# David K. Lowenthal

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## Education

Ph.D. in Computer Science, The University of Arizona, 1996.
Thesis advisor: Greg Andrews.
Dissertation: *Fine-Grain Parallelism and Run-Time Decision Making.*

M.S. in Computer Science, The University of Arizona, 1992.

B.S. in Computer Science, The University of California, Davis, 1990.

## Research and Teaching Interests

Parallel and distributed computing, performance analysis and modeling, run-time systems.

## Professional Experience

Professor, The University of Arizona, Department of Computer Science, 2009–present (also Associate Head, 2011–2020; Interim Head, 2020–2022).

Professor, The Univ. of Georgia, Department of Computer Science, 2007–2008.

Associate Professor, The Univ. of Georgia, Department of Computer Science, 2002–2007.

Assistant Professor, The Univ. of Georgia, Department of Computer Science, 1996–2002.

## Manuscripts

Cameron J. Loewen and David K. Lowenthal, Finding the Limits of GPU Co-scheduling, 2025. (To be submitted soon.)

## Refereed Conference and Workshop Publications

Jason Hall, Arjun Lathi, David Lowenthal, and Tapasya Patki. Evaluating the Potential of Coscheduling on High-Performance Computing Systems. *30th Workshop on Job Scheduling Strategies for Parallel Processing (JSSPP)*, May 2023.

Staci A. Smith and David K. Lowenthal. Jigsaw: A High-Utilization, Interference-Free Job Scheduler for Fat-Tree Clusters. *30th ACM Symposium on High-Performance Parallel and Distributed Computing (HPDC)*, June 2021. (**Best Paper Award**)

Abhinav Bhatele, Jayaraman J. Thiagarajan, Taylor Groves, Rushil Anirudh, Staci A. Smith, Brandon Cook, and David K. Lowenthal. The Case of Performance Variability on Dragonfly-based Systems. *34th IEEE/ACM International Parallel and Distributed Processing Symposium (IPDPS)*, May 2020.

Lee Savoie, David K. Lowenthal, Bronis R. de Supinski, Kathryn Mohror, and Nikhil Jain. Mitigating Inter-Job Interference via Process-Level Quality-of-Service. *IEEE Conference on Cluster Computing (CLUSTER19)*, September 2019.

Staci A. Smith, Clara E. Cromey, David K. Lowenthal, Jens Domke, Nikhil Jain, Jayaraman J. Thiagarajan, and Abhinav Bhatele. Mitigating Inter-Job Interference Using Adaptive Flow-Aware Routing. *IEEE/ACM Supercomputing 2018 (SC '18)*, November 2018. (**Best Student Paper Nominee**)

Lee Savoie, David K. Lowenthal, Bronis R. de Supinski, and Kathryn Mohror. A Study of Network Quality of Service in Many-Core MPI Applications. *6th Workshop on Runtime and Operating Systems for the Many-core Era*, May 2018.

Lee Savoie, David K. Lowenthal, Bronis R. de Supinski, Tanzima Islam, Kathryn Mohror, Barry L Rountree, and Martin Schulz. I/O Aware Power Shifting. *30th IEEE/ACM International Parallel and Distributed Processing Symposium (IPDPS)*, May 2016.

Peter Bailey, Aniruddha Marathe, David K. Lowenthal, Barry Rountree, and Martin Schulz. Finding the Limits of Power-Constrained Application Performance. *IEEE/ACM Supercomputing 2015 (SC '15)*, November 2015.

Yuichi Inadomi, Tapasya Patki, et al. Analyzing and Mitigating the Impact of Manufacturing Variability in Power-Constrained Supercomputing. *IEEE/ACM Supercomputing 2015 (SC '15)*, November 2015.

Tapasya Patki, Anjana Sasidharan, Matthias Metharth, David K. Lowenthal, Barry Rountree, Martin Schulz, and Bronis de Supinski. Practical Resource Management in Power-Constrained, High Performance Computing. *24th ACM Symposium on High-Performance Parallel and Distributed Computing (HPDC)*, June 2015.

Aniruddha Marathe, Peter Bailey, David K. Lowenthal, Barry Rountree, Martin Schulz, and Bronis de Supinski. A Run-Time System for Power-Constrained HPC Applications. *International Supercomputer Conference*, July 2015.

