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INVITED BY

LPTM LABORATORY LABORATORY OF PHYSICS: THEORY AND MODELS

Currently, he is Professor at the Department of Physics and Physical Oceanography of Memorial University of Newfoundland. He completed his doctorate in condensed matter theory in 1984, at the University of Toronto and worked for Seagate Technology from 1997 to 2005 as design engineer for magnetic recording transducers.

CURRENT RESEARCH INTERESTS

- Computer simulations of nano-scale magnetic systems relevant to the hard drive industry.
- Phase transitions and long-range order in frustrated antiferromagnets and magnetoelectric compounds.

RECENT PROFESSIONAL ACTIVITIES

- 98 refereed publications.
- 9 US patents.
- 2008 – Present. Collaborative research agreement with Western Digital Corporation.
- 2009 – Present. Program Chair, Computational Science Masters Degree at Memorial University.
- 2011. Co-organizer, Magnetic North II workshop (St. John's).
- 2009-10. Regional Councillor, Canadian Association of Physicists.
- 2009. Co-Founder, Magnetic North: <http://www.magneticnorth.mun.ca/>
- 2006. Senior Member IEEE.

SELECTED PUBLICATIONS

- *The Physics of Ultra-High-Density Magnetic Recording*, Eds. M. Plumer, J. van Ek and D. Weller, Springer-Verlag, Heidelberg (2001).
- G. Quirion, X. Han, M.L. Plumer and M. Poirier, *First-order phase transition in the frustrated triangular antiferromagnet CsNiCl₃*, Phys. Rev. Lett. **97**, 077202 (2006).
- S.G. Condran and M.L. Plumer, *A model of magnetic order in hexagonal HoMnO₃*, J. Phys.: Condens. Matter, Fast Track Commun. **22**, 162201 (2010).
- J.I. Mercer, M.L. Plumer, J.P. Whitehead, J. van Ek, *Atomic level micromagnetic model of recording media switching at elevated temperatures*, Appl. Phys. Lett. **98**, 192508 (2011).
- R. Villarreal, G. Quirion, M.L. Plumer, M Poirier, T. Usui, and T. Kimura, *Magnetic phase diagram of CuO via high-resolution ultrasonic velocity measurements*, Phys. Rev. Lett. **109**, 167206 (2012).
- V. Hemmati, M.L. Plumer, J.P. Whitehead, and B.W. Southern, *Monte Carlo simulations of magnetic ordering in the fcc Kagome lattice*, Phys. Rev. B **86**, 104419 (2012).