Joshua Hellier

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Education

2014 –	PhD candidate	Condensed Matter Theory University of Edinburgh
2013 – 2014	Master of Science Distinction	Applied Mathematics with Numerical Analysis University of Manchester
2012 – 2013	Master of Science Second Class, Division II	Part III Physics University of Cambridge (Trinity College)
2009 – 2012	Bachelor of Arts Second Class, Division I	Natural Sciences Tripos University of Cambridge (Trinity College)

Professional Activities / Research Placements

Sept 2014 – Mar 2018	Teaching Assistant at the University of Edinburgh *Teaching undergraduate physics and mathematics in workshops*
Summer 2014	Collaboration with the Atomic Weapons Establishment, Aldermaston *Developing methods for the detection of nuclear contraband; using C++ and GEANT4 to perform Monte-Carlo integration for the efficient computation of sensitivity functions*
Summer 2012	Cavendish Laboratory SAW group, University of Cambridge *Simulation and experiments with quantum dots in semiconductors*
Summer 2011	Photon Science Institute, University of Manchester *Theory and simulations for quantum dot experiments*
Summer 2008	School of Physics and Astronomy, University of Manchester *Project on chaos theory and pattern formation*
Oct 2007 – Sept 2009	Nationwide Building Society, Salford *Customer Representative (Bank Teller)*

Conference and Seminar Talks and Posters

- Poster on *Sensitivity Functions in Muon Scattering Tomography*, Nuclear Detection Showcase at AWE, Aldermaston, 29 January 2015.

Additional Conferences and Schools Attended

- *Non-equilibrium statistical physics and emergence in biological systems*, University of Manchester, 9 – 10 July 2015
- *Diffusion Fundamentals VI*, Technische Universität Dresden, Germany 23 – 26 August 2015
- *North British Mathematical Physics Seminar*, Durham University, 12 August 2016
- *Google Hash Code*, 28 April 2018
- *Classical and quantum dynamics of interacting particle systems*, Universität zu Köln, Germany, 1 – 2 October 2018

Publications

August 2014	*Sensitivity Functions in Muon Scattering Tomography*, MSc Thesis
March 2018	*On the Diffusion of Sticky Particles in 1-D* (pending), `https://arxiv.org/abs/1803.09712`

Awards

2014	NAG Prize *Highest overall grade in that cohort*	University of Manchester

Competences

Computing	Experienced programmer, having worked primarily on scientific/numerical applications
	Familiar with C++, Python, Mathematica, Java, MATLAB, and LaTeX
Languages	Native speaker of English GCSE standard French and Russian
Music	Violin (ABRSM Grade V), Piano (ABRSM Grade V), Guitar

Primary Personal Interests

In no particular order: Mathematics, Science, Politics, History, Macroeconomics, Board Games, Videogames, Music, Comedy, Philosophy, Computer-Generated Internet Memes

References

PhD Supervisor	Prof. Graeme Ackland School of Physics & Astronomy, The University of Edinburgh JCMB, Peter Guthrie Tait Road, Edinburgh EH9 3FD Tel: +44131 650 5299, Email: `gjackland@ed.ac.uk`
MSc Project Supervisor	Dr Sean Holman School of Mathematics , The University of Manchester ATB, Oxford Road, Manchester M13 9PL Tel: +44161 275 5835, Email: `sean.holman@manchester.ac.uk`