

Mark P. Holmes

CONTACT INFORMATION Department of Statistics *Phone:* +64 9 9238679
University of Auckland *Fax:* +64 9 3737018
Private Bag 92019 *E-mail:* mholmes@stat.auckland.ac.nz
Auckland 1142 *WWW:* <http://www.stat.auckland.ac.nz/~mholmes>
New Zealand

CURRENT POSITION **Senior Lecturer (2010 -)**, Dept. of Statistics, the University of Auckland.

PREV. POSITIONS **Lecturer (Sept. 2007 -)**, Dept. Stat., U. Auckland. Position accepted and deferred Sept. 2005.
Postdoctoral Fellow (Sept. 2005 - Sept. 2007), EURANDOM Institute, and Dept. of Math. and Comp. Sci., Eindhoven U. of Technology.

RESEARCH INTERESTS General: Probability theory, statistical mechanics.
Specific: Self-interacting random walks, interacting particle systems, lace expansion, measure-valued processes, percolation-type models, empirical processes.

EDUCATION **University of British Columbia**, Vancouver, British Columbia, Canada
Ph.D. Mathematics, Nov. 2005
Dissertation Topic: "Convergence of lattice trees to super-Brownian motion above the critical dimension" [Advisors: Gordon Slade, Edwin Perkins]
M.Sc. Mathematics, Nov. 2001
University of Auckland, Auckland, New Zealand
M.Sc., Statistics (with distinction), July 1999
B.Sc.(Honours), Statistics (first class honours), Dec. 1998
B.Com., Accounting and Finance, Dec. 1997

Summer Schools

Prague Summer School in Mathematical Statistical Mechanics, September 2006
Les Houches Summer School in Mathematical Statistical Physics, July 2005
UBC Summer School in Probability, June 2004

SELECTED AWARDS **University of British Columbia**

John R. Grace Fellowship, 2004
Josephine T. Berthier Fellowship, 2001
University of BC Graduate Fellowship, 2001-2004
Isaak Walton Killam Memorial Pre-Doctoral Fellowship, 1999-2001

University of Auckland

Dean of Science Prize 1998
Annual Prize in Statistics 1998
First NZ Capital Scholarship in Finance 1997
BZW Scholarship in Finance 1997
Senior Prizes in Accounting and Finance, Pure Mathematics, Statistics 1997

Yvonne Sogno Prize in Finance 1996, 1997
Statistics NZ Prize 1997
Coopers and Lybrand Prize in Financial Management 1996

TEACHING

University of Auckland, Stat. dept.

Stats 125: Probability and its applications. 2008, 2009, 2010
Stats 720: Stochastic processes. 2008 (co-taught), 2009, 2010 (co-taught)
Stats 255: Introduction to operations research. 2007 (co-taught)

ACADEMIC SERVICE

Referee for AIHP, AoP, CMP, ECP, EJP, SPA
Chair, session on Probability and Stochastic Processes, NZSA meeting 2008
Organiser, Auckland Probability Workshop, Jan. 2010
Organiser, Auckland Probability Workshop, Jan. 2011
(Co)-Organiser, NZMRI workshop, Jan. 2012
(Co)-Organiser, Australian and New Zealand Probability Workshop, Jan. 2012

SELECTED INVITED
PRESENTATIONS

Workshop on self-interacting random walks, Eurandom, March 2006.
Workshop on spatial random processes and statistical mechanics, Oberwolfach, Sept. 2006.
Mark Kac seminar, Utrecht, Oct. 2006.
INFORMS Applied probability conference, Eindhoven July 2007.
Workshop on random Walks, particle systems and random media, Santiago de Chile, Jan. 2008.
7th World congress in probability and statistics, IS17 - Random Processes with Interactions, Singapore, July 2008.
Spring school on random walks, random media, and reinforcement (mini-course). Paul Langevin Centre, Aussois, June 2009.
Workshop on scaling limits in models of statistical mechanics. Oberwolfach, Aug. 2009.
Workshop on statistical physics 'above the critical dimension'. Institut Henri Poincaré, Paris, Dec. 2009.
Toronto probability seminar. Fields Institute, Toronto, June 2010.
Workshop on Universality and Scaling Limits in Probability and Statistical Mechanics, Sapporo, Sept. 2010.
Workshop on Probability Theory, Statistical Physics, and Applications, Abu Dhabi, Jan. 2011.

JOURNAL ARTICLES

Holmes, M.P., Jarai, A.A., Sakai, A., and Slade, G. High dimensional graphical networks of self-avoiding walks. *Canadian J. Math.* 56:77–114, (2004)

Holmes, M.P., Perkins, E., Weak convergence of measure-valued processes and r -point functions. *Annals of Prob.* 35:1769–1782 (2007)

Holmes, M.P., Sakai, A., Senile reinforced random walks. *Stochastic Processes and their Applications* 117:1519-1539 (2007)

Holmes, M.P., Convergence of lattice trees to super-Brownian motion above the critical dimension. *Electronic J. of Prob.* 13:671-755 (2008)

van der Hofstad, R. Holmes, M.P. and Slade, G. An extension of the inductive approach to the lace expansion. *Electronic Communications in Prob.* 13:291–301, (2008)

Kojadinovic, I. and Holmes, M. Tests of independence among continuous random vectors based on Cramer-von Mises functionals of the empirical copula process. *J. of Multivariate Analysis* 100:1137-1154 (2009)

Holmes, M.P. The scaling limit of senile reinforced random walk. *Electronic Communications in Probab.* 14:104-115 (2009).

van der Hofstad, R., and Holmes, M.P., Monotonicity for excited random walk in high dimensions. *Probab. Theory and Related Fields* 147:333-348, (2010)

van der Hofstad, R., and Holmes, M.P., An expansion for self-interacting random walks. To appear, *Brazilian Journal of Probability and Statistics*.

Kojadinovic, I., Yan, J. and Holmes, M. Fast large-sample goodness-of-fit tests for copulas. To appear, *Statistica Sinica*.