

Mark Huber | Curriculum Vitae

+1 909 607 0938 • mhuber@cmc.edu

markhuberdatascience.org

Data Scientist specializing in computational probability, with a focus on Monte Carlo simulation for statistical applications, approximation algorithms, and numerical integration in high dimensions.

Education

Harvey Mudd College

Bachelors of Science in Mathematics 1994

Cornell University

Masters in Operations Research and Industrial Engineering 1997

Cornell University

PhD in Operations Research and Industrial Engineering 1999

Experience

Chemistry Animation Project

Computer Animator

California Inst. of Technology

1991, 1992

ONR Graduate Fellowship

Visiting Researcher

Naval Undersea Warfare Center

1995

Data Mining Group

Visiting Researcher

IBM Almaden

1996

School of Operations Research and Industrial Engineering

Teaching Assistant

Cornell University

1999

Department of Statistics

NSF Postdoc in the Mathematical Sciences

Stanford University

1999-2001

Joint appointment in Mathematics and Statistical Science

Assistant Professor

Duke University

2001-2009

Department of Mathematical Sciences

Associate Professor

Claremont McKenna College

2009-2012

Department of Mathematical Sciences

Fletcher Jones Foundation Associate Professor of Mathematics and Statistics and George R. Roberts Fellow

Claremont McKenna College

2012-present

Department of Mathematical Sciences

Chair

Claremont McKenna College

2016-2019

Computer Science Sequence

Director

Claremont McKenna College

2016-present

Data Science Sequence

Director

Claremont McKenna College

2018-present

Department of Mathematical Sciences

Fletcher Jones Foundation Professor of Mathematics and Statistics and George R. Roberts Fellow

Claremont McKenna College

2018-present

Summer Undergraduate Research

Director

Claremont McKenna College

2019-2020

Publications

Book length works.....

- [1] Mark Huber. *Probability: Lectures and Labs (2020)*. Learning College Mathematics. Independent, 2020.
- [2] Mark Huber. *Probability: Lectures and Labs*. Learning College Mathematics. Independent, 2019.
- [3] Mark L. Huber. *Perfect Simulation*. Number 148 in Chapman & Hall/CRC Monographs on Statistics & Applied Probability. CRC Press, 2015.
- [4] M. L. Huber. *Perfect Sampling with Bounding Chains*. PhD thesis, Cornell University, 1999.

Published and accepted articles.....

- [5] M. Huber. A probabilistic approach to the Fibonacci sequence. *The Mathematical Intelligencier*, 42:29–33, September 2020.
- [6] M. Huber. Halving the bounds for the Markov, Chebyshev, and Chernoff inequalities through smoothing. *American Mathematical Monthly*, 126:915–927, 2019. arXiv:1803.06361.
- [7] M. Huber. An optimal (ϵ, δ) -approximation scheme for the mean of random variables with bounded relative variance. *Random Structures Algorithms*, 55:356–370, 2019.
- [8] M. Huber. Adaptive Markov chain Monte Carlo algorithms. In N. Balakrishnan, T. Colton, B. Everitt, W. Piegorsch, F. Ruggeri, and J. L. Teugels, editors, *Wiley StatsRef-Statistics Reference Online*. Wiley, 2019. doi:10.1002/9781118445112.stat07851.
- [9] M. Huber and Nevena Marić. Admissible Bernoulli correlations. *Journal of Statistical Distributions and Applications*, 6(2), 2019.
- [10] M. Huber and B. Jones. Faster estimates of the mean of bounded random variables. *Mathematics and Computers in Simulation*, 161:93–101, 2019.
- [11] J. Banks, S. Garrabrant, M. Huber, and A. Perizzolo. Using TPA for approximating the number of linear extensions. *J. Discrete Algorithms*, 51:1–11, 2018. arXiv:1010.4981.
- [12] M. Huber. Adaptive Monte Carlo integration. In N. Balakrishnan, T. Colton, B. Everitt, W. Piegorsch, F. Ruggeri, and J. L. Teugels, editors, *Wiley StatsRef-Statistics Reference Online*. Wiley, 2018. doi:10.1002/9781118445112.stat08070.
- [13] J. Feng, M. Huber, and Y. Ruan. Monte Carlo with user-specified relative error. In P. W. Glynn and A. Owen, editors, *Proceedings in Mathematics & Statistics: Monte Carlo and Quasi-Monte Carlo methods*, volume 241, chapter 12. Springer, 2018.
- [14] M. Huber. Optimal linear Bernoulli factories for small mean problems. *Methodology and Computing in Applied Probability*, 19:631–645, 2017. arXiv:1507.00843. doi:10.1007/s11009-016-9518-3.
- [15] K. Cloud and M. Huber. Fast perfect simulation of Vervaat perpetuities. *J. Complexity*, 42:19–30, 2017. arXiv:1510.01780.
- [16] M. Huber. A Bernoulli mean estimate with known relative error distribution. *Random Structures Algorithms*, 50:173–182, 2017. arXiv:1309.5413.
- [17] M. Huber. Nearly optimal Bernoulli factories for linear functions. *Combin. Probab. Comput.*, 25(4):577–591, 2016. arXiv:1308.1562.
- [18] M. Huber and N. Marić. Simulation of multivariate distributions with fixed marginals and correlations. *J. Appl. Probab.*, 52(2):602–608, 2015. arXiv:1311.2002.

