Michael C. Mulligan
Department of Physics and SLAC
Stanford University
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Stanford, CA 94305
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Research Interests

• quantum field theory; string theory; strongly correlated systems; gauge/gravity duality; in particular, its application to certain condensed matter systems and supersymmetric gauge theories; supersymmetric field theories

Education

• Stanford University, 2004-Present
Ph.D., Physics
Advisor: Professor Shamit Kachru
• University of Illinois at Urbana-Champaign, 2000-2004
B.S., Physics, cum laude with highest distinction in discipline, 2004

Publications

• D.Green, M. Mulligan, and D. Starr. "Boundary Entropy Can Increase Under Bulk RG Flow." Nucl. Phys. B **798**, 491 (2008), arXiv:0710.4348 [hep-th].
• O. DeWolfe, S. Kachru, and M. Mulligan. "A Gravity Dual of Metastable Dynamical Supersymmetry Breaking." Phys. Rev. **D77**, 065011 (2008), arXiv:0801.1520 [hep-th].
• S. Kachru, X. Liu, and M. Mulligan. "Gravity Duals of Lifshitz-like Fixed Points." Phys. Rev. **D78**, 106005 (2008), arXiv:0808.1725 [hep-th].
• B. Hsu, M. Mulligan, E. Fradkin, and E.-A. Kim. "Universal Entanglement Entropy in 2D Conformal Quantum Critical Points." Submitted to Phys. Rev. **B**, arXiv.0812.0203 [cond-mat].

Honors

• Kavli Institute for Theoretical Physics Graduate Fellow, Spring 2009
• ARCS Graduate Fellowship, 2008-2009
• National Science Foundation Graduate Research Fellowship honorable mention, 2004
• University of Illinois Liberal Arts and Sciences James Scholar, 2000-2004

• Thomas J. Watson IBM Scholarship, 2000-2004

• O'Brien-Vrba Scholarship, 2000-2004

• University of Illinois at Urbana-Champaign Robert A. Stein Physics Scholarship, 2001

Talks

Research Seminars

• *Holography and Dynamical Critical Phenomena*, Cornell Theory Group, Ithaca, NY, January, 16, 2009.

• *Holography and Lifshitz-like Fixed Points*, Caltech Theory Group, Pasadena, CA, December 10, 2008.

• *Gravity Duals of Lifshitz-like Fixed Points*, McGill University, Montreal, Canada, October, 5, 2008.

• *A Gravity Dual of Dynamical Metastable Supersymmetry Breaking*, SLAC Theory Group, Menlo Park, CA, May 16, 2008.

Group Seminars

• *AdS/CFT and Quantum Critical Phenomena*, Condensed Matter Journal Club, Stanford, CA, March 2008.

• *Ultraviolet Fixed Points and the Weinberg-Witten Theorem*, String Journal Club, Stanford, CA, March 2007.

• *a-Maximization and IR Fixed Points*, String Journal Club, Stanford, CA, August 2006.

• *Branes and Boundaries*, String Journal Club, Stanford, CA, April 2006.

• *Seiberg Duality*, String Journal Club, Stanford, CA, February 2006.

• *Dynamical Supersymmetry Breaking, II*, String Journal Club, Stanford, CA, January 2006.

• *Dynamical Supersymmetry Breaking, I*, String Journal Club, Stanford, CA, December 2005.

• *The Six-Vertex Model*, String Journal Club, Stanford, CA, October 2005.

Schools and Conferences Attended

• *Quantum Criticality and the AdS/CFT Correspondence*, June 29 - July 24, 2009, Kavli Institute for Theoretical Physics, UC Santa Barbara, CA.

• *Fundamental Aspects of Superstring Theory*, January - June, 2009, Kavli Institute for Theoretical Physics, UC Santa Barbara, CA.

• *AdS/CFT, Condensed matter and QCD*, October 3-5, 2008. McGill University, Montreal, Canada.

• *Exact Methods in Low-dimensional Statistical Physics and Quantum Computing*, July 1-31, 2008, Les Houches School of Physics, Les Houches, France.

• *Spring School on Superstring Theory and Related Topics*, March 27-April 4, 2008, International Center for Theoretical Physics, Trieste, Italy.

• *String Universe*, Theoretical Advanced Study in Particle Physics, June 2007, UC Boulder.

• *String Phenomenology*, September-December, 2006, Kavli Institute for Theoretical Physics, UC Santa Barbara, CA.

Teaching at Stanford

• Advanced Particle Mechanics, Physics 210, Aut. 2007

• Introduction to Laboratory Physics, Physics 67, Spr. 2007

• Quantum Mechanics, Physics 130, 131, 134, Aut., Win., Spr. 2005-2006, Win. 2007

• Mathematical Methods in Physics, Physics 112, Win. 2005

• Intermediate Freshman Physics, Physics 45 and 43, Aut., 2004, Spr. 2005

Personal Information

• Date and Place of Birth: April 3, 1982, Summit, New Jersey, USA.

• Citizenship: United States Citizen