Peter Bailey, David K. Lowenthal, Vignesh Ravi, Bronis R. de Supinski, Barry L. Rountree, and Martin Schulz. Adaptive Configuration Selection for Power-Constrained Heterogeneous Systems. *43rd IEEE International Conference on Parallel Processing (ICPP)*, September 2014.

Aniruddha Marathe, Rachel Harris, David K. Lowenthal, Bronis de Supinski, Barry Rountree, and Martin Schulz. Exploiting Redundancy for Cost-Effective, Time-Constrained Execution of HPC Applications on Amazon EC2. *23rd ACM Symposium on High-Performance and Parallel Distributed Computing (HPDC)*, June 2014.

Aniruddha Marathe, Rachel Harris, David K. Lowenthal, Bronis de Supinski, Barry Rountree, Martin Schulz, and Xin Yuan. A Comparative Study of High-Performance Computing on the Cloud. *22nd ACM Symposium on High-Performance and Parallel Distributed Computing (HPDC)*, June 2013.

Tapasya Patki, David K. Lowenthal, Barry Rountree, Martin Schulz, and Bronis de Supinski. Exploring Hardware Overprovisioning in Power-Constrained High Performance Computing. *27th ACM International Conference on Supercomputing (ICS)*, June 2013.

Jianxia Chen, Laksmish Ramaswamy, David K. Lowenthal, and Shivkumar Kalyanaraman. Comet: Decentralized Complex Event Detection in Mobile Delay Tolerant Networks. *13th IEEE International Conference on Mobile Data Management*, July 2012.

Barry Rountree, Dong Ahn, Bronis de Supinski, David K. Lowenthal, and Martin Schulz. Beyond DVFS: A First Look at Performance Under a Hardware-Enforced Power Bound. *8th Workshop on High-Performance, Power-Aware Computing*, May 2012.

Peter E. Bailey, Tapasya Patki, Gregory M. Striemer, Ali Akoglu, David K. Lowenthal, Peter Bradbury, Matt Vaughn, Liya Wang, and Stephen Goff. Quantitative Trait Locus Analysis Using a Partitioned Linear Model on a GPU Cluster. *11th Workshop on High-Performance Computational Molecular Biology*, May 2012.

Barry Rountree, David K. Lowenthal, Martin Schulz, and Bronis R. de Supinski. Practical Performance Prediction Under Dynamic Voltage Frequency Scaling. *2nd International Green Computing Conference*, July 2011.

Jianxia Chen, Lakshmish Ramaswamy, and David K. Lowenthal. CAEVA: A Customizable and Adaptive Event Aggregation Framework for Collaborative Broker Overlays. *6th International Conference on Collaborative Computing*, October 2010.

Brad Barnes, Jeonifer Garren, David K. Lowenthal, Jaxk Reeves, Bronis de Supinski, Martin Schulz, and Barry Rountree. Using Focused Regression for Accurate Time-Constrained Scaling of Scientific Applications *24th IEEE/ACM International Parallel and Distributed Processing Symposium (IPDPS)*, April 2010.

Jianxia Chen, Lakshmish Ramaswamy, and David K. Lowenthal. Towards efficient event aggregation in a decentralized publish-subscribe system. *3rd ACM International Conference on Distributed Event-Based Systems (DEBS)*, July 2009.

Barry Rountree, David K. Lowenthal, Bronis de Supinski, Martin Schulz, Vincent W. Freeh, and Tyler Bletsch Adagio: Making DVS Practical for Complex HPC Applications. *23rd ACM International Conference on Supercomputing (ICS)*, June 2009.

Brad Barnes, Barry Rountree, David K. Lowenthal, Jaxk Reeves, Bronis R. de Supinski, and Martin Schulz. A Regression-Based Approach to Scalability Prediction. *20th ACM International Conference on Supercomputing (ICS)*, June 2008.

Barry Rountree, David K. Lowenthal, Shelby H. Funk, Vincent W. Freeh, Bronis R. de Supinski, and Martin Schulz. Bounding Energy Consumption in Large-Scale MPI Programs. *IEEE/ACM Supercomputing 2007 (SC '07)*, November 2007.

Min Yeol Lim, Vincent W. Freeh, and David K. Lowenthal. Adaptive, Transparent Frequency and Voltage Scaling of Communication Phases in MPI Programs. *IEEE/ACM Supercomputing 2006 (SC '06)*, November 2006.