- [19] M. Huber. Approximation algorithms for the normalizing constant of Gibbs distributions. *Ann. Appl. Probab.*, 51(1):92–105, 2015. arXiv:1206.2689.
- [20] M. L. Huber and S. Schott. Random construction of interpolating sets for high dimensional integration. *Journal of Applied Probability*, 51(1):92–105, 2014. arXiv:1112.3692.
- [21] Mark Huber. Near-linear time simulation of linear extensions of a height-2 poset with bounded interaction. *Chic. J. Theoret. Comput. Sci.*, 2014.
- [22] M. Huber and N. Marić. Minimum correlation for any bivariate Geometric distribution. *ALEA Lat. Am. J. Probab. Math. Stat.*, pages 459–470, 2014. arXiv:1406.1779.
- [23] M. Huber, E. Vilella, D. Rozenfeld, and J. Xu. Bounds on the artificial phase transition for perfect simulation of the hard core Gibbs processes. *Involve*, 5(3):247–255, 2012.
- [24] M. Huber. Spatial birth-death swap chains. *Bernoulli*, 18(3):1031–1041, 2012. arXiv:1006.5934.
- [25] M. L. Huber and J. Law. Simulation reduction of the Ising model to general matchings. *Electronic Journal of Probability*, 17:1–15, 2012. Article 33, arXiv:0907.0477v1.
- [26] M. L. Huber. Simulation reductions for the Ising model. *J. Stat. Theory Pract.*, 5(3):413–424, 2011. arXiv:0908.2151v1.
- [27] Faheem Mitha and Mark L. Huber. Monotonic multigamma coupling for perfect sampling. *Journal of Statistical Computation and Simulation*, 82(4):603–622, 2012.
- [28] M. Huber. Spatial point processes. In S. Brooks, A. Gelman, G. Jones, and X. Meng, editors, *Handbook of MCMC*, pages 227–252. Chapman & Hall/CRC Press, 2011.
- [29] J. Møller, M. L. Huber, and R. L. Wolpert. The stationary Matérn hard core process of type III. *Stochastic Process. Appl.*, 120:2142–2158, 2010.
- [30] M. L. Huber and S. Schott. Using TPA for Bayesian inference. *Bayesian Statistics 9*, pages 257–282, 2010.
- [31] J. A. Fill and M. L. Huber. Perfect simulation of Vervaat perpetuities. *Electron. J. Probab.*, 15:96–109, 2010.
- [32] D. B. Woodward, S. C. Schmidler, and M. Huber. Conditions for rapid mixing of parallel and simulated tempering on multimodel distributions. *Ann. of Appl. Prob.*, 19(2):617–640, 2009.
- [33] D. B. Woodward, S. C. Schmidler, and M. Huber. Sufficient conditions for torpid mixing of parallel and simulated tempering. *Electron. J. Probab.*, 14:780–804, 2009.
- [34] M. L. Huber and R. L. Wolpert. Likelihood-based inference for Matérn type-III repulsive point processes. *Adv. Appl. Prob.*, 41(4):958–977, 2009.
- [35] M. Huber. Perfect simulation with exponential tails. *Random Structures Algorithms*, 33(1):29–43, 2008.
- [36] M. Huber and J. Law. Fast approximation of the permanent for very dense problems. In *Proc. of 19th ACM-SIAM Symp. on Discrete Alg.*, pages 681–689, 2008.
- [37] M. Huber. Perfect simulation for image restoration. *Stochastic Models*, 23(3):475–487, 2007.
- [38] D. Hearn and M. Huber. The ancestral distance test: A topdown approach to detect correlated evolution in large lineages with missing character data and incomplete phylogenies. *Systematic Biology*, 55(5):803–817, 2006.
- [39] M. Huber, Y. Chen, I. Dinwoodie, A. Dobra, and M. Nicholas. Monte Carlo algorithms for Hardy-Weinberg proportions. *Biometrics*, 62:49–53, Mar 2006.
- [40] M. Huber. Fast perfect sampling from linear extensions. *Discrete Mathematics*, 306:420–428, 2006.

