

Joanna HUTCHINSON

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Date of Birth: 04 Oct 1986
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Education

Bristol University

PhD in Mathematics

January 2010 - current

Masters degree in Mathematics and Physics (Joint Honours), MSci.
1st class degree.

September 2005 – June 2009

Title of Master's Thesis: Exploring Entanglement in Quantum Spin Chains.

Watford Grammar School for Girls

September 1998 – June 2005

Mathematics Advanced Extension Paper – Merit

A Levels: Mathematics – A, Further Mathematics – A, Physics – A, Chemistry – A, Biology (AS) – A, Key Skills – Level 3

GCSEs: Maths – A*, Double Science Award – A*A*, English language – A*, I.T. (short course) – A*, Music – A*, Geography – A*, Art – A, French – A, English literature – A

Conferences/Workshops/Summer Schools Attended

- Mingle, University of Bristol (October 2010), at which I also presented.
- Quantum Theory from Small to Large Scales Summer School, Les Houches School of Physics, University of Joseph Fourier (August 2010).
- Mathematical Billiards and their Applications, University of Bristol (June 2010).
- British Applied Mathematics Colloquium, University of Edinburgh (April 2010).
- Young researchers workshop on Spectral Theory, Quantum Chaos and Random Matrices, University of Cardiff (June 2009).
- Quantum Chaos, LMS-EPSRC Short Course (June 2009).

Employment History

Undergraduate Tutor, Bristol University

October 2010 – Present

- Give tutorials to first year undergraduate mathematics and physics students.
- Mark and correct homework assignments.

Researcher, Hokkaido University, Japan

July 2008 – September 2008

- Undertook a research project in semiconductor spintronics.
- Taught myself to use UNIX and IgorPro.
- Presented my work at a "Rashba Workshop" in front of leading Professors in their field from both Japan and China.
- Worked in a multinational environment as part of a team.

Technical Analyst, BME Price Models Limited

July 2006 – July 2008

- Responsible for the analysis of market data and production of reports to assist in generating mathematical models for the prediction of metal prices.
- Developed a candlestick pattern recognition algorithm for predicting short-term price moves.
- Tested an extensive number of technical indicators and developed trading strategies for these.
- Created a switching algorithm to dynamically select the most profitable strategy from the profit curves of 10 of the best strategies running in parallel.
- Gained valuable experience by paper trading copper and the Dow Jones index.
- HTML/CSS Assistant Writer.

Laboratory assistant, Bristol University*September 2007 – Present*

- Providing assistance to undergraduate students studying a physical modelling course. Responsible for helping students to solve problems using spreadsheets and numerical software such as Maple and Matlab.

Other positions*Circa 2002- 2006*

- Over the past 5 years I have further held a variety of part-time positions including: Learning Assistant at Kumon Maths, Watford; Data Clerk at Hillingdon Hospital; Assistant Junior Coach at Hillingdon Academy of Tennis.

Personal Achievements

- Maths:
- UK Senior Mathematical Challenge 2003 Silver Award.
 - UK Intermediate Mathematical Challenge 2002 Gold Award.
 - UK Intermediate Mathematical Challenge 2001 Gold Award.
 - UK Junior Mathematical Challenge 2000 Gold Award.
- Physics:
- The George Pugh Memorial Prize 2009 for academic performance and contribution to the life of the department.
 - UK Physics Challenge Award.
- Tennis:
- Silver medal in the Heathrow Youth Games.
 - Gold medal in the County Schools Tennis Competition 2001.
 - Winner of WGS under 18 singles and doubles tournament 2005.
 - Winner of Hillingdon Academy of Tennis girls under 18 tournament 2004.
- Other:
- IAESTE Trainee of the Year Award 2008 – Prize Winner.
 - St. John's Ambulance Award One Cross.
 - Duke of Edinburgh Award: Bronze, Silver, Gold.
 - World Challenge Expedition to Spain.
 - Selected participant in Engineering Education Scheme (team won Gold Crest Award).
 - Selected member of Young Enterprise Team (raised over £1000 for Barnardos charity).
 - School prefect.

Personal Interests

- Sports:
- Sailing: Member of Broadwater Sailing Club, have been on sailing trips to Gran Canaria, New Zealand and France and have achieved my Competent Crew award.
 - Skiing and snowboarding (visits have included France, Canada, Bulgaria and Austria).
 - Jogging (Bath Half Marathon 2009 and Bristol 10K), walking, hiking (including a 5 day trek up Mt Elgon, Uganda, week long trek in Andalucia, Spain, and visits to the French Alps).
 - Tennis: Member of Hillingdon Academy of Tennis and play for their ladies team.
 - Member of the physics society hockey team.
- Music:
- Violin (grade 8 standard), piano (grade 8 standard), music theory (grade 5 standard), saxophone (grade 5 standard), singing (grade 4 standard), acoustic and electric guitar and general love of music.
 - Previous member of the school choir and first orchestra. I have also been on music tours to Prague and Venice with the school orchestra and choir.
 - Previous committee member and events organiser for Bristol University Indie society.
- Charity:
- Volunteered as part of Bristol-Bweyale Action Project in Uganda. Activities included teaching mathematics in schools and community projects such as organising the drilling of a bore hole.
 - Charity representative for Badock Hall at Bristol University.
 - Active member of SCA (Student Community Action) including regular visits to the soup kitchen to feed the homeless, running a social evening at a psychiatric ward and social events with adults with Asperger's syndrome.

Additional skills

- Proficient in Excel, Powerpoint and Word.
- Familiar with HTML, XHTML and CSS.
- Familiar with Stratasearch, UNIX, Visual Basic, Mathematica, Maple, Matlab and IgorPro.
- Full, clean, UK driving Licence.