

Curriculum Vitae

Markus Amadeus Luty

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Education

Ph.D. in physics, University of Chicago, 1991
Honors B.S. in physics, B.S. in mathematics, University of Utah, 1987

Academic Honors

Alfred P. Sloan Fellow (1997–1998)
National Science Foundation Graduate Fellowship (1988–1991)
Phi Beta Kappa, Phi Kappa Phi (1987)
Kenneth Browning Memorial Scholarship (1986)
National Merit Scholarship (1982–1986)

Academic Positions

2001–present	tenured associate professor, University of Maryland
1996–2001	assistant professor, University of Maryland
1994–1995	post-doctoral researcher, Massachusetts Institute of Technology
1991–1994	post-doctoral researcher, Lawrence Berkeley National Laboratory
1988–1991	graduate research assistant (with Y. Nambu), University of Chicago
1987–1988	graduate teaching assistant, University of Chicago
1985–1986	undergraduate teaching assistant, University of Utah

Recent Invited Conference/Workshop Talks

- June 2003, SUSY 2003 (Tuscon) plenary talk: “Supersymmetry without Supergravity.”
- January 2003, PASCOS (Mumbai, India) plenary talk: “New ideas in supersymmetry breaking”
- October 2002, Workshop on Frontiers Beyond the Standard Model (Mineapolis): “Supersymmetry without supergravity.”
- August 2002, Santa Fe Workshop on Extra Dimensions and Beyond: “Supersymmetry without Supergravity.”
- January 2002, ITP Brane World Workshop: “Anomaly Mediated Supersymmetry Breaking.”
- April 2001, APS Division of Particles and Fields Annual Meeting (Washington DC) plenary talk: “Supersymmetry breaking with(out) extra dimensions.”
- August 2000, Santa Fe Conference on Supersymmetry, Branes and Extra Dimensions: “Radion mediated supersymmetry breaking.”
- July 2000, Trieste Conference on Beyond Four Dimensions (ICTP Trieste): “A critical cosmological constant from millimeter extra dimensions.”
- July 2000, SUSY 2K (CERN): “A critical cosmological constant from millimeter extra dimensions.”
- December 1999, PASCOS (Granlibakken) plenary talk: “Supersymmetry breaking and extra dimensions.”
- November 1999, ITP Conference on New Dimensions in Field Theory and String Theory (Santa Barbara): “Status of anomaly-mediated supersymmetry breaking.”
- July 1999, SUSY '99 Conference (Fermilab), “Single-sector supersymmetry.”

Publications

- “Supergravity loop contributions to brane world supersymmetry breaking,” (with I.L. Buchbinder, S.J. Gates, H.S. Goh, W.D. Linch III, S.P. Ng and J. Phillips), [hep-th/0305169](#).
- “Strong interactions and stability in the DGP model,” (with M. Porrati and R. Rattazzi), [hep-th/0303116](#).
- “Almost no-scale supergravity” (with N. Okada), [hep-th/0209178](#), *JHEP* **04**, 050 (2003).
- “Five-dimensional supergravity in $\mathcal{N} = 1$ superspace,” (with W.D. Linch III and J. Phillips) [hep-th/0209060](#), accepted for publication in *Phys. Rev. D*.
- “Weak scale supersymmetry without weak scale supergravity,” [hep-th/0205077](#), *Phys. Rev. Lett.* **89**, 141801 (2002).
- “Realistic anomaly mediation with bulk gauge fields” (with Z. Chacko), [hep-ph/0112172](#), *JHEP* **0205**, 047 (2002).
- “Anomaly mediated supersymmetry breaking in four dimensions, naturally” (with R. Sundrum), [hep-th/0111231](#), *Phys. Rev.* **D67**, 045007 (2003).
- “Supersymmetry breaking and composite extra dimensions” (with R. Sundrum), [hep-th/0105137](#), *Phys. Rev.* **D65**, 066004 (2002).
- “Hierarchy stabilization in warped supersymmetry” (with R. Sundrum), [hep-th/0012158](#), *Phys. Rev.* **D64**, 065012 (2001).
- “Radion mediated supersymmetry breaking” (with Z. Chacko), [hep-ph/0008103](#), *JHEP* **0105**, 067 (2001).
- “Electroweak symmetry breaking by strong supersymmetric dynamics at the TeV scale” (with J. Terning and A.K. Grant), [hep-ph/0006224](#), *Phys. Rev.* **D63**, 075001 (2001).
- “The GUT scale and superpartner masses from anomaly mediated supersymmetry breaking,” (with Z. Chacko, E. Pontòn, Y. Shadmi, and Y. Shirman), [hep-th/0006047](#), *Phys. Rev.* **D64**, 055009 (2001).
- “A critical cosmological constant from millimeter extra dimensions,” (with J.-W. Chen and E. Pontòn), [hep-th/0003067](#), *JHEP* **0009**, 012 (2000).
- “Gaugino mediated supersymmetry breaking,” (with Z. Chacko, A. Nelson, and E. Pontòn), [hep-th/9911323](#), *JHEP* **0001**, 003 (2000).

