

# Patrick Meade

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- ACADEMIC POSITIONS
- ◇ **Associate Professor**  
C.N. Yang Institute for Theoretical Physics  
Stony Brook University  
September 2015-Current
  - ◇ **Assistant Professor**  
C.N. Yang Institute for Theoretical Physics  
Stony Brook University  
September 2009-September 2015
  - ◇ **Visiting Member**  
School of Natural Sciences  
Institute for Advanced Study  
September 2009-January 2010
  - ◇ **Member (Postdoctoral Fellow)**  
School of Natural Sciences  
Institute for Advanced Study  
September 2007-August 2009
  - ◇ **Postdoctoral Fellow**  
Harvard University  
August 2006-August 2007

- EDUCATION
- ◇ **Cornell University**, Ithaca, NY  
2002–2006  
PhD Theoretical Physics August 2006  
Advisor: Csaba Csáki
  - ◇ **College of William & Mary**, Williamsburg, VA  
1998–2002  
BS Mathematics BS Physics  
Advisor: Christopher Carone
  - ◇ **Thomas Jefferson High School for Science & Technology**, Alexandria, VA  
1994–1998

GRANTS  
AWARDED

- PI NSF CAREER grant “Developing a Theoretical Understanding of the TeV Energy Scale from the LHC and Dark Matter”, PHY-1056833
- co-PI NSF grant “Elementary particles at colliders and in astrophysics”, PHY-0653354

PAPERS

1. “*Singlet Scalar Resonances and the Diphoton Excess*”,  
with S. McDermott, H. Ramani  
**arXiv:1512.05326 submitted to Phys. Rev. D**

2. “Precision diboson measurements and the interplay of  $p_T$  and jet-veto resummations”,  
with P. Jaiswal, H. Ramani  
**arXiv:1509.07118 submitted to Phys. Rev. D**
3. “Testing Electroweak Baryogenesis with Future Colliders”,  
with D. Curtin, C-T Yu.  
**JHEP 1411 (2014) 127**
4. “Transverse momentum resummation effects in  $W^+W^-$  measurements”,  
with H. Ramani, M. Zeng.  
**Phys.Rev. D90 (2014) 11, 114006**
5. “Natural SUSY in Plain Sight”,  
with D. Curtin, P. Tien.  
**Phys.Rev. D90 (2014) 11, 115012**
6. “Casting Light on BSM Physics with SM Standard Candles”,  
with D. Curtin, P. Jaiswal and P. Tien  
**JHEP 1308 (2013) 068**
7. “Charginos Hiding in Plain Sight”,  
with D. Curtin, and P. Jaiswal  
**Phys.Rev. D87 (2013) 031701**
8. “Excluding Electroweak Baryogenesis in the MSSM”,  
with D. Curtin, and P. Jaiswal  
**JHEP 1208 (2012) 005**
9. “Implications of a 125 GeV Higgs for the MSSM and Low-Scale SUSY Breaking”,  
with P. Draper, M. Reece, D. Shih  
**Phys.Rev. D85 (2012) 095007**
10. “The Status of GMSB After 1/fb at the LHC”,  
with Y. Kats, M. Reece, D. Shih  
**JHEP 1202 (2012) 115.**
11. “Simplified Models for LHC New Physics Searches”,  
with D. Alves et al.  
**arXiv:1105.2838**
12. “Odd Tracks at Hadron Colliders”,  
with M. Papucci and T. Volansky  
**Phys. Rev. Lett. 109, 031801**
13. “Long-Lived Neutralino NLSPs”,  
with M. Reece, and D. Shih  
**JHEP 1010 (2010) 067**
14. “Prompt Decays of General Neutralino NLSPs at the Tevatron”,  
with M. Reece, and D. Shih  
**JHEP 1005 (2010) 105**
15. “Dark Matter Interpretations of the  $e^\pm$  Excesses after FERMI”,  
with S. Nussinov, M. Papucci, and T. Volansky  
**JHEP 1006 (2010) 029**
16. “Searches for Long Lived Neutral Particles”,  
with M. Papucci, A. Strumia and T. Volansky  
**Nucl.Phys. B831 (2010) 178-203**
17. “Dark Matter Sees The Light”,  
with M. Papucci and T. Volansky  
**JHEP 0912 (2009) 052**

