

## Andrew C. Thomas

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- CONTACT INFORMATION** Baker Hall 132H, Carnegie Mellon University  
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Email: act -at- acthomas.ca  
Website: <http://www.acthomas.ca/academic/>
- CITIZENSHIP** Canadian citizen by birth; dual citizenship with United Kingdom.
- PROFESSIONAL EXPERIENCE** Visiting Assistant Professor, Department of Statistics, Carnegie Mellon University. January 2010-present.  
Visiting Faculty Member, iLab, Heinz College, Carnegie Mellon University. April 2010-present.  
Visiting Research Scientist, Department of Statistics, Carnegie Mellon University. September 2009-January 2010.
- EDUCATION** Doctor of Philosophy, Harvard University, Department of Statistics. Awarded November 2, 2009.  
Dissertation: [Hierarchical Models for Relational Data](#)  
Advisor: Joseph K. Blitzstein  
Readers: Edoardo M. Airoldi, Xiao-Li Meng, Carl N. Morris  
Master of Arts, Harvard University, Department of Statistics, June 2005.  
Bachelor of Science, Massachusetts Institute of Technology, February 2004. Physics, with a minor in Biology.
- RESEARCH** **Stochastic Modelling and Properties of Relational Data and Networks**  
**PAPER** Cosma Rohilla Shalizi and ACT. “[Homophily and Contagion Are Generically Confounded in Observational Social Network Studies](#).” Submitted to Sociological Methods and Research. [2010]  
**PAPER** ACT and Joseph K. Blitzstein. “A Framework for Modelling Dyadic Relational Data With Marginally Specified Hierarchical Models,” in progress. [2009]  
**PAPER** ACT and Justin Grimmer. “Collaborations between U.S. Senators through Joint Press Releases,” in progress. [2009]  
**PAPER** ACT. “Ohmic Circuit Interpretations of Network Distance and Centrality,” in progress. [2009]  
**SOFTWARE** ACT. “ElectroGraph: Advancements and Philosophies for Plotting Relational Data in R,” package for R statistical software. [Available at CRAN](#). [2009]  
**PAPER** ACT and Joseph K. Blitzstein. “The Thresholding Problem: Uncertainties Due To Dichotomization of Valued Ties,” in progress. [2009]
- INVITED TALK** Network Science Seminar, CASOS, Carnegie Mellon University, Pittsburgh, PA, April 2010.
- INVITED TALK** New England Statistical Symposium, Cambridge, MA, April 2010.
- POSTER** Workshop on Analyzing Networks and Learning with Graphs, NIPS 2009, Whistler, B.C., December 2009.

CONTRIBUTED TALK Joint Statistical Meetings, Washington D.C., August 2009.

POSTER Statistical Methods for the Analysis of Network Data, Dublin, Ireland, June 2009.

INVITED TALK University of Chicago, Chicago, IL, May 2009.

CONTRIBUTED TALK New England Statistical Symposium, Storrs, CT, April 2009.

INVITED TALK Carnegie-Mellon University, Pittsburgh, PA, April 2009.

INVITED TALK RAND Statistics Group, Santa Monica, CA, March 2009.

INVITED TALK Virginia Tech, Blacksburg, VA, March 2009.

INVITED TALK American University, Washington, D.C., January 2009.

CONTRIBUTED TALK Joint Statistical Meetings, August 2008.

POSTER 25th Meeting of the Society of Political Methodology, Ann Arbor, MI, July 9-12, 2008, “Generative Models for Random Graphs with Weighted Edges, with Applications in Political Methodology”.

### **Properties of Two-Party Election Systems**

Much of this work was pursued in my role as a Graduate Associate of the [Institute for Quantitative Social Science](#).

PAPER ACT. “Gauging The Likely Impact of Redistricting Commissions on State Legislative Elections,” submitted to *Statistics, Politics and Policy*. [2010]

PAPER ACT, Andrew Gelman, Gary King, Jonathan N. Katz. “Partisan Bias of the Electoral College Under Proposed Changes in Elector Apportionment,” in progress. [2008]

SOFTWARE Andrew Gelman, Gary King, ACT. “JudgeIt II: A Program for Evaluating Electoral Systems and Redistricting Plans,” package for R statistical software. [Available at CRAN](#). [2007]

WORKING PAPER ACT and Scott Lesowitz. “[Measuring The Impact of Independent Redistricting Commissions on State Legislative Elections](#)”. [2007]

INVITED TALK Research Workshop in Applied Statistics, Harvard University, October 2007.

CONTRIBUTED TALK useR!, Iowa State University, August 2007.

CONSULTING Roland J. Fryer, Assistant Professor of Economics, Harvard University, 2006-2007. Consulting regarding [redistricting algorithms and analyses of the resulting electoral plans](#).

### **Perfect Sampling Routines for Applied Probability Models**

PAPER Blanchet, Jose H. and ACT. “[Exact Simulation and Error-Controlled Sampling via Regeneration and a Bernoulli Factory](#)”. Presented at New England Statistics Symposium 2007. Winner of IBM T.J. Watson Student Paper Award.

INVITED TALK New England Statistics Symposium, April 2007.

POSTER MCMSki II: Markov Chain Monte Carlo in Theory and Practice, January 9-11, 2008.

POSTER Harvard University Department of Statistics 50th Anniversary Symposium, October 26-27, 2007.