- [41] M. Huber. Exact sampling from perfect matchings of dense regular bipartite graphs. *Algorithmica*, 44:183–193, 2006.
- [42] B.P. Tighe, J.E.S. Socolar, D.G. Schaeffer, W.G. Mitchener, and M.L. Huber. Force distributions in a trigonal lattice of rigid bars. *Physical Review E*, 72(031306), 2005.
- [43] Y. Chen, I. Dinwoodie, A. Dobra, and M. Huber. Lattice points, contingency tables, and sampling. *Contemporary Mathematics*, 374:65–78, 2005.
- [44] M. Huber and G. Reinert. The stationary distribution in the Antivoter model: exact sampling and approximations. In *Stein’s Method: Expository Lectures and Applications*, pages 79–94. IMS Lecture Notes 46, 2004.
- [45] M. Huber. Perfect sampling using bounding chains. *Annals of Applied Probability*, 14(2):734–753, 2004.
- [46] M. L. Huber. A bounding chain for Swendsen-Wang. *Random Structures Algorithms*, 22(1):43–59, 2003.
- [47] A. T. Benjamin, M. T. Fluet, and M. L. Huber. Optimal token allocations in Solitaire Knock ‘m Down. *The Electronic Journal of Combinatorics*, 8(2):1–8, 2001.
- [48] J. A. Fill and M. L. Huber. The Randomness Recycler approach to perfect sampling. In *Proc. 53rd Session of the ISI*, pages 69–72, 2001.
- [49] J. A. Fill and M. L. Huber. The Randomness Recycler: A new approach to perfect sampling. In *Proc. 41st Sympos. on Foundations of Comp. Sci.*, pages 503–511, 2000.
- [50] M. L. Huber. A faster method for sampling independent sets. In *Proc. 11th ACM-SIAM Sympos. on Discrete Algorithms*, pages 625–626, 2000.
- [51] M. L. Huber. Exact sampling and approximate counting techniques. In *Proc. 30th Sympos. on the Theory of Computing*, pages 31–40, 1998.
- [52] M. L. Huber. Exact sampling using Swendsen-Wang. In *Proc. 10th Sympos. on Discrete Algorithms*, pages 921–922, 1999.

Preprints and Technical Reports.....

- [53] M. Huber. Tail inequalities for restricted classes of discrete random variables. 2020. arXiv: 2101.03452.
- [54] M. Huber. Robust estimation of the mean with bounded relative standard deviation. arXiv:1908.05386, 2019.
- [55] M. Huber. Designing perfect simulation algorithms using local correctness. arXiv:1907.06748, 2019.
- [56] M. Huber. The Fundamental Theorem of perfect simulation. arXiv:1704.03561., 2017.
- [57] M. Huber. Partially recursive acceptance rejection. arXiv:1701.00821, 2016.
- [58] M. Huber. An estimator for Poisson means whose relative error distribution is known. arXiv:1605.09445., 2016.
- [59] S. R. Garcia, M. Huber, and B. Lutz. Algebraic properties of Heilbronn’s exponential sum: supercharacters, Fermat congruences, and Heath-Brown’s bound. arXiv:1312.1034v2, 2015.
- [60] C. Evans, J. Hardin, M. Huber, D. Stoebel, and G. Wong. Differential expression analysis for multiple conditions. arXiv:1410.3370., 2014.

