

Curriculum Vitae for Sally Dawson

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Education

Ph. D in Physics from Harvard University, 1981

Thesis: *Radiative Corrections to $\sin^2 \theta_W$* , Supervisor: H.M. Georgi

A. M. in Physics from Harvard University, 1978

B.S. in Physics and Mathematics from Duke University, *Summa Cum Laude*, 1977

Professional Experience

2008-present, Senior Scientist, BNL

2007-2008, Sabbatical leave at Stanford Linear Accelerator Center

2005-2007, Chair, Physics Department, BNL

2004, Deputy Chair, Physics Department, BNL

2001-present, Adjunct Professor, Yang Institute for Theoretical Physics, Stony Brook

1998-2004, Group leader, High Energy Theory, BNL

1994-2004, Senior Scientist, BNL

1990-1994, Physicist, BNL

1988-1990, Associate Physicist, BNL

1986-1988, Assistant Physicist, BNL

1983-1986, Research Associate, Lawrence Berkeley Laboratory

1981-1983, Research Associate, Fermilab

Committee Membership, Other Professional Activities

2008-2010, Member, Sakurai Prize Committee
2007-2008, Chair, Fermilab Program Advisory Board
2007-2008, Member, Fermilab Steering Group
2006-2010, Member, Fermilab Program Advisory Board
2006-2010, Member, Santa Barbara KITP Advisory Board
2006, Chair, LBNL Physics Division Program Review
2005, Past Chair, Division of Particles and Fields, APS
2004-2006, Vice Chair, Elementary Particle Physics EPP2010 Committee of the
National Research Council
2004-2006, Member, International Committee for Future Accelerators
2004, Chair, Division of Particles and Fields, APS
2003, Chair-elect, Division of Particles and Fields, APS
2002-present, Member, U.S. Linear Collider Steering Committee
2002-2004 Member, HEPAP Subcommittee on Outreach
2002-2004, Member, URA Visiting Committee, Fermilab
2002, Vice-Chair, Division of Particles and Fields, APS
1999-2002, Member, High Energy Physics Advisory Panel
1999-2002, APS Divisional Councilor
2001-2002, Nominating Committee, Division of Particles of Beams, APS
2000-2001, Member, LBNL Physics Division Program Review
1999, Member, ANL Physics Division Program Review
1997, Member, HEPAP subpanel on The Future of High Energy Physics
1997-2000, Member, APS Committee on the Status of Women in Physics
1995-2004, Associate Editor, Physical Review D
1994-1996, Member, Executive Committee of the DPF, APS
1991-1993, Member, SSC Program Advisory Committee

Honors and Awards

2006, Fellow of the American Association for the Advancement of Science

1998, APS Centennial Speaker

1995, Fellow of the American Physical Society

1995, Town of Brookhaven, Woman of the Year in Science

Teaching

Spring, 2009, *Theoretical Particle Physics*, Stony Brook

Spring, 2007, Freshman Seminar, *The Quantum Universe*, Stony Brook

Fall, 2003, *Advanced Theoretical Particle Physics*, Stony Brook

Fall, 2001, *Electroweak Symmetry Breaking*, Stony Brook

October, 2008, *Introduction to Higgs Physics*, XIII Mexican Summer School

June, 2006, *Introduction to the Standard Model*, TASI Summer School

July, 2006, *The Standard Model and Higgs Physics*, Triumph Summer Institute

August, 2006, *Introduction to the Standard Model*, LHC Summer School, Fermilab

September, 2004, *Introduction to Hadronic Physics*, Maria Laach School

June, 2002, *The Top Quark: QCD and New Physics*, TASI Summer School

June, 2000, *QCD and New Physics*, CTEQ Summer School

June, 1998, *Introduction to the Standard Model*, Trieste Summer School

June, 1997, *The MSSM and Why it Works*, TASI Summer School

July, 1996, *SUSY and Such*, ASI Summer School

Conference Organization and Working Group Leadership, 2005-2009

International Advisory Committee, Physics at Colliders, 2009, Les Houches, France, June, 2009

International Advisory Committee, Particle Physics and Cosmology 2009, Norman, Oklahoma, May, 2009

Higgs Physics Working Group Leader and Member, Organizing Committee, Physics at Colliders 2007, Les Houches, France, June 4-27, 2007

Physics Working Group Leader, Fermilab Steering Committee, 2007-2008

International Advisory Board, RadCor Conference, 2005, 2007, 2008, 2009

Member, Organizing Committee, American Linear Collider Physics Conference, 2006, 2007

Conference Organizer, Loopfest V (2006), Loopfest VI (2007), Loopfest VII (2008)

Scientific Program Director, TASI06, University of Colorado, June 4-30, 2006

Member, Organizing Committee, LHC Early Phase for the ILC Workshop, Fermilab, April 12-14, 2007

Member, Organizing Committee, Hadron Collider Physics Conference, 2006,2007

Co-Chair, Physics Organizing Committee, Linear Collider Workshop, Snowmass, Aug 14-27, 2005

