

## Curriculum Vitae for Sally Dawson

### Address:

Physics Department, Brookhaven National Laboratory

Upton, N.Y. 11973

Phone: 631-344-3854

<http://quark.phy.bnl.gov/~dawson>

### 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

2020-present, Group leader, high energy theory group, BNL

2009-present, Senior Scientist, BNL

2007-2008, Sabbatical leave at SLAC

2005-2007, Chair, Physics Department, BNL

2001-present, Adjunct Professor, C. N. Yang

Institute for Theoretical Physics, SUNY, Stony Brook

1998-2004, Group leader, high energy theory, BNL

1994-2005, 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

### Honors and Awards

2022, Hans-Jensen Lectureship, Heidelberg University

2022, Honorary Doctorate, Heidelberg University  
2021, APS Outstanding referee award  
2019, DOE Distinguished Scientist Fellow  
2019, Wess Prize, Karlsruhe Institute of Technology  
2019, Sternheim Distinguished Lectureship Award, Amherst College  
2017, Sakurai Prize of the APS  
2015, Humboldt Fellowship  
2014, Ben Lee Fellow, Fermilab  
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

### **Advisory Boards and DOE/NSF/APS Service**

- 2023-2026, Member, Karlsruhe Advisory Board
- 2023, Member, NSF Committee of Visitors, MPS division
- 2020-2022, Member, Quantum physics advisory committee, LBNL
- 2019-2023, Member, Board on Physics and Astronomy, National Academy of Sciences
- 2018-2019, Member, Fermilab distinguished Scientist committee
- 2013-2022, Member, Max Planck Advisory Board
- 2016-2020, Member, NHET Advisory Board, Rutgers University
- 2018, Member, Helmholtz DESY review committee
- 2018, Member, DPF committee to formulate input to European Strategy
- 2017, Chair, Committee of Visitors for DOE HEP Office
- 2014, Member, NSF Committee of Visitors
- 2012-2018, Chair, TASI Scientific Advisory Board

- 2011-2016, Member, New York Academy of Sciences, Blavatnik Prize Committee
- 2010-present, Member, PITT-PAC Advisory Board, University of Pittsburgh
- 2008-2010, Member, Sakurai Prize Committee of the APS
- 2006-2010, Member, AAAS Physics B Executive Committee
- 2010, Chair, Fermilab Program Advisory Board
- 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 (ICFA)
- 2004, Chair, Division of Particles and Fields, APS
- 2003, Chair-elect, Division of Particles and Fields, APS
- 2002-2006, 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 of the Department of Energy
- 1999-2002, APS Divisional Councilor for the Division of Particles and Fields
- 2001-2002, Member, 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 Division of Particle and Fields of the American Physical Society
- 1991-1993, Member, SSC Program Advisory Committee

### **Working Group Leadership and Conference Organization**

*The high physics community has a proud history of organizing studies and working groups to understand the physics capabilities of current and future experiments. Throughout my career, I have led many of these efforts.*

- 2023, Member, Program Committee, Scalars 23 Conference, Warsaw, Poland
- 2022-2023, Member, Scientific Advisory Committee, EPS2023 conference on High Energy Physics, Hamburg, Germany, Aug. 21-25, 2023
- 2020-2021, Convenor, LHC Physics Center at CERN, working group for Effective Field Theory Physics
- 2020-2023, Convenor, Snowmass 2021, Higgs properties working group
- 2021, Member, Program committee, EFT workshop, CERN, May 3, 2020
- 2020, Member, Program committee, EFT workshop, CERN, October 19-20, 2020
- 2020-2021, Member, Program Committee, Local Organizing Committee, Higgs 2021 Conference, Oct. 18-22, 2021, Stony Brook
- 2019-2020, Member, Program Committee, Local Organizing Committee, Higgs 2020 Conference, Oct 26-30, 2020, Stony Brook

- 2020, Organizer, Snowmass Energy Frontier Kick-Off meeting, July, 2020
- 2020, Member organizing committee, PITT PAC Workshop, BSM circa 2020, University of Pittsburgh
- 2020, Organizer, Snowmass Kick-off Meeting, October, 2020
- 2021, Member, International Advisory Committee, CIPANP Conference 2021, June 1-6, 2021.
- 2019, Member organizing committee, RADCOR Conference 2019
- 2014-2019, Higgs cross section working group HH subgroup leader
- 2001-2016, Member, Loopfest Conference Organizing Board
- 2014-2019, Convenor, HH Working Group, LHC Higgs Cross Section Working Group
- 2013, Convenor, Higgs Working Group, Snowmass Summer Study
- 2013, Convenor, Theory Working Group, Snowmass Summer Study

### External Conference and Workshop talks

*I give many seminars and conference talks. Here I list only those since 2018. A complete list can be found at [https://quark.phy.bnl.gov/dawson/cv\\_long.pdf](https://quark.phy.bnl.gov/dawson/cv_long.pdf).*

- *Tracking the Big questions in Higgs Physics*, Colloquium, University of Nebraska, Nov. 3, 2022.
- *Theory Vision*, Higgs2022 Conference, Invited plenary talk, Pisa, Italy , Nov. 10, 2022.
- *The Theory of Higgs Physics*, Higgs@10 Celebration, Invited plenary talk, CERN, July 4, 2022.
- *Updates on SMEFT Physics*, Celebrating a Decade of the Higgs Workshop, Invited review talk, TIFR, Mumbai, India, June 8, 2022.
- *EF01/02 Summary*, Energy Frontier Workshop, Brown University, April 1, 2022.

