

Dalini Maharaj

PhD Student

McMaster University
Department of Physics and Astronomy

Contact information

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Current Activities

PhD Student, McMaster University, Hamilton, ON – November 2014 - Present

Thesis work involves neutron scattering studies of low lying excitations including the rare-earth titanates and double perovskite magnets based on heavy transition metal $4d$ and $5d$ magnetic ions.

Education

McMaster University, Hamilton, ON Canada – MSc, Physics 2014

Supervisor: Prof. B. D. Gaulin

Thesis title: "*Neutron Scattering of the Frustrated Magnets Ba_2YOsO_6 and $Yb_2Ti_2O_7$* "

University of Toronto, Toronto, ON Canada – Hon. BSc, Physics 2012

Research Positions

Research Project Course, PHY 471Y, University of Toronto

Supervisor: Prof. S. Julian

Performed magnetic susceptibility measurements of rare-earth pyrochlores.

Centre for Free Electron Laser Science, DESY, Hamburg, Germany 10/2010 – 08/2011

Supervisors: Prof. R. J. Dwayne Miller & Dr. Regis Gengler

Conducted materials synthesis and produced thin films of functionalized graphene using the Langmuir-Blodgett technique for femtosecond electron diffraction studies.

Professional Activities

Teaching Assistant, McMaster University, Hamilton, ON – Sept. 2012 to May 2018

Prepared and presented lecture style tutorials and laboratory sessions to undergraduate physics students. Was also a TA for graduate level quantum mechanics in Spring 2018.

Chair, 2017 Neutron Scattering Gordon Research Seminar (GRS) - August 2017

Location: University of Science and Technology, Hong Kong, SAR, China

Tutor, The Croucher Summer Course on Neutron Scattering - August 2016

Location: City University of Hong Kong, Hong Kong, SAR, China

Scientific Development

NIST Neutron Summer School - June 2013

Location: Center for Neutron Research, Baltimore, MD

National School on Neutron and X-Ray Scattering - August 2013

Location: Oak Ridge National Laboratory, Oak Ridge TN and Argonne National Laboratory, Argonne, IL USA

Awards

The International Excellence Award (2013-2014)

Awarded by McMaster University

Conferences

2017 Neutron Scattering Gordon Research Conference (GRC) - August 2017

Location: Hong Kong University Science and Technology, Hong Kong, SAR, China

Role: Poster Presenter

American Conference on Neutron Scattering - August 2016

Location: Long Beach, CA, USA

Role: Poster Presenter

Canadian Institute for Advanced Research Quantum Materials Summer School & Main Meeting - April 2016

Location: Toronto, ON, Canada

APS March Meeting - March 2016

Location: Baltimore, MD, USA

Role: Speaker

Neutron Scattering Gordon Research Conference (GRC) - June 2015

The Chinese University of Hong Kong, Hong Kong, SAR China

Role: Poster Presenter

Canadian Institute for Advanced Research Quantum Materials Summer School & Main Meeting - May 2015

Location: Vancouver, BC, Canada

APS March Meeting - March 2015

Location: San Antonio, TX, USA

Role: Speaker

American Conference on Neutron Scattering - June 2014

Location: Knoxville, TN, USA - June 2014

Role: Poster Presenter

Canadian Institute for Advanced Research Quantum Materials Summer School & Main Meeting - May 2014

Location: Montreal, QC, Canada

Canadian Institute for Advanced Research Quantum Materials Summer School & Main Meeting - May 2013

Location: Vancouver, BC, Canada

APS March Meeting - March 2013

Location: Baltimore, MD, USA

Centre For Free Electron Laser Science (CFEL) Symposium - March 2011

Location: Sylt, Germany - March 2011

Languages

- English - Fluent
 - German - Intermediate written and oral skills
 - French - Basic written and oral skills
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Reference

Prof. Bruce D. Gaulin

Relationship: Graduate Advisor

E-mail: bruce.gaulin@gmail.com

Publications

- [1] L. Clark, G. Sala, D. D. Maharaj, M. B. Stone, K. S. Knight, M. T. F. Telling, X. Wang, X. Xu, J. Kim, Y. Li, S.-W. Cheong, and B. D. Gaulin, *arXiv:1806.08215* [cond-mat.str-el].
- [2] D. D. Maharaj, G. Sala, C. A. Marjerrison, M. B. Stone, J. E. Greedan, and B. D. Gaulin, *Phys. Rev. B* **98**, 104434 (2018).
- [3] G. Sala, D. D. Maharaj, M. B. Stone, H. A. Dabkowska, and B. D. Gaulin. *Phys. Rev. B* **97**, 224409 (2018).
- [4] C. M. Thompson, C. A. Marjerrison, A. Z. Sharma, C. R. Wiebe, D. D. Maharaj, G. Sala, R. Flacau, A. M. Hallas, Y. Cai, B. D. Gaulin, G. M. Luke, and J. E. Greedan. *Phys. Rev. B*, **93**, 014431, (2016).
- [5] C. A. Marjerrison, C. M. Thompson, G. Sala, D. D. Maharaj, E. Kermarrec, Y. Cai, A. M. Hallas, M. N. Wilson, T. J. S. Munsie, G. E. Granroth, R. Flacau, J. E. Greedan, B. D. Gaulin, and G. M. Luke. *Inorg. Chem*, **55**, 10701-10713, (2016).
- [6] J. Gaudet, A. M. Hallas, D. D. Maharaj, C. R. C. Buhariwalla, E. Kermarrec, N. P. Butch, T. J. S. Munsie, H. A. Dabkowska, G. M. Luke, and B. D. Gaulin. *Phys. Rev. B*, **94**, 060407, (2016).
- [7] E. Kermarrec, C. A. Marjerrison, C. M. Thompson, D. D. Maharaj, K. Levin, S. Kroeker, G. E. Granroth, R. Flacau, Z. Yamani, J. E. Greedan, and B. D. Gaulin. *Phys. Rev. B*, **91**, 075133, (2015).
- [8] J. Gaudet, D. D. Maharaj, G. Sala, E. Kermarrec, K. A. Ross, H. A. Dabkowska, A. I. Kolesnikov, G. E. Granroth, and B. D. Gaulin. *Phys. Rev. B*, **92**, 134420 (2015).
- [9] E. Kermarrec, D. D. Maharaj, J. Gaudet, K. Fritsch, D. Pomaranski, J. B. Kycia, Y. Qiu, J. R. D. Copley, M. M. P. Couchman, A. O. R. Morningstar, H. A. Dabkowska, and B. D. Gaulin. *Phys. Rev. B*, **92**, 245114, (2015).