18. “*Exploring General Gauge Mediation*”,  
with M. Buican, N. Seiberg and D. Shih  
**JHEP 0903 (2009) 016**
19. “*General Gauge Mediation*”,  
with N. Seiberg and D. Shih  
**Prog.Theor.Phys.Suppl. 177 (2009) 143-158**
20. “*Black Holes and Quantum Gravity at the LHC*”,  
with L. Randall.  
**JHEP 0805, 003 (2008)**
21. “*BRIDGE: Branching Ratio Inquiry/Decay Generated Events*”,  
with M. Reece.  
**hep-ph/0703031**
22. “*Top Partners at the LHC: Spin and Mass Measurement*”,  
with M. Reece.  
**Phys.Rev.D74:015010,2006**
23. “*TASI Lectures on Electroweak Symmetry Breaking from Extra Dimensions*”,  
with C. Csáki and J. Hubisz.  
Proceedings of TASI 2004.  
**hep-ph/0510275**
24. “*Electroweak Precision Constraints on the Littlest Higgs with T-parity*”,  
with J. Hubisz, A. Noble, M. Perelstein.  
**JHEP 0601:135,2006**
25. “*Phenomenology of the Littlest Higgs with T-parity*”,  
with J. Hubisz.  
**Phys.Rev.D71:035016,2005**
26. “*A Mixed Phase of SUSY Gauge Theories from a-maximization*”,  
with C. Csáki and J. Terning.  
**JHEP 0404:040,2004**
27. “*Electroweak Constraints on Little Higgs Models*”,  
To appear in the Proceedings of SUSY 2003, held at the University of Arizona,  
Tucson, AZ, 5-10 June 2003.  
**hep-ph/0402036**
28. “*Variations of little Higgs models and their electroweak constraints*”,  
with C. Csáki, J. Hubisz, G. D. Kribs, and J. Terning.  
**Phys.Rev.D68:035009,2003**
29. “*Big corrections from a little Higgs*”,  
with C. Csáki, J. Hubisz, G. D. Kribs, and J. Terning.  
**Phys.Rev.D67:115002,2003**
30. “*Neutrino Oscillations through Extra Dimensions and Symmetries*”,  
Senior Honors Thesis, College of William and Mary, May 2002.
31. “*Shells of Matrices in Indefinite Inner Products*”,  
with V. Bolotnikov, C.Li, C. Mehl, L.Rodman.  
**Electronic Journal of Linear Algebra, 9(2002), 67-92**
32. “*U(2)-like Flavor Symmetries and Approximate Bimaximal Neutrino Mixing*”,  
with A. Aranda, C. Carone.  
**Phys.Rev.D65:013011, 2002**
33. “*Research Problem: Indefinite Inner Product Normal Matrices*”,  
with B.Lins, C. Mehl, L. Rodman.  
**Linear and Multilinear Algebra, 49(2001) no.3, 261-268**

34. *“Polar Decompositions of indecomposable normal matrices in indefinite inner products: Explicit formulas and open problems”*,  
with B.Lins, C. Mehl, and L.Rodman.  
**Preprint 2000-9**  
Fakultat fur Mathematik, Technische Universitat Chemnitz, Germany, August 2000
35. *“Normal Matrices and Polar decompositions in Indefinite Inner Products”*,  
with B.Lins, C. Mehl, L.Rodman.  
**Linear and Multilinear Algebra, 49(2001) no.1, 345-89**

WORKSHOPS/  
CONFERENCES  
ORGANIZED

- “SEARCH”, August 2013  
Stony Brook University  
with M. Papucci, and R. Sundrum
- “SEARCH”, March 2012  
University of Maryland  
with M. Papucci, and R. Sundrum
- “Year One of the LHC”, June-July 2011  
Aspen Center for Physics  
with M. Papucci, R. Sundrum, and J. Thaler

TALKS  
GIVEN

- Invited talk, “Preparing for the High-Luminosity Run of the LHC”, June 2015  
Perimeter Institute
- Invited talk, Theory Seminar, March 2015  
Yale University
- Invited talk, ATLAS multiboson workshop - October 2014  
BNL
- Invited talk, Next steps in the Energy Frontier - Hadron Collider, August 2014  
Fermilab
- Invited talk, 2nd CFHEP Symposium on circular collider physics, August 2014  
CFHEP, Beijing
- Invited talk, Johns Hopkins Workshop in Heidelberg, July 2014  
Heidelberg, Germany
- Theory Seminar, June 2014  
CERN
- Invited talk LHCP conference, June 2014  
Columbia University
- Invited talk, MC4BSM workshop, May 2014  
Korea
- Invited talk, Exotic Physics with ATLAS at 14 TeV, February 2014  
Eilat, Israel
- High Energy Physics Seminar, December 2013  
University of Pennsylvania
- Invited Lecture, “Current Themes in High Energy Physics and Cosmology”,  
August 2013, Niels Bohr Summer Institute
- Theory Seminar, June 2013  
Tel Aviv University
- Theory Seminar, March 2013  
Johns Hopkins University