Wenduo Zhou and David K. Lowenthal. A Parallel, Out-of-Core Algorithm for RNA Secondary Structure Prediction. *35th IEEE International Conference on Parallel Processing (ICPP)*, August 2006.

Ahmad Faraj, Xin Yuan, and David K. Lowenthal. STAR-MPI: Self Tuned Adaptive Routines for MPI Collective Operations. *20th ACM International Conference on Supercomputing (ICS)*, June 2006.

Rob Springer, David K. Lowenthal, Barry Rountree, and Vincent W. Freeh. Minimizing Execution Time in MPI Programs on an Energy-Constrained, Power-Scalable Cluster. *11th ACM Symposium on Principles and Practice of Parallel Programming (PPOPP)*, March 2006.

Nandani Kappiah, Vincent W. Freeh, and David K. Lowenthal. Just In Time Dynamic Voltage Scaling: Exploiting Inter-Node Slack to Save Energy in MPI Programs. *IEEE/ACM Supercomputing 2005 (SC '05)*, November 2005.

Mario Nakazawa, David K. Lowenthal, and Wenduo Zhou. The MHETA Execution Model for Heterogeneous Clusters. *IEEE/ACM Supercomputing 2005 (SC '05)*, November 2005.

Haijin Yan, David K. Lowenthal, and Kang Li. ACE: An Active, Client-Directed Technique for Reducing WNIC Energy During Web Browsing. *15th ACM Workshop on Networks and Operating System Support for Digital Audio and Video (NOSSDAV)*, June 2005.

Vincent W. Freeh, Feng Pan, David K. Lowenthal, and Nandani Kappiah. Using Multiple Energy Gears in MPI Programs on a Power-Scalable Cluster. *10th ACM Symposium on Principles and Practice of Parallel Programming (PPOPP)*, June 2005.

Vincent W. Freeh, David K. Lowenthal, Robert Springer, Feng Pan, and Nandani Kappiah. Exploring the Energy-Time Tradeoff in MPI Programs. *19th IEEE/ACM International Parallel and Distributed Processing Symposium (IPDPS)*, April 2005.

Bryan Veal, Kang Li, and David K. Lowenthal. New Methods for Passive Estimation of Round-Trip Times Using TCP Timestamps. *6th Workshop on Passive and Active Measurement (PAM)*, March 2005.

Haijin Yan and David K. Lowenthal. Towards Cooperation Fairness in Mobile Ad Hoc Networks. *6th IEEE Wireless Computing and Networking Conference (WCNC)*, March 2005.

Doug McCreary, Kang Li, Scott A. Watterson, and David K. Lowenthal. TCP-RC: A Receiver-Centered TCP Protocol for Delay-Sensitive Applications. *12th SPIE/ACM Multimedia Computing and Networking Conference (MMCN)*, January 2005.

Michael Gundlach, Sarah Doster, Haijin Yan, David K. Lowenthal, Scott A. Watterson, and Surendar Chandra. Dynamic, Power-Aware Scheduling for Mobile Clients Using a Transparent Proxy. *33rd International Conference on Parallel Processing (ICPP)*, August 2004.

Chris Bentley, Scott A. Watterson, David K. Lowenthal, and Barry Rountree. Implicit Java Array Bounds Checking on 64-bit Architectures. *18th ACM International Conference on Supercomputing (ICS)*, June 2004.

Haijin Yan, Rupa Krishnan, Scott A. Watterson, and David K. Lowenthal. Client-Centered Energy Savings for Concurrent HTTP Connections. *14th ACM Workshop on Networks and Operating System Support for Digital Audio and Video (NOSSDAV)*, June 2004.

Haijin Yan, Rupa Krishnan, Scott A. Watterson, David K. Lowenthal, Kang Li, and Larry L. Peterson. Client-Centered Energy and Delay Analysis for TCP Downloads. *12th IEEE International Workshop on Quality of Service (IWQoS)*, June 2004.

D. Brent Weatherly, David K. Lowenthal, Mario Nakazawa, and Franklin Lowenthal. Dyn-MPI: Supporting MPI on a Nondedicated Cluster of Workstations. *IEEE/ACM Supercomputing 2003 (SC '03)*, November 2003.