- *Higgs Physics: Challenges and Opportunities*, Energy Frontier Workshop, Brown University, March 29, 2022.
- *EFTs for Higgs Physics*, Effective Pathways to New Physics Workshop, Bhubaneswar, India, Feb. 9, 2022.
- *Precision Physics in the LHC Era*, University of Michigan, invited colloquium, Nov 3, 2021.
- *Theory for future di-Higgs studies*, ATLAS hh workshop, Sept 30, 2021.
- *Precision Physics in the LHC Era*, DESY, invited colloquium, June 29, 2021.
- *Precision predictions for the LHC*, EFT GGI, invited panelist, June 9, 2021.
- *Opportunities in Higgs physics*, Young Snowmass working group, invited colloquium, May 21, 2021.
- *SMEFT practicalities*, HEFT2021 Conference, invited plenary talk, April 14, 2021.
- *Searching for BSM physics*, DIS2021 Workshop, invited plenary talk, April 13, 2021.
- *Finding BSM physics at the LHC*, Unveiling Hidden Physics at the LHC workshop, invited panelist, March 2, 2021.
- *Di-Higgs Production for Youngsters*, Young Snowmass working group meeting, invited colloquium, Dec 1, 2020.
- *Di-Higgs Production as a Smoking Gun for New Physics*, DiHiggs 2020: Opportunities and Challenges Conference, invited plenary talk, Shanghai, China, Nov. 19, 2020.
- *Higgs SNOWMASS activities*, 17th LHC Higgs cross section working group meeting, invited plenary talk, Nov. 11, 2020.
- *Benchmark Scenarios from UV Models*, LHC EFT Working group kickoff meeting, invited plenary talk, Oct. 16, 2020.
- *Higgs and the lattice*, Retirement symposium for Paul McKenzie, Fermilab, Nov. 7, 2019.

- *The Status of Higgs Physics* , Report to HEPAP, November 22, 2019.
- *Jan 18, 2020, Why particle physics is cool*, Yale University, APS workshop on physics for undergraduates, Jan 18, 2020.
- *Precision Measurements and LHC Discoveries*, Colloquium, Florida State University, March 5, 2020.
- *Presentation to Snowmass EF04/EF01 working groups*, April 30, 2020.
- *Precision Higgs Measurements*, LHCP2020 Conference, Invited plenary talk, Paris, May 27, 2020.
- *Theory Summary*, TOP2020 Conference, Invited plenary talk, Durham, Sept 18, 2021.
- *Do Radiative Corrections to the SMEFT Matter?*, Invited plenary talk, Higgs Couplings 2019, Oxford, England, October 20, 2019.
- *Do Radiative Corrections to the SMEFT Matter?*, Invited plenary talk, Loopfest, Fermilab, Batavia, Il., August 12, 2019.
- *Particle Physics at the Crossroads*, Karlsruhe Institute of Technology, Karlsruhe, Germany, July 29, 2019.
- *Questions in Electroweak Symmetry Breaking*, Invited plenary talk, Invisibles Workshop, 2019, Valencia, Spain, June 14, 2019.
- *Precision Physics at the LHC*, Colloquium, University of Massachusetts, Amherst, March 27, 2019.
- *Particle Physics at the Crossroads*, Sternheim Distinguished Lecture, University of Massachusetts, Amherst, March 26, 2019.
- *New Physics From Precision Measurements?*, Invited plenary talk, BSM circa 2020, PITTPAC workshop, University of Pittsburgh, Feb. 28, 2019.
- *From Neutrinos to Bs, Remembering Leon Lederman*, Invited plenary talk, APS April meeting, Denver, CO, April 14, 2019.

- *Results on Anomalous couplings*, HE/HL CERN Study, electroweak working group meeting, June 11, 2018.
- *Frontiers of Electroweak Symmetry Breaking*, Invited review talk, CIPANP Conference, Palm Springs, CA., June 1, 2018.
- *Precision Physics for the LHC*, Colloquium, Dartmouth College, April 20, 2018.
- *Precision physics for the LHC*, HL/HE Workshop, Fermilab, April 5, 2018.
- *Precision Physics for the LHC*, Colloquium, Stony Brook, Jan 23, 2018.

## Lecture Series for Graduate Students

*I frequently give series of lectures to graduate students. Here I list only those since 2018. A complete list can be found at [https://quark.phy.bnl.gov/dawson/cv\\_long.pdf](https://quark.phy.bnl.gov/dawson/cv_long.pdf).*

- *Introduction to SMEFT*, 2 lectures, CTEQ Summer School, University of Pittsburgh, July 15-16, 2022.
- *Introduction to Electroweak Symmetry Breaking*, 4 lectures, TASI2022, Boulder, CA, June 6-9, 2022.
- *Higgs Physics*, 3 lectures, CERN Hadron Collider Summer School, August 23-24, 2021.
- *Introduction to Higgs Physics: The Big Picture*, SLAC Summer Institute, August 16, 2021.
- *BSM physics at the LHC*, 3 lectures, TRISEP Summer School on Elementary Particles, TRIUMF, June 17-18, 2021.
- *Questions in Electroweak Symmetry Breaking*, 4 lectures on the Standard Model, Karlsruhe Institute of Technology, Dec 5-9, 2019.
- *CTEQ Summer School*, 2 lectures on Higgs physics, University of Pittsburgh, June 16-17, 2019.
- *CTEQ Summer School*, 2 lectures on Higgs physics, University of Pittsburgh, June 16-17, 2019.



- *Topics in Electroweak Symmetry Breaking*, 4 lectures, Maria Laach School, Germany, Sept. 4-8, 2018.
- *Introduction to Higgs Physics* , 4 lectures, Hadron collider physics summer school, Fermilab, Aug. 20-22, 2018.
- *Topics in Higgs Physics*, 2 lectures, SLAC Summer Institute, Aug. 6, 2018.