External funding and awards

Postdoctoral Fellow in the Mathematical Sciences

National Science Foundation
Perfect simulation techniques

1999–2001

CAREER award*National Science Foundation*

2005–2011

Perfect sampling techniques for high-dimensional integration

DMS grant*National Science Foundation*

2014–2018

Improved Monte Carlo methods for high dimensional sums and integrals

Book Reviews

Ten great ideas about chance

P. Diaconis and B. Skyrms

*M. Huber, AMS Notices, 917:921, 2019***Probability Theory: An Analytic View (2nd ed.)**

D. W. Stroock

*M. Huber, JASA, 107:853, 2012***Monte Carlo and Quasi-Monte Carlo Sampling**

C. Lemieux

*M. Huber, JASA, 105:876, 2010***An Introduction to Optimization (3rd ed.)**

E. K. P. Chong and S. H. Zak

*M. Huber, JASA, 104:421, 2009***Introduction to Stochastic Calculus Applied to Finance (2nd ed.)**

D. Lamberton and B. Lapeyre

M. Huber, JASA, 104:1726, 2009

Selected Videos

The Alternating Series Testhttps://www.youtube.com/watch?v=svPB4L__EC8&t=85s*M. Huber*

Dec 2016

Properties of expected value<https://www.youtube.com/watch?v=XuAzQZ66TpM&t=21s>*M. Huber*

Oct 2016

Convergence of random variables<https://www.youtube.com/watch?v=XuAzQZ66TpM&t=21s>*M. Huber*

Oct 2016

Swapping limits and expectation<https://www.youtube.com/watch?v=jpxBJITM9i4&t=2s>*M. Huber*

Oct 2016

Rigorous limits<https://www.youtube.com/watch?v=vmSyC33jRbE>*M. Huber*

Oct 2016

Sets, logic, and proofshttps://www.youtube.com/watch?v=0ya83f_kfRU&t=21s*M. Huber*

Oct 2016

Antidifferentiation of Linear Over Quadratic<https://www.youtube.com/watch?v=7FSsUZJ4xVY>*M. Huber*

Apr 2014

Factorials<https://www.youtube.com/watch?v=BuaUQrRHOTc>*M. Huber*

Apr 2014

Exponential Growth and Separation of Variables<https://www.youtube.com/watch?v=KB2iHuoqpB8>*M. Huber*

Feb 2014

For all and there exists<https://www.youtube.com/watch?v=qni0TKd0DgU>*M. Huber*

Feb 2014

Supremum and Infimum<https://www.youtube.com/watch?v=B12G6ZGsBvk&t=1s>*M. Huber*

Feb 2014

Six Derivatives to Memorize<https://www.youtube.com/watch?v=1RyrewyC2xs>*M. Huber*

Mar 2013

Antidifferentiation of a function of a line<https://www.youtube.com/watch?v=qm-tXwmQpKQ>*M. Huber*

Mar 2013

Probability for continuous random variables <i>M. Huber</i>	https://www.youtube.com/watch?v=rBRkEuU4SNI Feb 2013
Indicator Functions <i>M. Huber</i>	https://www.youtube.com/watch?v=V3pnr5gmJC8&t=35s Feb 2013
Antidifferentiation with the Chain Rule <i>M. Huber</i>	https://www.youtube.com/watch?v=9-ftis8vrXg Dec 2012
Integration by Parts <i>M. Huber</i>	https://www.youtube.com/watch?v=NkAkVWtbRZw Nov 2012

Selected invited and contributed talks

Joint Mathematics Meetings <i>Panel: Lessons Gleaned from Transitioning to Online Teaching</i>	Virtual Meeting January 2021
Operations Research and Information Engineering <i>Adaptive Estimation for Monte Carlo Data</i>	Cornell University, Ithaca, New York December 2020
Monte Carlo and Quasi-Monte Carlo methods <i>Generating from the Strauss Process using Stitching</i>	Virtual Meeting August 2020
Applied Mathematics Seminar <i>Robust Estimation for Monte Carlo Data</i>	Claremont, California February 2020
Southern California Probability Symposium <i>Bernoulli factories and local correctness</i>	IPAM-UCLA, Los Angeles, California December 2019
California Mathematics Project <i>Data Visualization Tools</i>	Cal Poly - Pomona, California December 2019
Statistics Colloquium <i>Robust Estimation for Monte Carlo data</i>	Stanford University, California October 2019
University of California - Riverside, Statistics Colloquium <i>Robust Estimation for Monte Carlo data</i>	Riverside, California October 2019
Algebra, Number Theory, and Combinatorics Seminar <i>Bounds on matrix multiplication: history and questions</i>	Claremont, California March 2019
13th International Conference on Monte Carlo and Quasi Monte Carlo Methods <i>Improved light tailed sample averages for robust estimation of the mean</i>	Rennes, France July 2018
LMS Invited Lecture Series on Computational Statistics <i>Perfect Simulation Short course</i>	University of Warwick, UK July 2018
The 2017 IISA International Conference on Statistics <i>Estimates for Monte Carlo data with user-specified error bounds</i>	Hyderabad, India Dec 2017
LMS-EPSRC Symp. on Markov Processes, Mixing Times, and Cutoff <i>Cutoff phenomena in perfect simulation</i>	University of Durham, UK Aug 2017
International Statistical Institute World Congress <i>Linear time perfect simulation for Markov random fields</i>	Marrakech, Morocco Jul 2017
Monte Carlo Methods and Applications (MCM 2017) <i>Faster estimates with user-specified error for $[0, 1]$ random variables</i>	Montréal, Canada Jul 2017
Southern California Applied Mathematics Symposium <i>Faster Monte Carlo with fewer samples (Plenary Speaker)</i>	UC Irvine, California Jun 2017
Statistics Seminar Duke University <i>Fast user-specified relative error estimates</i>	Durham, North Carolina Mar 2017
Atul Vyas Memorial Lecture <i>How to roll a five sided die</i>	Claremont, California Nov 2016

Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing Stanford University, Calif.
Monte Carlo with user-specified error Aug 2016

Retrospective Monte Carlo Workshop University of Warwick, UK
A Bernoulli Factory using the Fundamental Theorem of Perfect Simulation Jul 2016

Statistics Seminar Technische Universität Dortmund, Germany
The Fundamental Theorem of Perfect Simulation Jun 2016

CPET Landscape of Educational Technology for Liberal Arts Education Claremont, USA
Using video for classes Feb 2016

Claremont Colleges Library Discourse Series Claremont, USA
Humanistic Mathematics: A Philosophy, a Journal, and a Community Nov 2015

George Mason University Statistics Colloquium Fairfax, USA
Bounded variance Monte Carlo estimates Oct 2015

AMS Fall Western Sectional Meeting Fullerton, USA
Fast approximation algorithms for partition functions of Gibbs distributions Oct 2015

Stochastic Processes and their Applications Oxford, UK
Better rigorous tail bounds for general Monte Carlo estimation Jul 2015

CRISM Seminar University of Warwick, UK
Optimal linear Bernoulli factories for small mean problems Jul 2015

Statistics Seminar University of Minnesota, Minnesota
Bounding relative error of Monte Carlo estimates Mar 2015

Mathematics Seminar University of Wisconsin, Wisconsin
Understanding relative error in Monte Carlo simulations Mar 2015

UFL Statistics Colloquium Gainesville, Florida
Obtaining relative error of estimates without the Central Limit Theorem Oct 2014

USC Mathematics Colloquium Los Angeles, California
Building a better Bernoulli Factory Sep 2014

Strategic Educational Technology Summit Claremont, USA
Using Instructional Videos in and out of the classroom Apr 2014

Fifth IMS-ISBA joint meeting: MCMSki IV Chamonix, France
Perfect simulation for image analysis Jan 2014

Gateways to Exploring Mathematical Sciences (GEMS) Claremont, USA
The Monty Hall Problem Nov 2013

AMS Western Sectional Meeting Riverside, USA
Fast approximation algorithms for partition functions of Gibbs distributions Nov 2013

Statistics Seminar University of Kentucky, USA
An unbiased estimator heads with relative error independent of p Oct 2013

JSM 2013 Annual Meeting Montreal, Canada
Controlling error for combinatorial structures Aug 2013

ISBA 2012 World Meeting Kyoto, Japan
Fast approximation algorithms for partition functions of Gibbs distributions June 2012

Department of Statistics Seminar The Ohio State University USA
Fast approximation algorithms for Gibbs partition functions May 2012

Statistics Speakers Series UCLA Department of Statistics
Perfect Simulation of Repulsive Point Processes Nov 2011

Mathematical and Computer Science Colloquium University of Missouri-St. Louis
Partially Recursive Acceptance Rejection Oct 2011

