applying Programming Language Implementation Techniques to Processor Simulation](#)," Dec. 2000 (co-supervised by Prof. Mark Hill).
- ◆ Trishul Chilimbi, Ph.D. Univ. Wisconsin, "Cache-Conscious Data Structures," Jun. 1999.
- ◆ Satish Chandra, Ph.D. Univ. Wisconsin, "Software Techniques for Customizable Distributed Shared Memory," Oct. 1997 (1998 UW Computer Sciences Graduate Student Research Award)
- ◆ Guhan Viswanathan, Ph.D. Univ. Wisconsin, "New Techniques for Compiling Data Parallel Languages," Sept. 1996.
- ◆ Brad Richards, Ph.D. Univ. Wisconsin, "Memory Systems for Parallel Programming," Aug. 1996.
- ◆ Lorenz Huelsbergen, Ph.D. Univ. Wisconsin, "Dynamic Language Parallelization," Aug. 1993.

## MASTER STUDENTS

- ◆ Meghan Harrington, "Preemptive Error Correction in Commercial Data Backup Software," Sep. 2023.



- ◆ Francesco Intoci, “P3LI5: Enabling Practical Privacy-Preserving Lawful Interception on 5G Core with Lattice-Based Weakly-Private Information Retrieval,” Apr. 2023.
- ◆ Jimmy Damien Johan Vuadens, “Privacy-Preserving Detection of Ransomware in Large-Scale File System,” Mar. 2023.
- ◆ Bastien Wermeille, “AppSec Lifecycle Assessment,” Aug. 2022. ►Prix de Groupe Kudelski de la cryptographie et de la sécurité des systèmes d’information.
- ◆ Pablo Pfister, “A domain-specific language for financial time series analysis and derived data computing,” Aug. 2021.
- ◆ Daniel-Florin Dosaru, “AdePT project: porting particle transport simulation to oneAPI,” Aug. 2021.
- ◆ Elie Daou, “From a manually operated on-premise CI/CD toolset,” Aug. 2021.
- ◆ Raja Soufi, “Graph-Based Data Extraction Algorithm,” Sept. 2020.
- ◆ Charles Parzy-Turlat, “Sampling-based Profiling for GraalVM Native Image,” Sept. 2020.
- ◆ Thierry Treyer, “Scaling Memoro for Industry Workloads,” Jul. 2020.
- ◆ Natalija Gucevska, “Historical data error detection and classification,” Apr. 2019.
- ◆ Ismail Imani, “ESSOP Administration Tool,” Aug. 2018.
- ◆ Enea Bell, “SITAONAIR Data Integration Platform: Microservices, Configuration Management, Build and Deployment Pipeline,” Apr. 2018.
- ◆ Alexandros Sympetheros, “Collecting insights from a large codebase to ensure high software quality,” Sept. 2017.
- ◆ Marc Schär, “SITAONAIR Test Agents,” Aug. 2016.
- ◆ Laurent Weingart, “Mobile Identity,” Apr. 2016.
- ◆ Kevin Gilliéron, “Unification of Computer Security Web Services,” Apr. 2016.
- ◆ Liansheng Hua, “Compile-Time Obfuscation for Code Renewability,” Aug. 2015.

## WIDELY DISTRIBUTED SOFTWARE

- ◆ PP—A path profiling tool.
- ◆ EEL—An executable editing library.
- ◆ QP/QPT—A program profiler and tracing system that uses the Ball & Larus’s optimal profiling algorithm.
- ◆ SPIM—An instruction-level simulator for the MIPS R2000.
- ◆ AE—A compiler-based program tracing system.
- ◆ mh-e—A mail system front-end for GNU emacs.

## CIVIC SERVICE

- ◆ Lakeside School Parent Technology Advisory Committee, 2003 –2010.
- ◆ Search committee, Islander Middle School Principal, Mercer Island School District, Apr. 2001.