Mario Nakazawa and David K. Lowenthal. I/O-Aware Gang Scheduling. *16th International Conference on Parallel and Distributed Computing Systems (PDCS)*, August 2003.

Haijin Yan and David K. Lowenthal. Popularity-Aware Cache Replacement in Streaming Environments. *16th International Conference on Parallel and Distributed Computing Systems (PDCS)*, August 2003.

Amit Karwande, Xin Yuan, and David K. Lowenthal. CC-MPI: A Compiled Communication Capable MPI Prototype for Ethernet Switched Clusters. *9th ACM Symposium on Principles and Practice of Parallel Programming (PPOPP)*, p. 95–106, June 2003.

David K. Lowenthal, Vincent W. Freeh, and David W. Miller. Efficient Support for Two-Dimensional Data Distributions in Distributed Shared Memory Systems. *16th IEEE/ACM International Parallel and Distributed Processing Symposium (IPDPS)*, April 2002.

Donald G. Morris and David K. Lowenthal. Accurate Data Redistribution Cost Estimation in Distributed Shared Memory Systems. *8th ACM Symposium on Principles and Practice of Parallel Programming (PPOPP)*, p. 62–71, June 2001.

Gregory M.S. Howard and David K. Lowenthal. An Integrated Compiler/Run-Time System for Global Data Distribution in Distributed Shared Memory Systems. *2nd Workshop on Software Distributed Shared Memory*, May 2000.

David K. Lowenthal and Michael James. Run-Time Selection of Block Size in Pipelined Parallel Programs. *13th IEEE/ACM International Parallel Processing Symposium (IPPS)*, p. 82-87, April 1999.

David K. Lowenthal. Local and global data distribution in the Filaments package. *International Conference on Parallel and Distributed Processing Techniques and Applications*, July 1998.

David K. Lowenthal and Gregory R. Andrews. Adaptive Data Placement for Distributed-Memory Machines. *10th IEEE/ACM International Parallel Processing Symposium (IPPS)*, p. 349-353, April 1996.

Vincent W. Freeh, David K. Lowenthal, and Gregory R. Andrews. Distributed Filaments: Efficient Fine-Grain Parallelism on a Cluster of Workstations. *1st USENIX Symposium on Operating Systems Design and Implementation (OSDI)*, p. 201-213, November 1994.

## Refereed Journal Publications

Aniruddha Marathe, Rachel Harris, David K. Lowenthal, Bronis de Supinski, Barry Rountree, and Martin Schulz. Exploiting Redundancy and Application Scalability for Cost-Effective, Time-Constrained Execution of HPC Applications on Amazon EC2. *IEEE Transactions on Parallel and Distributed Computing (TPDS)*, 27(9): 2574-2588 (2016)

Zheng Gu, Matthew Small, Xin Yuan, and David K. Lowenthal. Protocol Customization for Improving MPI Performance on RDMA-enabled Clusters. *International Journal of Parallel Programming*, 41(5): 682-703 (2013)

Barry Rountree, Todd Gamblin, Bronis R. de Supinski, Martin Schulz, David K. Lowenthal, Guy Cobb, and Henry Tufo. Parallelizing heavyweight debugging tools with MPIecho. *Parallel Computing*, 39(3): 156-166 (2013)

Min Yeol Lim, Vincent W. Freeh, David K. Lowenthal. Adaptive, Transparent CPU Scaling Algorithms Leveraging Inter-Node MPI Communication Regions. *Parallel Computing*, 37(10-11): 667-683 (2011).

Stephen A. Goff et al. The iPlant Collaborative: Cyberinfrastructure for Plant Biology. *Frontiers in Plant Science*, 2(2011).

Nandani Kappiah, Vincent W. Freeh, and David K. Lowenthal. Just-in-Time Dynamic Voltage Scaling: Exploiting Inter-Node Slack to Save Energy in MPI Programs. *Journal of Parallel and Distributed Computing*, 68(9): 1175-1185 (2008).

Vincent W. Freeh, David K. Lowenthal, Feng Pan, Robert Springer, Nandani Kappiah, Barry Rountree, and Mark Femal. Analyzing the Energy-Time Tradeoff in High Performance Computing Applications. *IEEE Transactions on Parallel and Distributed Systems*, 18(6):835-848 (2007).