- Theory Seminar, March 2013  
University of Maryland
- Theory Seminar, December 2012  
Perimeter Institute
- Invited talk for ATLAS diboson workshop, December 2012  
BNL
- Plenary Talk, “International Workshop on Future Linear Colliders”, October 2012  
University of Texas at Arlington
- Invited talk, “The Higgs Boson and the Next Discovery”, October 2012  
University of Pittsburgh
- Invited talk, “Frontiers Beyond the Standard Model III”, October 2012  
University of Minnesota
- Informal theory seminar CERN theory group, September 2012  
CERN
- Invited talk ATLAS SUSY group, July 2012  
CERN (EVO)
- Rutgers University Theory Seminar, May 2012  
Rutgers University
- Invited Talk, PCTS April 2012  
Princeton University
- Syracuse University Theory Seminar, April 2012  
Syracuse University
- Invited Talk, Implications of LHC results for TeV-scale Physics, March 2012  
CERN (EVO)
- BSM Theory Summary, MC4BSM 2012, March 2012  
Cornell University
- Joint Johns Hopkins/University of Maryland HEP seminar, December 2011  
University of Maryland
- Invited Talk, Implications of LHC results for TeV-scale Physics, December 2011  
CERN
- High Energy Theory Seminar, October 2011  
University of Michigan
- Invited talk ATLAS SUSY group, November 2011  
CERN (EVO)
- High Energy Theory Seminar, October 2011  
Harvard University
- High Energy Theory Seminar, May 2011  
SLAC
- High Energy Theory Seminar, March 2011  
University of Maryland
- High Energy Theory Seminar, January 2011  
University of Chicago
- Invited Talk, October 2010  
BNL LHC-TI meeting
- “Roads Forward: Particle Physics in the LHC Era”, June 2010  
2010 RHIC & AGS Annual Users’ Meeting, BNL

- Plenary Talk, May 2009  
PHENO 2009
- Conference Talk, February 2009  
LHC International Science Forum, Heidelberg, Germany
- High Energy Theory Seminar, February 2009  
University of Minnesota
- High Energy Theory Seminar, January 2009  
UC Irvine
- High Energy Theory Seminar, October 2008  
Brookhaven National Laboratory
- High Energy Theory Seminar, April 2008  
University of Arizona
- High Energy Theory Seminar, April 2008  
University of Texas, Austin
- KITP LHC Workshop, March 2008  
KITP Santa Barbara
- LHC Focus Week, December 2008  
IPMU, Japan
- High Energy Theory Seminar, December 2007  
Rutgers University
- High Energy Theory Seminar, November 2007  
University of California - Berkeley
- High Energy Theory Seminar, October 2007  
Johns Hopkins University
- Eotvos-Cornell Summer Workshop, June 2007  
“BRIDGE”  
Eotvos University, Budapest
- Edinburgh Ultra-Mini Workshop, March 2007  
“Model vs Model Degeneracies??”  
University of Edinburgh
- LHC Olympics/MC4BSM, March 2007  
“Generation and Solution of the Cornell/Harvard Black Box”  
Princeton University
- LHC Olympics, August 2006  
“BSM Event Generators: Status, Prospects and a New Black Box”  
KITP Santa Barbara
- Aspen Workshop, August 2006  
“Top Partners at the LHC”  
Aspen Center for Physics
- High Energy Physics Seminar, April 2006  
“A model independent approach to LHC phenomenology”  
UC Davis
- High Energy Physics Seminar, March 2006  
“A model independent approach to LHC phenomenology”  
University of Toronto
- Phenomenology seminar, February 2006  
“A model independent approach to LHC phenomenology”  
University of Florida

- LHC Olympics, February 2006  
“A model independent approach to LHC phenomenology”  
CERN
- Phenomenology seminar, December 2005  
“A model dependent and independent look at LHC phenomenology”  
Princeton University
- Phenomenology seminar, November 2005  
“A model dependent and independent look at LHC phenomenology”  
Harvard University
- Particle theory seminar, November 2005  
“A model dependent and independent look at LHC phenomenology”  
Boston University
- Particle theory seminar, November 2005  
“A model dependent and independent look at LHC phenomenology”  
University of Washington
- SUSY 2005, July 2005  
“Little Higgs and T-parity: a reason experimentalists  
need to know more than the MSSM”  
IPPP Durham, UK
- PHENO 05, May 2005  
“Phenomenology of the Littlest Higgs with T-parity”  
University of Wisconsin, Madison.
- Syracuse-Cornell Collaboration Theory Meeting, January 2005  
“Phenomenology of the Littlest Higgs with T-parity”  
Cornell University
- TASI student seminar, June 2004  
“Evidence for a new phase of SUSY gauge theory”  
University of Colorado at Boulder
- Particle Theory Journal Club, March 2004  
“Evidence for a new phase of SUSY gauge theory”  
Cornell University
- Syracuse-Cornell Collaboration Theory Meeting, December 2003  
“Towards a Classification of SUSY gauge theories”  
Cornell University
- Particle Theory Seminar, August 2003  
“Electroweak Constraints on Little Higgs Models”  
College of William & Mary
- SUSY 2003, June 2003  
“Electroweak Constraints on Little Higgs Models”  
Tucson, AZ
- Particle Theory Journal Club, November 2002  
“Electroweak Constraints on Little Higgs Models”  
Cornell University
- SES-APS Annual Meeting, November 2001  
“U(2)-like Flavor Symmetries and Approximate Bimaximal Neutrino Mixing”  
UVA
- 2001 Verizon Undergraduate Research Symposium, September 2001  
“U(2)-like Flavor Symmetries and Approximate Bimaximal Neutrino Mixing”  
College of William & Mary

