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## Grigory Bronevetsky

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### Research Interests

- Fault Tolerance
  - Reliability Modeling
  - Checkpointing Techniques
  - Soft Error Detection and Tolerance Techniques
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### Education

Ph.D. Computer Science, Cornell University, 2007  
M.S. Computer Science, Cornell University, 2003  
B.S. Computer Science (summa cum laude), The College of New Jersey, 1999

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### Professional Experience

9/06–present	Lawrence Post-Doctoral Fellow, Center for Applied Scientific Computing, Lawrence Livermore National Laboratory (LLNL), Livermore, CA
2004	Research Intern, IBM Watson Research Center
2001	Research Intern, Palo Alto Research Center (PARC)
2000–2006	Research Assistant and Teaching Assistant, Cornell University
1999–2000	Computer Programmer, Charles Jones, LLC
1996–1999	Technical Software Engineer, Midi, inc.

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### Honors and Organizations

- Lawrence Post-Doctoral Fellowship, Lawrence Livermore National Laboratory
  - NSF Graduate Fellowship
  - Institute for Electrical and Electronics Engineers (IEEE) and IEEE Computer Society
  - Association for Computing Machinery (ACM)
  - Referee and program committee member at numerous conferences and symposiums
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### Publications

#### Journal and Conference Papers

- Adam Moody and Greg Bronevetsky, "Scalable I/O Systems via Node-Local Storage: Approaching 1 TB/sec File I/O", Submitted to Supercomputing, 2008.
- Martin Schulz, Greg Bronevetsky and Bronis de Supinski, "On the Performance of Transparent MPI Piggyback Messages", EuroPVM, 2008.
- Greg Bronevetsky, Daniel Marques, Keshav Pingali, Radu Rugina and Sally A. McKee, "Compiler-Enhanced Incremental Checkpointing for OpenMP Applications". Submitted to the International Conference on Parallel Architectures and Compilation Techniques (PACT), 2008.
- Greg Bronevetsky and Radu Rugina, "Static Analysis for Checkpoint Size Reduction in Array-Based Programs", Submitted to the International Conference on Parallel Architectures and Compilation Techniques (PACT), 2008.
- Greg Bronevetsky and Bronis de Supinski, "Soft Error Vulnerability of Iterative Linear Algebra Methods". International Conference on Supercomputing, 2008
- Bronevetsky, G., Gyllenhaal, J. and de Supinski, B. " CLOMP: Accurately Characterizing OpenMP Application Overheads ". International Workshop on OpenMP (IWOMP), 2008.
- Bronevetsky, G., Marques, D., Pingal, K. and Rugina, R. "Compiler-Enhanced Incremental Checkpointing". International Workshop on Languages and Compilers for Parallel Computing (LCPC) 2007.

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- Bronevetsky, G., de Supinski, B. "Soft Error Vulnerability of Iterative Linear Algebra Methods". Workshop on Silicon Errors in Logic – System Effects (SELSE) 2007.
  - Bronevetsky, G., de Supinski, B. "Complete Formal Specification of the OpenMP Memory Model". International Journal of Parallel Programming (IJPP) 2007.
  - Bronevetsky, G., de Supinski, B. "Formal Specification of the OpenMP Memory Model". International Workshop on OpenMP (IWOMP) 2006.
  - Bronevetsky, G., Pingali, K., Stodghill, P. "Application-level Checkpointing for OpenMP Programs". International Conference on Supercomputing (ICS) 2006.
  - Bronevetsky, G., Fernandes, R., Marques, D., Pingali, K. and Stodghill, P. "Recent Advances in Checkpoint/Recovery Systems", Next Generation Systems Program Workshop at IPDPS 2006.
  - Marques, D., Bronevetsky, G., Fernandes, R., Pingali, K., Stodghill, P. "Optimizing Checkpoint Sizes in the C<sup>3</sup> System". The Next Generation Software Workshop at IPDPS 2005.
  - Schulz, M., Bronevetsky, G., Fernandes, R., Marques, D., Pingali, K., and Stodghill, P. "Implementation and Evaluation of a Scalable Application-level Checkpoint-Recovery Scheme for MPI Programs". Supercomputing, November 2004.
  - Bronevetsky, G., Schulz, M., Szwed, P., Zaman S. and Pingali, K. "Checkpointing Shared Memory Programs at the Application-level". European Workshop on OpenMP, Oct 2004 (EWOMP 2004).
  - Bronevetsky, G., Schulz, M., Szwed, P., Zaman S. and Pingali, K. "Application-level Checkpointing for Shared Memory Programs". Conference on Architectural Support for Programming Languages and Operating Systems, Oct 2004 (ASPLOS 2004).
  - Bronevetsky, G., Marques, D., Pingali, K., and Stodghill, P. "C<sup>3</sup>: A System for Automating Application-level Checkpointing of MPI Programs". In Proceedings of the 16th International Workshop on Languages and Compilers for Parallel Computing, October 2003 (LCPC 2003).
  - Bronevetsky, G., Marques, D., Pingali, K., and Stodghill, P. "Collective Operations in an Application-level Fault Tolerant MPI System". In Proceedings of the 2003 ACM International Conference on Supercomputing, July 2003 (ICS 2003).
  - Bronevetsky, G., Marques, D., Pingali, K., and Stodghill, P. "Automated Application-level Checkpointing of MPI Programs". In Proceedings of the 2003 ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming, July 2003 (PPoPP 2003).
  - Bronevetsky, G. "The Brains of WHAT: A Data Structure for Internet Searches". The Proceedings of the 30th SIGSCE Symposium on Computer Science Education, New Orleans, LA., 1999.
  - Bronevetsky, G., et al. "A Data Structure and Filter Design for Assisting Users to Traverse Web Search Information". The Journal of Computing in Small Colleges, Vol 13, Num 5, pp.214-216, 1998.
  - Bronevetsky, G., et al. "Simplified Java Programming Through Graphical User Interfaces and File Utilities". The Journal of Computing in Small Colleges, Vol 13, Num 5, pp.209-211, 1998.

## Dissertation

Bronevetsky, G., "Portable Checkpointing for Parallel Applications", Ph.D. dissertation, Cornell University, 2007.

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## Service

- Program Committee, International Conference on Parallel Architectures and Compilation Techniques (PACT), 2009.
- Chair - Workshop on the Analysis of System Logs (WASL) at the Symposium on Operating Systems Design and Implementation (OSDI), 2008.
- Program Committee, Supercomputing 2008.
- Reviewer, EuroPar 2008.
- Web Chair, Workshops Chair, ACM International Conference on Computing Frontiers, 2008.
- Co-Chair, Workshop on Radiation Effects and Fault Tolerance in Nanometer Technologies 2008 at Computing Frontiers, 2008.
- Program Committee, ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP), 2008.
- Program Committee, Workshop on System-level Virtualization for High Performance Computing (HPCVirt), 2007.
- Program Committee, Supercomputing, 2007.
- Program Committee, IEEE Conference on Mass Storage Systems and Technologies (MSST), 2007.