Chris Bentley, Scott A. Watterson, David K. Lowenthal, and Barry Rountree. Implicit Array Bounds Checking on 64-bit Architectures. *ACM Transactions on Architecture and Code Optimization*, 3(4):502-527 (2006).

Haijin Yan, Rupa Krishnan, Scott A. Watterson, David K. Lowenthal, Kang Li, and Larry L. Peterson. Client-Centered, Energy-Efficient Wireless Communication on IEEE 802.11b Networks. *IEEE Transactions on Mobile Computing*, 5(11): 1575–1590 (2006).

D. Brent Weatherly, David K. Lowenthal, Mario Nakazawa, and Franklin Lowenthal. Dyn-MPI: Supporting MPI on a Nondedicated Cluster of Workstations. *Journal of Parallel and Distributed Computing*, 66(6):822–838 (2006).

Amit Karwande, Xin Yuan, and David K. Lowenthal. CC-MPI: A Compiled Communication Capable MPI Prototype for Ethernet Switched Clusters. *Journal of Parallel and Distributed Computing*, 65(10):1123–1133 (2005).

Gregory W. Price and David K. Lowenthal. A Comparative Analysis of Fine-Grain Threads Packages. *Journal of Parallel and Distributed Computing*, 63(11):1050–1063 (2003).

David K. Lowenthal and Ragavan Subramanian. HyFi: Architecture-Independent Parallelism on Networks of Multiprocessors. *International Journal of Parallel and Distributed Systems and Networks*, 25(4):272–282 (2003).

Karthik Balasubramanian and David K. Lowenthal. Efficient Support for Pipelining in Distributed Shared Memory Systems. *Parallel and Distributed Computing Practices*, 4(2) (2001).

Peter Hauschildt, David K. Lowenthal, and Eddie Baron. Parallel Implementation of the PHOENIX Generalized Stellar Atmosphere Program. *Astrophysical Journal*, 134:323–329 (2001).

David K. Lowenthal. Accurately Selecting Block Size at Run-Time in Pipelined Parallel Programs. *International Journal of Parallel Programming*, 28(3):245–274 (2000).

David K. Lowenthal and Vincent W. Freeh. Architecture-Independent Parallelism for Both Shared- and Distributed-Memory Machines Using the Filaments Package. *Parallel Computing*, 26:1297–1323 (2000).

David K. Lowenthal, Vincent W. Freeh, and Gregory R. Andrews. Efficient Fine-Grain Parallelism on Shared-Memory Multiprocessors. *Concurrency—Practice and Experience*, 10(3):157–173 (1998).

David K. Lowenthal, Vincent W. Freeh, and Gregory R. Andrews. Using Fine-Grain Threads and Run-Time Decision Making in Parallel Computing. *Journal of Parallel and Distributed Computing*, 37, 41–54 (1996).

## Grants and Contracts

National Science Foundation Office of Advanced Cyberinfrastructure (OAC), "OAC Core: Improving Utilization of High-Performance Computing Systems via Intelligent Co-scheduling" (collaborative proposal with Patrick Bridges, University of New Mexico), September 2021–August 2025, $250,298.

Department of Energy Exscale Computing Program (subcontract from Lawrence Livermore National Laboratory) "Co-Scheduling Tasks and Jobs on Sets of Nodes on Supercomputers", January 2020–December 2022, $210,000

Department of Energy Exscale Computing Program (subcontract from Lawrence Livermore National Laboratory) "A runtime system for application level power steering on exascale systems", January 2017–December 2019, $291,000

Lawrence Livermore National Laboratory, "Zero-S Environment", October 2016–September 2019, $233,922

National Science Foundation Computer Systems Research Program (CSR), "Rethinking System Software for Overprovisioned, High-Performance Computing Systems", October 2015–September 2018, $490,000

Department of Energy SciDAC Program, "Institute for Sustained Performance, Energy, and Resilience" (subcontract from Lawrence Livermore National Laboratory). January 2015–December 2017, $91,305

National Science Foundation iPlant Collaborative, "GPU Support for Generalized Linear Modeling", January 2013–May 2015 $200,000 (approximate).