Organizer, BNL/FNAL Study on Long Baseline Neutrinos, 2006-2007

Most Significant Publications

S. Dawson, C. Jackson, L. Reina, and D. Wackerroth, *Exclusive Higgs Boson Production with Bottom Quarks at Hadron Colliders*, *Phys. Rev.* **D69** (2004) 074027

M. C. Chen and S. Dawson, *One Loop Corrections to the ρ parameter in Little Higgs Models*, *Phys. Rev.* **D70** (2004) 015003

S. Dawson, L. Orr, L. Reina, and D. Wackerroth, *Associated Top Quark-Higgs Boson Production at the LHC*, *Phys. Rev.* **D67** (2003) 071503

S. Dawson, A. Djouadia, and M.Spira, *QCD Corrections to SUSY Higgs Production: The Role of Squark Loops*, *Phys. Rev. Lett.* **77** (1996) 16

J. Bagger, S. Dawson, and G. Valencia, *Effective Field Theory of Anomalous Gauge Boson Couplings at High Energy pp Colliders*, *Nucl.Phys.* **B399** (1993) 364

S. Dawson, *Radiative Corrections to Higgs Boson Production*, *Nucl. Phys.* **B359** (1991) 283

J. Gunion, H. Haber, G. Kane, and S. Dawson, *The Higgs Hunters Guide*, Addison-Wesley (Menlo Park) 1990

P. Nason, S. Dawson, and R. Ellis, *The Total Cross Section for the Production of Heavy Quarks in Hadronic Collisions*, *Nucl.Phys.* **B303** (1988) 607

S. Dawson, *R Parity Breaking in Supersymmetric Theories*, *Nucl.Phys.* **B261** (1985) 297

S. Dawson, *The Effective W Approximation*, *Nucl.Phys.* **B249** (1985) 42

Scientific Presentations, 2005-2009

The Top Quark and Precision Measurements, Theory Seminar, University of Rochester, March 2005

Revolutions in Particle Physics, Colloquium, University of Rochester, March 2005

The Top Quark and Precision Measurements, Plenary Talk, Michigan Top Symposium, University of Michigan, April 7, 2005

Future Directions for Particle Physics, Plenary Talk, April APS Meeting, Tampa, FL, April 17, 2005

Electroweak Symmetry Breaking, Plenary Talk, Lepton Photon Conference, Uppsala, Sweden, June 2005

Precision Measurements in Theories with $\rho \neq 1$, Plenary talk, Bardeen Fest, Fermilab, Sept. 23, 2005

Revolutions in Particle Physics, Colloquium, Duke University, Sept. 27, 2005

Revolutions in Particle Physics, Colloquium, Michigan State University, October 7, 2005

The Top Quark and Precision Measurements, Theory Seminar, University of Michigan, October 8, 2005

Revolutions in Particle Physics, Colloquium, SUNY Buffalo, Oct 26, 2005

Precision Measurements and Top Quark Physics, Theory Seminar, Carnegie Mellon University, Jan 11, 2006

The Future of Particle Physics, Aspen Winter Conference, February 14, 2006

Adventures at the Terascale, Colloquium, University of Virginia, March 24, 2006

The EPP2010 Report, Colloquium, Fermilab, May 12, 2006

The EPP2010 Report, BNL Particle Physics Seminar, April 28, 2006

The EPP2010 Report, BNL Colloquium, June 2006

The Standard Model (5 lectures), TASI2006, University of Colorado, June 4-6, 2006

Electroweak Symmetry Breaking (5 lectures), TSI 2006 (Triumf Summer Institute), Triumf, British Columbia, July 2006

Physics at the Terascale (3 lectures), Fermilab LHC Summer School, Fermilab, Aug. 2006

Higgs Bosons and b Quarks, Theory Seminar, Indiana University, Oct 3, 2006

Opportunities at the Terascale, Colloquium, Indiana University, Oct 4, 2006

Waiting for the LHC, Colloquium, University of Wisconsin, Oct. 24, 2006

Non-SM Higgs Bosons at the LHC, Harish-Chandra Research Institute, India (via video), December 15, 2006

Physics at the Terascale: Opportunities and Challenges, Colloquium, University of Texas, Austin, Dec 4, 2007

Higgs Bosons at the Tevatron and LHC: The Big Picture, Aspen Winter Conference, January 7, 2007

Waiting for the LHC, Colloquium, Iowa State University, April 2, 2007

Practical Loop Calculations (3 lectures) ,CTEQ07 Summer School, University of Wisconsin, Madison, June 29, 2007

Higgs Working Group Summary, Physics at TeV Colliders, Les Houches, France, June 29, 2007

Collider Physics for String Theorists (4 lectures), Simons Workshop, Stony Brook, July, 2007

b 's and Higgs Physics, Theory Seminar, SLAC, Sept 14, 2007

Searching for New Physics at the LHC & ILC, Workshop on B-L Violation, LBNL, Sept 22, 2007