- “Radius stabilization and anomaly-mediated supersymmetry breaking,” (with R. Sundrum), [hep-th/9910202](#), *Phys. Rev.* **D62**, 035008 (2000).
- “Massive higher-dimensional gauge fields as messengers of supersymmetry breaking,” (with Z. Chacko and E. Pontòn), [hep-ph/9909248](#), *JHEP* **0007**, 036 (2000).
- “Soft supersymmetry breaking in deformed moduli spaces, conformal fixed points, and $\mathcal{N} = 2$ super-Yang–Mills,” (with R. Rattazzi), [hep-th/9908085](#), *JHEP* **9911**, 001 (1999).
- “Realistic anomaly-mediated supersymmetry breaking,” (with Z. Chacko, I. Maksymyk, E. Pontòn, [hep-ph/9905390](#), *JHEP* **0004**, 001 (2000).
- “Improved single sector supersymmetry breaking,” (with J. Terning), [hep-ph/9812290](#), *Phys. Rev.* **D62**, 075006 (2000).
- “Calculable dynamical supersymmetry breaking on deformed moduli spaces,” (with Z. Chacko and E. Pontòn), [hep-th/9810253](#), *JHEP* **9812**, 016 (1998).
- “Gaugino mass without singlets,” (with G.F. Giudice, H. Murayama and R. Rattazzi), [hep-ph/9810442](#), *JHEP* **9812**, 027 (1998).
- “Dynamical determination of the unification scale by gauge mediated supersymmetry breaking, (with Z. Chacko and E. Pontòn) [hep-ph/9806398](#), *Phys. Rev.* **D59**, 035004 (1999).
- “Supersymmetry-breaking loops from analytic continuation into superspace,” (with N. Arkani–Hamed, G. Giudice, and R. Rattazzi), [hep-ph/9803290](#), *Phys. Rev.* **D58**, 115005 (1998).
- “Composite quarks and leptons from dynamical supersymmetry breaking without messengers,” (with N. Arkani–Hamed and J. Terning), [hep-ph/9712389](#), *Phys. Rev.* **D58**, 015004 (1998).
- “New mechanisms of dynamical supersymmetry breaking and direct gauge mediation,” (with J. Terning) [hep-ph/9709306](#), *Phys. Rev.* **D57**, 6799 (1998).
- “Simple gauge-mediated models with local minima,” [hep-ph/9706554](#), *Phys. Lett.* **414B**, 71 (1997).
- “Effective lagrangians and light gravitino phenomenology,” (with E. Pontòn) [hep-ph/9706268](#), *Phys. Rev.* **D57**, 4167 (1997).
- “Naïve dimensional analysis and supersymmetry,” [hep-ph/9706235](#), *Phys. Rev.* **D57**, 1531 (1998).