Lawrence Livermore National Laboratory LDRD program, "Power at Scale" (subcontract) July 2014–October 2016, $359,000

Department of Energy Exascale Operating Systems and Runtime Program (OSR), "Hobbes: OS and Runtime Support for Application Composition" (subcontract from Sandia National Laboratories), October 2013–September 2016, $300,000

National Science Foundation Computer Systems Research Program (CSR), "Conductor: A Run-Time System for Exascale Computing", September 2012–August 2015, $400,000

National Science Foundation Computer Systems Research Program (CSR), "MPI-PPA: Improving Efficiency of Large-Scale Clusters Through Statistical Performance Prediction" (PI; co-PI Jaxk Reeves, UGA Statistics), September 2008–August 2013, $320,000.

National Science Foundation iPlant Collaborative, "GPU Support for Generalized Linear Modeling", January 2010–January 2013, $240,000.

National Science Foundation Computing Processes and Artifacts (CPA), "Detecting and Alleviating Sources of Scalability Problems" (collaborative proposal with Frank Mueller, NC State), September 2004—August 2007, $160,000.

National Science Foundation Advanced Computational Research Program (ACR), "HC-MPI: A System for Out-of-Core, Heterogeneous Data Distributions", Computer and Communications Research Grant, July 2003—June 2005, $150,000 (additionally, $12,000 on REU supplements).

State of Georgia *Yamacraw* Research Program, "An Integrated, Scalable Client-Server System for Energy-Aware Computing" (PI with Surendar Chandra; co-PIs: Ben Bishop, Scott Watterson, Suchendra Bhandarkar), October 2000–August 2004, $472,000.

National Science Foundation Information Technology Research Program, "ITR/ACS: Stochastic Summation of High-Order Feynman Graph Expansions" (co-PI; PI: Bernd Schuttler, Dept. of Physics and Astronomy), September 2000–August 2003, $487,000

National Science Foundation Research Instrumentation Grant, "Instrumentation Grant for Research in Parallel and Distributed Computing", (PI; co-PIs: Eileen Kraemer and Suchendra Bhandarkar), Experimental and Integrative Activities, March 2000–February 2003, $114,000 (includes matching from the University of Georgia Research Foundation).

National Science Foundation `CAREER` Award, "An Integrated Compiler/Run-Time System for Global Data Distribution", Computer and Communications Research Grant, July 1998–June 2002, $200,000 (additionally, $7,500 on REU supplements).

National Science Foundation Research Instrumentation Grant, "Acquisition of a Symmetric Multiprocessor Scientific Computer System", (co-PI; PI: David Landau, Dept. of Physics and Astronomy) September 1997–August 1999, $420,000.

## Courses Taught

Parallel and distributed computing

Graduate introductory programming

Graduate and undergraduate operating systems

C++ and Systems Programming

Program Design and Development

## Selected Professional Activities

Program Committee, IEEE International Parallel and Distributed Processing Symposium, 2025

Program Co-Chair, 33rd ACM Symposium on High-Performance and Parallel Distributed Computing (HPDC), 2024

Program Co-Chair, 1st IEEE International Conference on Green Computing, 2010

Area Chair, Performance, SC 2012 and SC 2021; Area Co-Chair, Performance and Modeling, ICPP 2011

General Chair, International Conference on Supercomputing, 2011

National Science Foundation Grant Review Panel Member, 1999, 2002–2004, 2010, 2012, 2014–2019, 2021.

Co-Chair, Workshop on High-Performance, Power-Aware Computing (2005, 2006).

Program Committee Member, ICPP (2007, 2008), IPDPS (2006, 2011, 2024), PACT (2009), PPOPP (2007), SC (2006, 2009, 2011–2016, 2018),

