

Bill Howe

University of Washington, Department of Computer Science and Engineering
Box 351202, Seattle, WA 98195-2350

Professional Preparation

Georgia Institute of Technology	Industrial and Systems Engineering, B.S. (Honors)	1999
Portland State University	Computer Science, Phd (CSE Commendation Award)	2006

Appointments

2009-present	Affiliate Assistant Professor, Computer Science and Engineering, University of Washington
2009-present	Senior Scientist, eScience Institute, University of Washington
2008-2009	Staff Scientist, NSF Science and Technology Center for Coastal Margin Observation and Prediction, Oregon Health & Science University
2006-2008	Senior Research Associate, NSF Science and Technology Center for Coastal Margin Observation and Prediction, Oregon Health & Science University
2001-2006	Graduate Research Assistant, Portland State University
1999-2001	Consultant, Deloitte Consulting, Microsoft, Schlumberger Inc., Siebel Systems.

Awards and Honors

Best of VLDB 2010, selected for publication in VLDB Journal special issue, for “Haloop: Efficient iterative data processing on large clusters.”

Jim Gray Seed Grant, Microsoft Research, \$40,000, April 2010. Project: Client+Cloud: Bridging the Gap Between Spreadsheets and Databases for eScience

Jim Gray Seed Grant, Microsoft Research, \$25,000, April 2008. Project: The eScience Appliance

Department Commendation Award, Maseeh College of Engineering and Computer Science, Portland State University, May 2007

Best of VLDB 2004, one of 4 best papers (of 81) selected for publication in VLDB Journal special issue, for “Algebraic manipulation of scientific datasets”

Publications most closely related to the proposal

- [1] H. Vo, B. Summa, J. Comba, J. Freire, B. Howe, C. Silva, and V. Pascucci. Parallel visualization on large clusters using mapreduce. In *Proceedings of Large-Scale Data Analysis and Visualization (LDAV '11)*, 2011.
- [2] B. Howe, G. Cole, E. Souroush, P. Koutris, A. Key, N. Khoussainova, and L. Battle. Database-as-a-service for long tail science. In *Proceedings of the 23rd Scientific and Statistical Database Management Conference (SSDBM '11)*. Springer, 2011.
- [3] Y. Bu, B. Howe, M. Balazinska, and M. Ernst. Haloop: Efficient iterative data processing on large clusters. In *Proc. of International Conf. on Very Large Databases (VLDB)*, 2010.
- [4] Y. Kwon, M. Balazinska, B. Howe, and J. Rolia. Skew-resistant parallel processing of feature-extracting scientific user-defined functions. In *Proc. of the ACM Symposium on Cloud Computing (SOCC 2010)*, June 2010.

- [5] K. Grochow, B. Howe, M. Stoermer, and E. Lazowska. Client + cloud: Seamless architectures for visual data analytics in the ocean sciences. In *Proceedings of the 22nd International Conference on Scientific and Statistical Database Management (SSDBM '10)*. IEEE Computer Society, 2010.

Other publications

- [6] B. Howe, H. Green-Fishback, and D. Maier. Scientific Mashups: Runtime-Configurable Data Product Ensembles. In *Proceedings of the 21st International Conference on Scientific and Statistical Database Management (SSDBM '09)*. Springer, 2009.
- [7] B. Howe, D. Maier, and L. Bright. Smoothing the ROI curve for scientific data management applications. In *Proceedings of the Third Biennial Conference on Innovative Data Systems Research (CIDR '07)*, Ansilomar, CA, 2007.
- [8] B. Howe, P. Lawson, R. Bellinger, E. Anderson, E. Santos, J. Freire, C. Scheidegger, A. Baptista, and C. T. Silva. End-to-End eScience: Integrating Workflow, Query, Visualization, and Provenance at an Ocean Observatory. In *4th IEEE International Conference on e-Science (eScience'08)*, Indianapolis, Dec. 2008.
- [9] L. Bright, D. Maier, and B. Howe. Managing the forecast factory. In *Proceedings of the ICDE Workshop on Workflow and Data Flow for Scientific Applications (SciFlow '06)*, 2006.
- [10] B. Howe and D. Maier. Algebraic manipulation of scientific datasets. *VLDB Journal: The International Journal On Very Large Data Bases*, 14(4), 2004.

Synergistic Activities

eScience Institute. Consulting for domain scientists in databases, scalable data processing, and cloud computing (<http://escience.washington.edu>)

Course development. “Scientific Data Management” (2010), University of Washington (with Magdalena Balazinska); “Scientific Data Management” (2006), Portland State University (with Laura Bright) (<http://www.cs.pdx.edu/howe/cs410>); “Research Computing in the Commercial Cloud” (2009-10), eScience Institute, University of Washington; Cloud Computing Certificate Program, UW Professional and Continuing Education, 2011.

Science Advisory Board Member. SciDB project, <http://scidb.org/>

Organizing Committee Chair, HPCDB 2011; XLDB Organizing Committee, 2011; Co-Chair, Workshop on Array Databases, 2011 (with Peter Baumann); Registration Chair, SSDBM 2011.

Reviewer. Reviewer, VLDB Journal, 2011; Program Committee, EDBT 2011; Demonstrations Program Committee, SIGMOD 2011; Registration Chair, SSDBM 2011. Program Committee Program Committee, SSDBM 2010. Reviewer, Journal of Parallel and Distributed Computing, May 2010. Reviewer, VLDB Journal, 2007, Program Committee, dg.o 2006, dg.o 2005.

Collaborators and other affiliations

Collaborators (outside the University of Washington):

Matthew Arrott (UCSD), Antonio Baptista (Oregon Health & Science University), Roger Barga (Microsoft Research), Laura Bright (Thetus), Lois Delcambre (Portland State University), Juliana Freire (University of Utah), Peter Lawson (NOAA), David Maier (Portland State University), Valerio Pascucci (Stony Brook), Jerome Rolia (HP), Rich Signell (USGS), Claudio Silva (Stony Brook)

Advisors: David Maier, Portland State University, Thesis Advisor; Antonio Baptista, Oregon Health & Science University, Postdoctoral Advisor