### **Quantitative Analysis of Sports**

PAPER ACT, "That's the Second-Biggest Hitting Streak I've Ever Seen! Verifying Simulated Historical Extremes in Baseball", submitted to *Journal of Quantitative Analysis in Sports*. [2010]

PAPER ACT, "[Inter-Arrival Times of Goals in Ice Hockey](#)". *Journal of Quantitative Analysis in Sports*, 3(3). [2007]

PAPER ACT, "[The Impact of Puck Possession and Location on Ice Hockey Strategy](#)". *Journal of Quantitative Analysis in Sports*, (2)1. [2006]

INVITED TALK Statistics Graduate Student Seminar, Columbia University, October 2006.

INVITED TALK Research Workshop in Applied Statistics, Harvard University, October 2005.

CONTRIBUTED TALK Joint Statistical Meetings, August 2005,

CONTRIBUTED TALK New England Statistics Symposium, April 2005 (honourable mention for best student paper).

CONSULTING Alan Schwarz, sportswriter. Consulted for article "[KEEPING SCORE; The Goal Rush and the Prospect of More Penalties](#)", *New York Times*, December 25, 2005.

### **Miscellaneous**

CONSULTING Michael C. McCormack and Edwin Kwon, visiting scholars, Massachusetts General Hospital. Provided guidance for *ad hoc* methods of reducing local dependence in tissue damage estimation procedures. [2005]

PAPER Michael C. McCormack, Edwin Kwon, Kyle R. Eberlin, Mark Randolph, Dan S. Friend, ACT, Michael T. Watkins, William G. Austen Jr. "Development of Reproducible Histologic Injury Severity Scores: Skeletal Muscle Reperfusion Injury". *Surgery*, 143(1), 126-133. [2008]

ARTICLE "From Student to student: Reflecting on 100 years of history, in one Saturday", with Kari Lock and Yves Chretien. *Amstat News*, November 2008.

PROFESSIONAL SERVICE Associate Editor: *Statistics, Politics and Policy*. (2010-present)

Contributed Session Chair, Joint Statistical Meetings, August 2009.

### **Referee for Journals:**

- Journal of the American Statistical Association
- Annals of Applied Statistics
- AISTats 2010
- NIPS 2009
- Journal of Statistical Software
- Journal for Quantitative Analysis in Sports

TEACHING  
EXPERIENCE

**Lecturer at Carnegie Mellon University:**

- (Statistics) 36-724: Applied Bayesian and Computational Methods. Spring 2010.

**Senior Thesis supervisor:**

- Andrew Klein, CMU Statistics Department. Expected completion Spring 2011.

**Reading and Research course instructor:**

- Ashwin Kumar, Spring 2010.
- Olga Popova, Spring 2010.
- Wanjie Wang, Spring 2010.

**Teaching Assistant/Fellow at Harvard University:**

- Statistics 101: Introduction to Quantitative Methods for Psychology and the Behavioral Sciences. Fall 2008 (with Alan Agresti).
- Statistics 221: Applied Bayesian Statistical Computing. Spring 2008 (with Andrew Gelman).
- Statistics 110: Introduction to Mathematical Probability. Fall 2005 (with Jose Blanchet), Fall 2007 (with Joseph Blitzstein).
- Statistics 111: Introduction to Mathematical Statistics. Head Teaching Fellow. Spring 2007 (with Samuel Kou).
- Government 2003: Hierarchical Bayesian Modeling. Fall 2006 (with Jeff Gill).
- Statistics 171: Stochastic Processes. Spring 2006 (with Erol Pekoz).

Lecturer, 8.02: Introduction to Electricity and Magnetism. February-May 2004, MIT Experimental Study Group.

Teaching assistant, 8.01T: Introduction to Mechanics (Technology Enabled). September-December 2004, MIT Physics Department.

CONFERENCE  
COMMITTEES

“Quintessential Contributions: Celebrating Major Birthdays of Statistical Ideas and Their Inventors”, September 27, 2008, Harvard University.

“Advances in Analysis of Monte Carlo Methods”, December 1-2, 2007, Harvard University.

PROFESSIONAL  
MEMBERSHIPS

[American Statistical Association](#)

[Institute of Mathematical Statistics](#)

[International Society for Bayesian Analysis](#)

[Statistical Society of Canada](#)

[American Political Science Association](#)

DEPARTMENT  
SERVICE

Member, Department Computing Committee, CMU Statistics Department, 2010-present.

Member, Faculty Seminar and Social Committee, CMU Statistics Department, 2009-present.

Convenor, Qualifying Exam Seminar, Harvard Statistics Department. (weekly, spring 2007)

Founder/Convenor, Sports Analysis Workshop, Harvard Statistics Department, 2006-2007.

Member, Department Computing Committee, Harvard Statistics Department, 2005-2009.

Member, Department Social Committee, Harvard Statistics Department, 2004-2009.

MISCELLANEOUS  
SERVICE

Trivia host, [Cambridge Queen's Head pub](#), Harvard University. February-December 2008.

Canadian Chemistry and Physics Olympiad. Annual training camp assistant/lecturer, 2000-2003.  
Co-leader of Canadian team to XXXIII International Physics Olympiad, Indonesia, 2002.

POPULAR MEDIA  
WRITING

"A long-time Blue Jays fan pays his respects", Facts and Arguments, The (Toronto) Globe and Mail; October 8, 2004.

[Op-ed pieces written](#) for [The Tech](#) between 2001 and 2004, during which time I served as writer, columnist and/or opinion editor.