## Students

| Name | Degree | Status | Title or Topic | Position (2025) |
|---|---|---|---|---|
| Staci Smith | Ph.D | May 2020 | Understanding and Mitigating Network Interference on HPC Systems | Google |
| Lee Savoie | Ph.D | Aug 2018 | Inter-Job Optimization in HPC | Thermopylae |
| Peter Bailey | Ph.D | Jan. 2016 | Power-Constrained Supercomputing | Google |
| Tapasya Patki | Ph.D | Aug 2015 | The Case for Hardware Overprovisioned Supercomputers | Scientist, LLNL |
| Aniruddha Marathe | Ph.D | Aug 2014 | Evaluation and Optimization of Turnaround Time and Cost of HPC Applications on the Cloud | Scientist, LLNL |
| Brad Barnes | Ph.D | Aug 2011 | A Regression Based System for Accurate Scalability Prediction on Large-Scale Machines | Lecturer Univ. of Georgia |
| Barry Rountree | Ph.D | May 2010 | Theory and Practice of Dynamic Voltage/Frequency Scaling in the High Performance Computing Environment | Staff Scientist LLNL |
| Mario Nakazawa | Ph.D | May 2005 | I/O Considerations in Efficient Heterogeneous Data Distributions | Assoc. Prof. Berea College |
| Haijin Yan | Ph.D | May 2005 | Network Support for Energy Efficient, Wireless Communication | LogicMonitor |
| Cameron Loewen | M.S. | May 2024 | Coscheduling GPUs | UA Staff |
| Nic Winsten | M.S. | May 2023 | Coscheduling in HPC | Unknown |
| Arjun Lathi | M.S. | May 2022 | Coscheduling in HPC | Expedia |
| Jason Hall | M.S. | May 2021 | Coscheduling in HPC | iBoss |
| Renfei Sun | M.S. | May 2020 | Coscheduling in HPC | 2simple |
| Sam Cotter | M.S. | May 2018 | Power-constrained task scheduling | Unknown |
| Clara Cromey | M.S. | May 2018 | Multi-constrained scheduling in HPC | Raytheon |
| Neha Jothi | M.S. | May 2017 | Communication contention in HPC | Qualcomm |
| Rachel Harris | M.S. | May 2013 | Cloud computing economics | Google |
| Matt Cleveland | M.S. | May 2011 | A Distributed System For Track Discovery | Rackspace |
| Michael Moore | M.S. | Aug 2006 | Exo-TCP | Cray |
| Rob Springer | M.S. | Aug. 2005 | Minimizing Exec. Time in MPI Progs. on an Energy-Constrained, Power-Scalable Cluster | Google |
| Wenduo Zhou | M.S. | Dec 2004 | A Parallel, Out-of-Core Algorithm for RNA Secondary Structure Prediction | Staff Scientist Oak Ridge |
| Rupa Krishnan | M.S. | Aug 2004 | A Model of TCP over IEEE 802.11b Power-Save Mode | Google |
| Ed Cashin | M.S. | Aug 2004 | Automated Control of Hardware and Software Fault Isolation | GA Tech Research Inst. |
| Chris Bentley | M.S. | May 2003 | OS Support for Low Cost Array Bounds Checking on 64-bit Architectures | Birch Communications |
| Michael Gundlach | M.S. | Dec 2002 | A Power-Aware Scheduler for Streaming Multimedia Clients | Betafish Software |
| Brent Weatherly | M.S. | July 2002 | A-MPI: Supporting MPI on a Nondedicated | CEO, Bioinquire |

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|---|---|---|---|---|
| | | | Assignments in Task/Data Parallel Programs | |
| Greg Price | M.S. | Nov. 2000 | A Comparative Analysis of Fine-Grain Threads Packages | Hitashi Automotive |
| Don Morris | M.S. | Aug. 2000 | Accurate Data Redistribution Cost Estimation in DSM Systems | EMC Isilon |
| Bala Narasimhan | M.S. | June 2000 | Twaritha: A Fast, User-Level Simulator for Virtual Memory Systems | Mulesoft |
| Ragavan Subramanian | M.S. | Aug. 1999 | HyFi: Architecture-Independent Parallelism on a Network of Multiprocessors | Postmates |
| Kar Balasubramanian | M.S. | Aug. 1999 | Efficient Support for Pipelining in Distributed-Shared Memory Systems | Broadcom |
| Greg Howard | M.S. | Aug. 1998 | An Integrated Compiler/RTS for Global Data Distribution in DSM Systems | Vertiv |
| Michael James | M.S. | Mar. 1998 | Run-Time Selection of Block Size in Pipelined Parallel Programs | Priceline |
| Morgan Henry | B.S. | May 2019 | Network contention | —- |
| Stephen Robinson | B.S. | May 2014 | Cloud computing markets | Google |
| Doug McCreary | B.S. | Aug. 2004 | Low-latency TCP for multimedia | Guidewire Software |
| David Mayo | B.S. | Aug. 2004 | Energy-aware video sensing | SnapAV |
| Sarah Doster | B.S. | Aug. 2003 | Streaming multimedia for mobile clients | The Caufield Group |
| Graham Greene | B.S. | Unknown | Efficient fine-grain parallelism | NCR Corp. |