MONA BERCIU
Ph.D. (University of Toronto), B. Sc. (University of Bucharest)

Employment History

2002 – Assistant Professor, University of British Columbia
2000-2002 – Postdoctoral Fellow, Princeton University

Ten most significant relevant publications for past 5 years (Total over past 5 years: 28)

1. Chenggang Zhou and Mona Berciu, "Correlated mesoscopic fluctuations in integer quantum Hall transitions", *Phys. Rev. B* 72, 085306:1-17 (2005). [Also selected for publication in the *Virtual Journal of Nanoscale Science & Technology* 12, issue 7, 2005].
2. Mona Berciu, Tatiana Rappoport, and Boldizsar Janko, "Manipulating spin and charge in magnetic semiconductors using superconducting vortices", *Nature* 435, 71-75 (2005). [Also selected for publication in the *Virtual Journal of Nanoscale Science & Technology* 12, issue 1, 2005].
3. Adel Kassaian and Mona Berciu, "Magnetic susceptibility of diluted magnetic semiconductors at low carrier densities", *Phys. Rev. B* 71, 125203:1-13 (2005).
4. Chenggang Zhou and Mona Berciu, "The longitudinal conductance of mesoscopic Hall samples with arbitrary disorder and periodic modulations", *Phys. Rev. B* 70, 165318:1-12 (2004). [Also selected for publication in the *Virtual Journal of Nanoscale Science & Technology* 10, issue 19, 2004].
5. Mona Berciu and Sajeev John, "Magnetic structure factor in cuprate superconductors: evidence for charged meron-vortices", *Phys. Rev. B* 69, 224515:1-13 (2004).
6. S. Melinte, M. Berciu, C. Zhou, E. Tutuc, S.J. Papadakis, C. Harrison, E.P. De Poortere, M. Wu, P.M. Chaikin, M. Shayegan, R.N. Bhatt, and R.A. Register, "A laterally modulated 2D electron system in the extreme quantum limit", *Phys. Rev. Lett.* 92, 036802:1-4 (2004).
7. Mona Berciu and Boldizsar Janko, "Nanoscale Zeeman localization of charge carriers in diluted magnetic semiconductor-permalloy hybrids", *Phys. Rev. Lett.* 90, 246804:1-4 (2003). [Also selected for publication in the *Virtual Journal of Nanoscale Science & Technology* 7, issue 26, 2003].
8. Mona Berciu and Ravindra N. Bhatt, "Spin-waves in disordered III-V diluted magnetic semiconductors", Phys. Rev. B 66, 085207:1-13 (2002).
9. Malcolm P. Kennett, Mona Berciu and Ravindra N. Bhatt, " Monte Carlo simulations of an impurity-band model for III-V diluted magnetic semiconductors", *Phys. Rev. B* 66, 045207:1-16 (2002).
10. Mona Berciu and Ravindra N. Bhatt, "Effects of disorder on ferromagnetism in diluted magnetic semiconductors", *Phys. Rev. Lett.* 87, 107203:1-4 (2001).

Competitive grant funding for the last 5 years:

1. 2005-2010: "Spin and charge transport in mesoscopic devices", CAD 30,000 per annum, NSERC Discovery Grant. Principal Investigator: Mona Berciu.
2. 2003: "Spintronic nano-devices based on the giant Zeeman effect in diluted magnetic semiconductors", US$ 35,000, Research Innovation Award, Research Corporation. P.I.: Mona Berciu.
3. 2003: "High performance computer cluster for astronomy and condensed-matter studies", CAD 456,439, New Opportunities Grant, Canadian Foundation for Innovation. Co-P.I.: Ingrid Stairs and Mona Berciu.
4. 2003-2005: "Special topics in condensed matter, spintronics and photonics", CAD 27,400 per annum, NSERC Discovery Grant. P.I.: Mona Berciu.