- Spring 2001 MAA Section Meeting MD-DC-VA, April 2001  
“Polar Decompositions with respect to Indefinite Inner Products”  
VMI
- 2000 Verizon Undergraduate Research Symposium, September 2000  
“Polar Decompositions with respect to Indefinite Inner Products”  
College of William & Mary
- 1998 NASA URC-TC, May 1998  
“The effectiveness of Secondary School Students in Variable Star Analysis”  
Huntsville, Alabama

CONFERENCES/  
WORKSHOPS  
ATTENDED/  
PLANNED

- Exotic Physics with ATLAS at 14 TeV, February 2014  
Eilat, Israel
- “Current Themes in High Energy Physics and Cosmology”,  
August 2013, Niels Bohr Summer Institute
- GGI Workshop, November 2012
- “International Workshop on Future Linear Colliders”, October 2012  
University of Texas at Arlington
- “The Higgs Boson and the Next Discovery”, October 2012  
University of Pittsburgh
- “Frontiers Beyond the Standard Model III”, October 2012  
University of Minnesota
- LHC International Science Forum, December 2011  
IWH Heidelberg, Germany
- Implications of LHC results for TeV-scale Physics, December 2011  
CERN
- BNL forum. October 2011  
BNL
- Aspen Summer Workshop, June-July 2011  
Aspen Center for Physics
- PCTS workshop, November 2010
- Aspen Summer Workshop, June-July 2010  
Aspen Center for Physics
- PHENO 2009, May 2009  
Madison, Wisconsin
- LHC International Science Forum, February 2009  
IWH Heidelberg, Germany
- Aspen Summer Workshop, July-August 2008  
Aspen Center for Physics
- KITP LHC Program, March 2008  
KITP-UCSB
- LHC Focus Week, December 2007  
IPMU, Japan
- CERN Theory Institute, August 2007  
“BSM Institute: New Physics and the LHC”  
CERN
- Cornell-Eotvos Summer Workshop, June 2007  
“Beyond the Standard Model at the Dawn of the LHC Era”  
Eotvos University, Budapest



- Edinburgh Ultra-Mini Workshop, March 2007  
“Physics in High Dimensional Spaces”  
University of Edinburgh
- MC4BSM/LHC Olympics, March 2007  
Princeton University
- LHC Olympics, August 2006  
KITP-UCSB
- Aspen Summer Workshop, August 2007  
“Particle Theory in Anticipation of the LHC” Aspen Center for Physics
- MC4BSM, March 2006  
Fermilab
- LHC Olympics, February 2006  
CERN
- SUSY 2005, July 2005  
Durham, UK
- 55th Meeting of Nobel Laureates and Students, June 2005  
Lindau, Germany
- PHENO 2005, May 2005  
Madison, Wisconsin
- Santa Fe 2004 Summer Workshop  
“Beyond the Higgs”  
Santa Fe, New Mexico
- SUSY 2003, June 2003  
Tucson, Arizona
- DPF 2002, May 2002  
College of William & Mary
- SES-APS Annual Meeting, November 2001  
UVA
- Spring 2001 MAA Section Meeting MD-DC-VA, April 2001  
VMI
- 1998 NASA URC-TC, May 1998  
Huntsville, Alabama

LECTURES  
GIVEN

- “International Symposium on Physics Beyond the Standard Model”  
National Centre for Physics October 2014  
Islamabad, Pakistan  
- Lectures on “Physics Beyond the Standard Model”
- “BCVSPIN-MSPF-MITCHELL Joint School”  
BCVSPIN-DPYC 2014  
Colima, Mexico  
- Lectures on “Physics Beyond the Standard Model”
- “LHC Physics”  
Prospects in Theoretical Physics (PITP) 2013  
IAS, Princeton, NJ  
- Lectures on “New Physics - Electroweak Production”
- Nordic Winter School on Particle Physics and Cosmology 2013  
Skeikampen, Norway  
- Lectures on “Higgs physics and Beyond the Standard Model”

*Patrick Meade*

- “Physics of the Large and the Small”  
Theoretical Advanced Studies Institute (TASI) 2009  
University of Colorado at Boulder
  - Lectures on General Gauge Mediation