

Ioanna Manolopoulou

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RESEARCH INTERESTS	Bayesian statistics, semi-parametric modelling, mixture modelling, state-space models, cell motility, diffusion models, phylogeography, point processes.	
ACADEMIC APPOINTMENTS	Visiting Assistant Professor , Department of Statistical Science, Duke University Postdoctoral Associate with Prof. Sayan Mukherjee, Duke University Postdoctoral Associate with Prof. Mike West, Duke University Postdoctoral Fellow , Statistical and Applied Mathematical Sciences Institute, Sequential Monte Carlo workshop	2010- 2011- 2008-2010 2008-2009
EDUCATION	University of Cambridge , United Kingdom <i>Doctor of Philosophy</i> under Prof. S. P. Brooks and Prof. S. Tavaré “A Bayesian Approach to Nested Clade Analysis” <i>Masters in Mathematics (Part III)</i> <i>BA Hons Mathematics</i>	2004-2008 2003-2004 2000-2003
PUBLICATIONS	I. Manolopoulou, T. B. Kepler and D. M. Merl, “Mixtures of Gaussian Wells: Theory, Computation and Application in Immunofluorescence Histology”. Under invited revision for <i>Computational Statistics and Data Analysis</i> . I. Manolopoulou and B. C. Emerson, “Phylogeographic Ancestral Inference Using the Coalescent Model on Haplotype Trees”. To appear in <i>Journal of Computational Biology</i> . I. Manolopoulou, M. P. Matheu, M. D. Cahalan, M. West and T. B. Kepler, “Bayesian Spatio-Dynamic Modelling in Cell Motility Studies: Learning Nonlinear Taxic Fields Guiding Immune Response”, invited as the 2012 JSM <i>Journal of the American Statistical Association, Applications & Case Studies</i> discussion paper, to appear. I. Manolopoulou, L. Legarreta, B. C. Emerson, S. P. Brooks and S. Tavaré, “A Bayesian Approach to Phylogeographic Clustering”, <i>Journal of the Royal Society Interface Focus</i> , 2011. I. Manolopoulou, C. Chan and M. West, “Selection Sampling from Large Datasets for Targeted Inference in Mixture Modeling”, <i>Bayesian Analysis</i> , with invited discussion, 2010. S. P. Brooks, I. Manolopoulou, B. C. Emerson, “Assessing the Effect of Genetic Mutation - A Bayesian Framework for Determining Population History from DNA Sequence Data”, <i>Bayesian Statistics 8</i> , 2007. M. Kelbert, I. Manolopoulou, I. Sazonov and Y. M. Suhov, “Large Deviations for a Model of Excess of Loss Re-insurance”, <i>Markov Processes and Related Fields</i> , 2006.	
WORKING & OTHER PAPERS	T. Kepler, I. Manolopoulou, M. West, M. P. Matheu and M. D. Cahalan, “Analysis of lymphocyte motion by Langevin Processes”. In progress. I. Manolopoulou and A. Hille, “BPC: An R package for Bayesian Phylogeographic Clustering”. In progress. I. Manolopoulou, X. Wang, C. Ji, H. Lynch, S. Stewart, G. Sempowski, S. Munir Alam, M. West, T. Kepler, “Statistical analysis of cellular aggregates in immunofluorescence histology”. <i>Duke discussion paper</i> , 2009. I. Manolopoulou, S. P. Brooks and L. Legarreta, “A Bayesian Framework for Analyses of Demographic DNA Sequence Data”. <i>Proceedings of the 20th Panhellenic Statistics Conference</i> , 2007. I. Manolopoulou, “Cladogram estimation and analyses of phenotypic and phylogeographic data”. <i>Smith-Knight Essay</i> , 2006.	

PAST & FUTURE PRESENTATIONS	<p>JSM 2012, JASA Applications & Case Studies invited talk, <i>Bayesian spatio-dynamic modeling in cell motility studies: learning nonlinear toxic fields guiding immune response.</i></p> <p>ISBA 2012, invited talk, <i>Semi-parametric dynamic Bayesian modeling in nonlinear state-space processes.</i></p> <p>BISP 2011, invited talk, <i>Semi-parametric Bayesian modelling of inhomogeneous tactic fields.</i></p> <p>JSM 2011, invited talk, <i>Selection sampling from large datasets for targeted inference in mixture modeling.</i></p> <p>EPFL Statistics Seminar Series, 2011, <i>Semi-parametric Bayesian modelling of inhomogeneous tactic fields.</i></p> <p>ISBA 2010, invited talk, <i>Dynamic spatial modeling in inhomogeneous force fields.</i></p> <p>Sequential Monte Carlo Transition workshop, SAMSI, 2009, <i>Adaptive sequential resampling from very large datasets in mixture modeling.</i></p> <p>Greek Stochastics alpha 2009, contributed talk, <i>Rare event inference in large datasets through targeted resampling.</i></p> <p>Summer School in Computational Immunology, Santa Fe Institute, 2009. <i>Analysis of spatial data and tissues.</i></p> <p>JSM 2009, topic contributed talk, <i>Targeted sequential resampling from very large datasets in mixture modeling.</i></p> <p>Adaptive Design, SMC and Computer Modeling workshop, SAMSI, 2009. <i>Targeted sequential resampling from very large datasets in mixture modeling.</i></p> <p>MCMSki II: Markov Chain Monte Carlo in Theory and Practice, Italy, 2008. <i>A Bayesian framework for analyses of demographic DNA sequence data.</i></p> <p>20th Panhellenic Statistics Conference, Cyprus, 2007. <i>A Bayesian framework for analyses of demographic DNA sequence data.</i></p> <p>Research Students Conference in Probability and Statistics, Glasgow, 2006. <i>MCMC methods on estimating the genetic and geographical history of individuals.</i></p>
AWARDS	<p>SAMSI Research Highlight, 2009.</p> <p>Smith/Knight Essay Prize, 2006.</p> <p>Fellow of the Cambridge European Society, 2005.</p> <p>Trinity College Internal Graduate Studentship, 2004.</p> <p>Cambridge European Trusts Honorary Scholar, 2004.</p> <p>Trinity College Senior Scholarship, 2002.</p>
TEACHING	<p>STA10: Statistics and Quantitative Literacy. Fall 2010, Spring 2011, Fall 2011.</p> <p>STA213: Introduction to Statistical Methods. Fall 2010, Fall 2011.</p> <p>Supervised for several Cambridge colleges (2004-2008) on Statistics, Markov Chains, Statistical Modelling and Monte Carlo Inference.</p> <p>Demonstrated for the Computer Aided Teaching of All Mathematics programme (CATAM).</p> <p>Tutored pupils in Maths and Further Maths A-Levels.</p>
SERVICE	<p>SAMSI undergraduate workshop webmaster (2009).</p> <p>SAMSI Sequential Monte Carlo working group webmaster (2008-2009).</p> <p>Member of the Cambridge Societies' Syndicate (2007-2008).</p> <p>Led the Probability/Statistics seminars of the Part III seminar series (2005-2007).</p> <p>Member of the Cambridge University Technical Committee (2006-2007).</p> <p>Member of the Transferable Skills committee (2005-2006).</p>