

## Paul D. Baines

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- CONTACT INFORMATION** Science Center 908  
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Harvard University *Web:* <http://www.people.fas.harvard.edu/~pdbaines>  
1 Oxford Street, Cambridge  
02138 USA
- RESEARCH INTERESTS** Bayesian Statistics, Statistical applications to the Environment, Astronomy and Physics, Statistical Computing, Generalized Linear Mixed Models (GLMM) and Spatio-Temporal Statistics.
- EDUCATION** **Harvard University**, Cambridge, Massachusetts USA  
Ph.D. Candidate, Department of Statistics, September 2005 - (expected: May 2010)
  - Preliminary Dissertation Topics:
    1. Hierarchical Bayesian Analysis of Color Magnitude Diagrams
    2. Quantile Regression: Bayesian and Likelihood-based Approaches
    3. Probability Matching Priors: An Application to LHC Physics
    4. Climate Change: Spatio-Temporal Downscaling of Regional and Global Climate Models
  - Advisor: Prof. Xiao-Li MengM.A., Statistics, May 2008
- Cambridge University**, Cambridge, UK  
M.Phil., Statistical Science, June 2005
  - Thesis Advisor: Steve Brooks
  - Masters Thesis: "Election Forecasting Methods for the UK general election"
- University of Durham**, Durham, UK  
B.Sc. (Hons), Mathematics, June 2004
- HONORS AND AWARDS** **IBM T.J. Watson Research Center Student Award**, 2009  
*Awarded by the New England Statistics Symposium*  
Awarded for best student paper: 'Bayesian Analysis of Stellar Populations'.  
**Post-Qualifying Talk Award**, 2008  
*Awarded by Harvard Statistics Department*  
Awarded each semester to two post-qualifying talks given in the department. Provides funding to attend a conference of the recipients choice.  
**Laha Travel Award**, 2008  
*Awarded by the Institute of Mathematical Statistics (IMS)*  
Funding to attend and present research at the seventh World Congress in Probability and Statistics at NUS, Singapore, jointly sponsored by the Bernoulli Society and the IMS.  
**Derek C. Bok Award for Excellence in Graduate Teaching of Undergraduates**, 2008  
*Awarded by the Derek Bok Center, Harvard University*  
Prize awarded annually to five outstanding teaching fellows in the Graduate School of Arts and Sciences.  
**Certificate of Distinction for Excellence in Teaching**, 2008  
*Awarded by the Derek Bok Center, Harvard University*  
Certificates are given each semester, based upon CUE teaching evaluation scores.  
**John Wishart Prize for Statistics**, 2005

*Awarded by the Statistical Laboratory, University of Cambridge*  
Award for outstanding achievement in the MPhil in Statistical Science.

**Distinction in Part III of the Mathematical Tripos, 2005**

*Awarded by the Faculty of Mathematics, University of Cambridge*  
Awarded for excellent achievement in courses forming Part III of the Mathematical Tripos.

**Thesis Prize, 2004** (awarded by Dept. Mathematics, University of Durham)

Awarded for outstanding thesis in Mathematics (Fibonacci Numbers, supervised by Dr. Bob Johnson)

**Examinations Prize, 2004** (awarded by Dept. of Mathematics, University of Durham)

Awarded for top performance in final year examinations in Mathematics.

MEMBERSHIPS IN  
PROFESSIONAL  
SOCIETIES

**Mu Sigma Rho, 2009**

National honorary society for Statistics, nominated by Prof. Xiao-Li Meng.

ACADEMIC  
EXPERIENCE

**Harvard University, Cambridge, Massachusetts USA**

*Research Assistant*

**June 2006 - present**

Conducted summer and thesis-related research projects with Prof. Xiao-Li Meng.

*Departmental Teaching Fellow*

**June 2007 - June 2008**

Appointment joint between the Derek Bok Center for Teaching and Learning, and the Department of Statistics, Harvard University. Roles included the training and mentoring of new Teaching Fellows, organizing professional development activities for experienced Teaching Fellows, and establishing long-term structures to help improve the quality of Statistics teaching at Harvard.

*Teaching Fellow*

**September 2006 - present**

- Stat 104: Introduction to Quantitative Methods for Economics, Fall 2006
- Stat 149/249: Generalized Linear Models, Spring 2007
- Stat 303: The Art and Practice of Teaching Statistics, Fall 2007 & Spring 2008
- Stat 149/249: Generalized Linear Models, Spring 2009

Duties varied by course but included a minimum of weekly one-hour sections, grading of problem sets, administrative duties.

PUBLICATIONS

Baines, P.D., Meng, X.-L. (2007) Probability Matching Priors in LHC Physics, Proceedings of Phystat 2007, CERN Yellow Book

PAPERS IN  
PREPARATION

Baines, P.D., Zezas, A., Kashyap, V.L., Lee, H. (est. 2009) Bayesian Inference for Color-Magnitude Diagrams

Baines, P.D., Meng, X.-L., (est. 2009) How parametric is semi-parametric?

Baines, P.D., Meng, X.-L., (est. 2009) Bayesian Spatio-Temporal Downscaling for Climate Prediction

CONFERENCE  
PRESENTATIONS

*Joint Statistical Meetings*, (scheduled) August 2009

“Bayesian Spatio-Temporal Downscaling for regional and local climate prediction”

*Seventh World Congress in Probability and Statistics*, July 2008

“Constructing Length and Coverage-based Prior Distributions”

*Joint Statistical Meetings, July/August 2007*

“Probability Matching Priors in LHC Physics – A Pragmatic Approach” (for Statisticians)

*Phystat-LHC Workshop on Statistical Issues for LHC Physics, June 2007*

“Probability Matching Priors in LHC Physics – A Pragmatic Approach” (for Physicists)

COMPUTING  
EXPERIENCE

- Statistical Packages: R, S-Plus; extensive use of C, C++ and FORTRAN statistical libraries such as LAPACK and BLAS, use of NetCDF files and their C/C++ API.
- Languages: C, C++, PHP, SQL.
- Web Programming: HTML/XHTML, CSS.
- Operating Systems: Unix/Linux, Windows.