

Résumé

Travis E. Redpath

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EDUCATION

Brandon University, Brandon, MB

B.Sc. Honours

Majors: Computer Science, Physics

May 2010

University of Manitoba, Winnipeg, MB

M.Sc.

Thesis work: Simulating dipole-dipole interaction with loop-algorithm Monte Carlo on a Hyperkagome Ising model

All But Thesis

AWARDS

- University of Manitoba Graduate Fellowship, University of Manitoba **Sept. 2011-Aug. 2013**
- University of Manitoba Entrance Scholarship, University of Manitoba **Sept. 2011-Aug. 2013**
- Silver Medal in Computer Science, Brandon University **May 2010**
- NSERC Undergraduate Student Research Award **May 2009-Aug. 2010**
- Westman Communications Groups Scholarship, Brandon University **Sept. 2007-Apr. 2008**
- W.G. Wong Scholarship in Physics, Brandon University **Sept. 2007-Apr. 2008**
- Board of Governors Entrance Scholarship, Brandon University **Sept. 2005-Apr. 2006**

RELATED EXPERIENCE

University of Manitoba, Winnipeg, MB

Research Assistant

Numerical simulations of possible spin ice lattices including the hyperkagome, trillium and distorted kagome lattice.

May 2010 - present

Heartland Software Solutions, Austin, MB

Software Developer

Developed various software applications for customers. Work done includes developing algorithms for unmanned aerial vehicle flight path generation as well as for propagation of floating point error in computer based calculations.

Jun. 2009-Present

University of Manitoba, Winnipeg, MB

Physics I Lab Assistant

Assisted first year physics students conduct lab experiments, marked lab reports and conducted and marked lab quizzes.

Sep. 2010 - Apr. 2012

Brandon University, Brandon, MB

Research in Condensed Matter

Part time research in spin systems with Dr. John Hopkinson. Work includes writing and execution of Monte Carlo simulations on Brandon Universities high performance cluster to numerically probe the properties of the non-Fermi liquid FeCrAs, whose Cr atoms form distorted Kagome planes.

**Sept. 2009 - Apr.
2010**

Brandon University, Brandon, MB

General Physics Lab Assistant

Assisted general physics students conduct lab experiments and write lab reports. Graded general physics lab reports.

**Sept. 2009-Apr.
2010**

Brandon University, Brandon, MB

Research in Condensed Matter

Research in spin systems through an NSERC USRA with Dr. John Hopkinson. Work included Monte Carlo simulations to determine if the Trillium lattice with Ising spins was magnetically frustrated.

**May 2009-Aug.
2009**

Brandon University, Brandon, MB

General Physics Lab Assistant

Assisted general physics students conduct lab experiments and write lab reports.

**Sept. 2008-Apr.
2009**

**Sept. 2007-Apr.
2008**

Brandon University, Brandon, MB

Computer Science Lab Instructor

Assisted first year computer science students with problems on assignments.

**Sept. 2006-Dec.
2006**

PUBLICATIONS

Dimensional crossover of a frustrated distorted kagome Heisenberg Model: Application to FeCrAs

Travis E. Redpath, John M. Hopkinson, Alton A. Leibel, Hae-Young Kee
arXiv:1105.3974v1 [cond-mat.str-el]

Spin Ice on the Trillium Lattice

Travis E. Redpath, John M. Hopkinson
Phys. Rev. B 82 014410 (2010)

SELECTED TALKS

Canadian Association of Physicists Congress

Dimensional crossover of a frustrated distorted kagome Heisenberg model: Application to FeCrAs.

Jun. 17 2011

APS March Meeting

Spin Ice on the Trillium Lattice.

Mar. 18 2010

Canadian Undergraduate Physics Conference

Spin Ice on the Trillium Lattice.

Oct. 2 2009

PROFFESIONAL MEMBERSHIPS

- American Physical Society
- Canadian Association of Physicists
- IEEE Computing Society