

Curriculum Vitae

LANCE J. DIXON
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Born June 22, 1961, Pasadena, Calif.

Education

- California Institute of Technology: B.S., Physics and Applied Mathematics, June, 1982
- Princeton University: M.A., Physics, November, 1983; Ph.D., Physics, November, 1986

Employment

- Postdoctoral fellow, Stanford Linear Accelerator Center, October, 1986 to August, 1987
- Assistant Professor, Princeton University, September, 1987 to June, 1989 — on leave at SLAC from September, 1988 to June, 1989
- Panofsky Fellow, SLAC, July, 1989 to August, 1992
- Associate Professor, SLAC, September, 1992 to August, 1998
- Professor, SLAC, September, 1998 to present

Awards and Honors

- Jack E. Froehlich Award, Cal Tech, 1981
- National Science Foundation Fellowship, 1982–1985
- Joseph Henry Prize, Princeton Physics Department, 1982
- Charlotte Elizabeth Procter Fellowship, Princeton, 1985–1986
- Fellow of The American Physical Society, awarded 1995

- Visiting Fellow, Clare Hall, Cambridge, 2002
- Visiting Professor, École Normale Supérieure, Paris, France, 2008
- Visiting Professor, Institute of Particle Physics Phenomenology, University of Durham, England, 2008-2011
- “Outstanding Referee” for the American Physical Society, awarded 2008
- Scientific Associate, CERN, August 2010 to August 2011
- Yossef Dothan Memorial Lecturer, Tel-Aviv University, Israel, 2011
- Lewiner Distinguished Lecturer, The Technion, Haifa, Israel, 2011
- Distinguished Visitor Research Chair, Perimeter Institute, 2014–2020
- J. J. Sakurai Prize of the American Physical Society, 2014
- Distinguished Alumnus, Mira Costa High School, Manhattan Beach, Calif., 2015
- Humboldt Research Award, Alexander von Humboldt Foundation, awarded 2017
- Schrödinger Professor, ETH Zürich and University of Zürich, May–June, 2019
- Member, U.S. National Academy of Sciences, elected 2022
- Galileo Galilei Medal of the INFN (Italian Nuclear Physics Agency), 2023
- Member, American Academy of Arts and Sciences, elected 2025

Teaching Experience

- Teaching assistant, Physics 77a,b (advanced physics lab), Cal Tech, 1981–2
- Teaching assistant, Physics 104 (freshman lab), Princeton, Spring 1984
- Teaching assistant, Physics 111,112 (lab for non-science majors), Princeton, 1984–5
- Taught Physics 105, 106 (freshman physics for physicists, primarily; ran precepts), Princeton, 1987–8
- Taught Physics 450/451 (topics in theoretical particle physics), Stanford
 - 1989 (Conformal Field Theory)
 - 1990 (The Early Universe)
 - 1993 (String Theory)
 - 1995 (Grand Unified Theories)
 - 1997 (Lattice Gauge Theory)
- Taught Physics 152/252 (introduction to particle physics), Stanford, 2003

- Taught Physics 332 (3rd term of quantum field theory), Stanford, 2008
- Taught Physics 152A/252A (introduction to particle physics (I)), Stanford, 2009

Physics Community Service

- Referee, Physical Review Letters, Physical Review D, Physics Letters B, Nuclear Physics B, Journal of High Energy Physics, Nature Physics, Reports on Progress in Physics, Reviews of Modern Physics, Physics Reports
- Reviewer of funding proposals for NSF, DOE, NSERC (Canada), European Research Commission, Swiss NSF, DFG (Germany), UK STFC, UK Royal Society, UK Leverhulme, NWO (Netherlands), Simons Foundation
- Co-organizer of SLAC Summer Institute on Particle Physics, Fall 1990 through Summer 2002
- Co-organizer of Aspen Summer Workshop on Superstring Theory, June-July, 1991
- Co-organizer of SLAC Departmental Colloquium Series, 1991 through 1993, and 2003 to 2008
- Member of SLAC Experimental Program Advisory Committee, Fall 1991 through Spring 1994; and Fall 2000 through Spring 2002
- Co-organizer of Aspen Winter Conference on Particle Physics, January 1993
- General Member, Aspen Center for Physics, 1993–2003
- Co-organizer of Aspen Summer Workshop on Higher-Order Perturbative Corrections in the Standard Model, August 1995
- Divisional Associate Editor, Physical Review D, 1995 to 1997
- Editorial Board, SLAC *Beamline*, 1998 to 2002
- Co-convenor, Perturbative QCD parallel session for 1999 meeting of Div. of Particles and Fields, A.P.S.
- Member of review panel for SCIPP (Santa Cruz Institute for Particle Physics), 1999, 2005 and 2008
- Co-organizer of RADCOR2000 (Fifth International Symposium on Radiative Corrections), Carmel, Calif., September 2000
- Member, local organizing committee for a workshop on “ e^+e^- Physics at Intermediate Energies”, SLAC, April 30 – May 2, 2001
- Fermilab DOE Review panelist, 2000
- Member, Advisory Panel, Theoretical Particle Physics Grants, National Science Foundation, 2001
- Member, Sakurai Prize committee, American Physical Society, 2003–2004