Waiting for the LHC, Colloquium, University of Calgary, Sept 28, 2007

b 's and Higgs Physics, SLAC ATLAS forum, Oct 10, 2007

b 's and Higgs Physics, Theory Seminar, University of California, Irvine, Nov 28, 2007

Challenges for Higgs Physics, Helmholtz Kickoff Workshop, DESY, December 3, 2007

Finding the Higgs with b 's, Theory Seminar, University of California, Berkeley, March 3, 2008

Physics for Higgs Discovery, Theory Seminar, University of Minnesota, April 10, 2008

Higgs Triplets and Precision Measurements, Theory Seminar, University of California, Santa Cruz, May 2, 2008

Electroweak Symmetry Breaking at the Terascale, Grannis Symposium, Stony Brook, June, 2008

Renormalization and Beyond the Standard Model Physics: A Cautionary Tale, Fermilab Workshop on Beyond the Standard Model, From the Tevatron to the LHC, Sept 17, 2008

Update on Higgs Physics, XIII Mexican Summer School, Oct 11, 2008

How Well Do We Know Higgs Properties?, Workshop on Higgs Properties at the LHC, University of Washington, Jan 14, 2009

Publications, 2005-2009

S. Dawson, *Introduction to Electroweak Symmetry Breaking*, Proceedings of the XIIIth Mexican Summer School, Sonora, Mexico, October, 2008, arXiv:0812.2190

S. Dawson and C. B. Jackson, *One-Loop Corrections to the S Parameter*, Phys. Rev. **D79** (2009) 013006

M.C. Chen, S. Dawson, and C.B. Jackson, *Higgs Triplets, Decoupling, and Precision Measurements*, Phys. Rev. **D78** (2008) 093001

S. Dawson, M. Grazzini, A. Nikitenko, M. Schumacher, et. al., *Higgs Working Group Summary Report, 2008*, Les Houches Workshop on Physics at Colliders 2007, arXiv:0803.1154

S. Dawson, C. Kao, and Y. Wang, *SUSY QCD Corrections to Higgs Pair Production From Bottom Quark Fusion*, Phys. Rev. **D77** (2008) 113005

S. Dawson and C.B.Jackson, *SUSY QCD Corrections to Associated Higgs-Bottom Quark Production*, Phys. Rev. **D77** (2008) 015019

S. Dawson and C. B. Jackson, *Chiral-Logarithmic Corrections to the S and T Parameters in Higgsless Models*, Phys. Rev. **D76** (2007) 015014

S. Dawson and H. Shapiro, *Revealing the Hidden Nature of Space and Time: Charting the Course for Elementary Particle Physics*, EPP2010 Report, The National Academies Press, 2006

- S. Dawson and R. N. Mohapatra, ed., *Exploring New Frontiers Using Colliders and Accelerators*, Proceedings of TASI 2006, World Scientific, Singapore, 2008
- U. Aglietti et. al., *Tevatron-for-LHC Report: Higgs 2006*, hep-ph/0612172
- S. Dawson, C. Kao, Y. Wang, and P. Williams, *QCD Corrections to Higgs Pair Production in Bottom Quark Fusion*, *Phys. Rev.* **D75** (2007) 013007
- M.-C. Chen, S. Dawson, and T. Krupovnickas, *Higgs Triplets and Limits From Precision Measurements*, *Phys. Rev.* **D74** (2006) 035001
- S. Dawson, C. B. Jackson, L. Reina and D. Wackerroth, *Hadronic Higgs Production With Heavy Quarks at the Tevatron and the LHC*, hep-ph/0603112
- S. Dawson, *Electroweak Symmetry Breaking Circa 2005*, *Int. J. Mod. Phys.* **A21** (2006) 1629
- S. Dawson, C.B. Jackson, L Reina, and D. Wackerroth, *Higgs Production in Association With Bottom Quarks at Hadron Colliders* *Mod. Phys. Lett.*, **A21** (2006) 89
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- M.-C. Chen, S. Dawson, and T. Krupovnickas, *Constraining New Models With Precision Electroweak Data*, *Int. J. Mod. Phys.* **A21** (2006) 4045
- S. Dawson, *Perspectives On the Standard Model*, AIP Conf. Proc.753 (2005) 3
- G. Weiglein, G. et al. , LHC/LC Study Group, *Physics interplay of the LHC and the ILC*, *Phys. Rept.* **426** (2006) 47
- S. Dawson, C.B. Jackson, L. Reina, and D. Wackerroth, *Higgs Boson Production With Bottom Quarks at Hadron Colliders* , *Int. J. Mod. Phys.* **A20** (2005) 3353
- S. Dawson, C. B. Jackson, L. Reina, and D. Wackerroth, *Higgs Boson Production With One Bottom Quark Jet at Hadron Colliders*, *Phys. Rev. Lett.* **94** (2005) 031802