- “A supersymmetric composite model of quarks and leptons,” (with R.N. Mohapatra), [hep-ph/9611343](#), *Phys. Lett.* **396B**, 161 (1997).
- “A sequence of duals for $Sp(2N)$ supersymmetric gauge theories with adjoint matter,” (with M. Schmaltz and J. Terning), [hep-th/9603034](#), *Phys. Rev.* **D54**, 7815 (1996).
- “Baryon masses at second order in large- N chiral perturbation theory,” (with P.F. Bedaque), [hep-ph/9510453](#), *Phys. Rev.* **D54**, 2317 (1996).
- “Varieties of vacua in classical supersymmetric gauge theories,” (with W. Taylor IV), [hep-th/9506098](#), *Phys. Rev.* **D53**, 3399 (1996).
- “Constraints on light quark masses from the heavy meson spectrum,” (with R. Sundrum), [hep-ph/9502398](#), *Phys. Rev.* **D52**, 5202 (1995).
- “Heavy meson electromagnetic mass differences from QCD,” (with R. Sundrum), [hep-ph/9502259](#), *Phys. Rev.* **D52**, 1627 (1995).
- “New symmetries of supersymmetric effective lagrangians,” (with J. March-Russell and H. Murayama), [hep-ph/9501233](#), *Phys. Rev.* **D52**, 1190 (1995).
- “Baryons with many colors and flavors,” [hep-ph/9405271](#), *Phys. Rev.* **D51**, 2322 (1995).
- “Baryon magnetic moments in a simultaneous expansion in $1/N$ and m_s ” (with J. March-Russell and M. White), [hep-ph/9405272](#), *Phys. Rev.* **D51**, 2332 (1995).
- “Baryon masses at second order in chiral perturbation theory,” (with R. Lebed), [hep-ph/9401232](#), *Phys. Lett.* **329B**, 479 (1994).
- “Baryons from quarks in the $1/N$ expansion,” (with J. March-Russell), [hep-ph/9310369](#), *Nucl. Phys.* **B426**, 71 (1994).
- “Decuplet contributions to hyperon axial vector form factors,” (with M. White), [hep-ph/9305203](#), *Phys. Lett.* **319B**, 261 (1993).
- “Quarkonium decays and light quark masses,” (with R. Sundrum), [hep-ph/9304258](#), *Phys. Lett.* **312B**, 205 (1993).
- “Chiral corrections to hyperon vector form factors,” (with J. Anderson), [hep-ph/9301219](#), *Phys. Rev.* **D47**, 4975 (1993).
- “Technicolor theories with negative S ,” (with R. Sundrum), [hep-ph/9209255](#), *Phys. Rev. Lett.* **70**, 529 (1993).

- “Vacuum alignment in ‘composite technicolor’ models,” hep-ph/9205204, *Phys. Lett.* **292B**, 113 (1992).
- “A gauge theory with Nambu–Jona-Lasinio dynamics,” hep-ph/9203218, *Phys. Rev.* **D48**, 1295 (1993).
- “A natural framework for solar and 17 keV neutrinos,” (with C.P. Burgess and J.M. Cline), hep-ph/9203202, *Phys. Rev.* **D46**, 364 (1992).
- “Baryogenesis via leptogenesis,” *Phys. Rev.* **D45**, 445 (1992).
- “Massive neutrinos and the weak scale singlet majoron,” (with G. Jungman), *Nucl. Phys.* **B361**, 24 (1991).
- “Electroweak symmetry breaking by fourth generation condensates and the neutrino spectrum,” (with C.T. Hill and A. Paschos), *Phys. Rev.* **D43**, 3011 (1991).
- “Dynamical electroweak symmetry breaking with two composite Higgs doublets,” *Phys. Rev.* **D41**, 2893 (1990).
- “Some apparent paradoxes in the theory of gravitational radiation,” undergraduate honors thesis, University of Utah (unpublished).