Greek stochastics γ <i>The Paired Product Estimator for normalizing constants of Gibbs distributions</i>	Crete, Greece June 2011
Natural Science Colloquium <i>Adaptive Monte Carlo Methods for Numerical Integration</i>	Pepperdine University Mar 2011
Fall Western Sectional AMS meeting <i>Near linear time perfect simulation of corrugated surfaces</i>	UCLA Oct 2010
Monte Carlo and Quasi-Monte Carlo Methods <i>Using TPA for Monte Carlo Integration</i>	Warsaw, Poland Aug 2010
9th Valencia International Meeting on Bayesian Statistics, (invited talk) <i>Using TPA for Bayesian Inference</i>	Alicante, Spain Jun 2010
Applied Mathematics and Statistics Department Seminar <i>Approximation of Normalizing Constants Using Random Cooling Schedules</i>	UC Santa Cruz Apr 2010
Statistics Department Seminar <i>Approximation of Normalizing Constants Using Random Cooling Schedules</i>	UC Riverside, CA, USA Feb 2010
Joint Mathematics Meetings <i>Spatial Birth-Death-Swap Chains</i>	San Francisco, CA, USA Jan 2010
Claremont Colleges Mathematics Colloquium <i>Better numerical integration through randomness</i>	Claremont, CA, USA Nov 2009
AMS Fall Western Meeting (invited talk) <i>Simulation reductions for the Ising model</i>	UC Riverside, CA, USA Nov 2009
Joint Statistical Meetings (invited talk) <i>Speeding up the product estimator using random temperatures</i>	Washington D.C. Aug 2009
Department of Statistics Colloquium <i>Perfect simulation of repulsive point processes</i>	University of Aalborg, Denmark May 2009
EPSRC Symposium Workshop on Markov Chain-Monte Carlo <i>Perfect simulation of Matérn type III processes</i>	Warwick, UK Mar 2009
Computational Algebraic Statistics, Theories and Applications <i>Sampling linear extensions for inference</i>	Kyoto, Japan Dec 2008
Department of Applied Mathematics and Statistics Seminar <i>Perfect simulation of Matérn type III point processes</i>	The Johns Hopkins University Oct 2008
Department of Mathematics Probability Seminar <i>Conditions for Parallel and Simulated Tempering to be fast or slow</i>	Duke University, North Carolina Oct 2008
Stochastics Seminar, School of Mathematics <i>Perfect simulation of Matérn type III point processes</i>	Georgia Institute of Technology, USA Oct 2008
School of Operations Research and Industrial Engineering Colloquium <i>Dealing with Matérn type III point processes</i>	Cornell University Sep 2008
Advances in Analysis of Monte Carlo Methods workshop <i>An Overview of Perfect Sampling Methods</i>	Harvard University, Massachusetts Dec 2007
School of Statistics Seminar <i>Perfect simulation of repulsive point processes</i>	University of Minnesota Oct 2007
New Developments in MCMC (invited talk) <i>Perfect simulation with the Randomness Recycler for arbitrary state spaces</i>	Warwick, UK Aug 2006
Department of Mathematics <i>Advanced Acceptance/Rejection Methods for Monte Carlo Algorithms</i>	UC Davis Mar 2006
Joint Statistical Meetings (contributed talk) <i>Time Dependent Update Functions for Perfect Sampling</i>	Toronto, Canada Aug 2004

IMS meeting (invited talk) <i>Time dependent update functions for perfect sampling</i>	Singapore <i>Mar 2004</i>
Mathematics Colloquium <i>Perfect Sampling: techniques and challenges</i>	University of Ulm, Germany <i>Dec 2003</i>
Mathematisches Forschungsinstitut Oberwolfach (plenary lecture) <i>Perfect sampling</i>	Oberwolfach, Germany <i>Dec 2003</i>
Opening conference Stochastic Computation program SAMSI (contributed talk) <i>Perfect sampling for some mixtures of distributions</i>	Durham, NC <i>Sep 2003</i>
Electrical and Computer Engineering Seminar <i>Bounding chain techniques for perfect sampling</i>	NC State <i>Feb 2003</i>
Undergraduate workshop in the Stochastic Computation Program, SAMSI <i>Stochastic Computation Techniques</i>	Durham, NC <i>Feb 2003</i>
First Cape Cod workshop on Monte Carlo methods (invited talk) <i>Introduction to the Randomness Recycler</i>	Cape Cod, MA <i>Sep 2002</i>
Statistics Colloquium <i>Using the Randomness Recycler</i>	University of North Carolina at Chapel Hill <i>Feb 2002</i>
53rd Annual Meeting of the International Statistical Institute (invited talk) <i>The Randomness Recycler approach to perfect simulation</i>	Seoul, South Korea <i>Aug 2001</i>
Seminar <i>A new approach to perfect sampling from nasty distributions</i>	IBM Research-Almaden <i>Sep 2000</i>
Department of Statistics Colloquium <i>A new approach to perfect sampling from nasty distributions</i>	Stanford University <i>Jul 2000</i>