

Christopher R. N. Taylor

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Research Interests

Current research is on pattern formation and localized structure in network models in physics and biology. Also interested in complexity theory, mathematical finance and agent-based modelling for economics and sociology.

Education

Trinity College, University of Cambridge

PhD Applied Mathematics, supervised by Dr. Jonathan Dawes 2006—

Awarded a Smith-Knight essay prize for first-year dissertation

Part III Mathematics (MMath) with Distinction 2005—2006

Courses in Theoretical Physics and Mathematical Finance

Elected a senior scholar of Trinity College

Awarded a tripos prize for outstanding examination results

MA Mathematics, 2.1 2002—2005

Courses in Statistics, Probability, Numerical Methods, Partial Differential Equations and Numerical Modelling

Burnham Grammar School

A Level Mathematics, Further Mathematics, History, Physics, AAAA 2000—2002

Work Experience

Barclays Capital, *Summer Quantitative Associate* Jun—Sep 2008

Quantitative analytics, fixed income team. Worked with a small team on the theory, implementation and calibration of a quadratic interest rate model, resulting in delivery of a new algorithm for pricing exotic interest rate derivatives and an improved understanding of the limitations of the model.

PriceWaterhouseCoopers, *Summer Analyst* Jul—Sep 2004

Advised foreign nationals on their tax liability whilst in the UK and prepared tax returns. Completed a substantial research project, profiling prospective new clients for the firm.

Computing

Programming: C, C++, Matlab, VBA

Other: PHP, HTML, CSS and LaTeX

Interests

Long-distance running (10K/half marathon/marathon), hillwalking, cross-country and alpine skiing.

History and philosophy of science, life drawing, science engagement.

Activities

Treasurer, <i>Beyond Part III</i> conference, University of Cambridge	2008—2009
Events officer, <i>Trinity College BA Society</i>	2008—2009
President, <i>Cambridge University Philosophy of Mathematics Society</i>	2005—2007
Publicity officer, <i>Cambridge University Travel Society</i>	2005—2006
<i>Millennium Mathematics Project</i> talks and video conferences to schools	
Science engagement talks at music festivals throughout the UK	

Teaching

Lectures on History of Mathematics, University of Cambridge
Supervisor in Mathematics, Natural Sciences and Computer Science, University of Cambridge
Private tutor in mathematics: groups, linear algebra and differential equations

Selected Research Presentations

Mathematical finance	
“ <i>Quadratic term structure models</i> ”, Barclays Capital	Aug 2008
“ <i>Optimizing quadratic term structure models</i> ”, Barclays Capital	Aug 2008
Nonlinear dynamics and pattern formation	
“ <i>The importance of being discrete</i> ”, University College London	Nov 2009
“ <i>Discrete snaking</i> ”, SIAM Applications of Dynamical Systems Conference, Utah	May 2009
“ <i>Localized structures in lattice dynamical systems</i> ”, University of Rome La Sapienza	Jul 2008
“ <i>Pattern formation in lattice dynamical systems</i> ”, Manchester University	Mar 2008
“ <i>Lattice dynamical systems</i> ”, University of Copenhagen	Jun 2007