- Member, SLAC Users' Organization Executive Committee, 2004–2007
- Member, Fermilab Proton Driver Science Advisory Group, 2004–2005
- Co-organizer of LoopFest V: Radiative Corrections for the International Linear Collider, SLAC, June, 2006
- Brookhaven DOE Review panelist, 2007
- Co-convenor, NLO Multi-Leg working group at Les Houches session on Physics at TeV Colliders, June 2007; co-editor of proceedings
- Editor, Journal of High Energy Physics, 2007 to present
- Member, Program Committee for Loops and Legs in Quantum Field Theory, Sondershausen, Germany, April 2008
- Panelist, DOE review of Princeton HEP contract, 2008
- Member, U.S. High Energy Physics Advisory Panel, 2008–2011
- Panelist, DOE Early Career proposals, 2009
- Member, Steering Committee, Institute for Particle Physics Phenomenology, University of Durham, England, 2010 to 2015
- Panelist, DFG Review of Aachen-Humboldt-Karlsruhe-DESY-Zeuthen Transregional Collaborative Research Center, 2010
- Chair, SLAC PPA faculty, 2011 to 2014
- Member, SLAC laboratory director search committee, 2011–2012
- Member and then Chair, Screening Committee, LHC-Theory Initiative Fellowship Program, 2011 and 2012
- Panelist, DOE comparative review of Theory program, 2012
- Panelist, DOE Office of Science graduate fellowships, 2012
- Member, SLAC PPA Directorate Appointment and Promotions Committee, 2012 to 2015
- Member, LoopFest Organizing Committee, 2012 to 2021
- Member, Scientific Advisory Committee, Munich Institute for Astro- and Particle Physics, 2012 to 2017
- Member, International Advisory Committee, Higgs Centre for Theoretical Physics, University of Edinburgh, 2012 to 2018
- Member, Scientific Advisory Board, Max Planck Institute for Physics, Munich, 2012 to 2020

- Panelist, DOE Early Career proposals, 2013
- Panelist, Director's Review, Physics Division, Lawrence Berkeley National Laboratory, 2013
- Co-organizer, Bay Area Particle Theory Seminar, 2013 to present
- Co-organizer, program on Physics and Mathematics of Scattering Amplitudes, Simons Center for Geometry and Physics, Fall 2013
- Member, Theory Advisory Committee, Higgs Cross Section Working Group, 2014 to 2016
- Scientific co-director, Theoretical Advanced Study Institute, Boulder, Colorado, June, 2014
- Member, Nominating Committee, Division of Particles and Fields, A.P.S., 2014–2015
- Member, Advisory Committee, Galileo Galilei Institute, Florence, 2015 to 2018
- Member and then Chair, Scientific Advisory Board, Theoretical Advanced Study Institute, Boulder, Colorado, 2015 to 2021
- Member, Organizing Committee, Amplitudes in Asia, Taipei, November 2015
- Member, Organizing Committee, MHV@30, Fermilab, March 2016
- Co-organizer, program on LHC Run II and the Precision Frontier, Kavli Institute for Theoretical Physics, Spring 2016
- Panelist, DOE Presidential Early Career Awards, 2016
- Member, DOE Committee of Visitors, 2016
- Member, International Advisory Committee, Amplitudes 2017, Edinburgh
- Co-organizer, MIAPP program on Mathematics and Physics of Scattering Amplitudes, Munich, Summer 2017
- Member, Scientific Advisory Board, Kavli Institute for Theoretical Physics, 2017 to 2021
- Member, Advisory Board, Amplitudes 2018 Summer School, UC Davis, June 2018
- Lead Organizer, Amplitudes 2018, SLAC
- Panelist, DFG Review of Karlsruhe-Aachen-Siegen-Heidelberg Transregional Collaborative Research Center, 2018
- Member, Organizing Committee, SchwingerFest2018 $g - 2$, UCLA, December 2018
- Member, International Advisory Committee, Amplitudes 2020, Michigan/Brown

- Member, International Advisory Committee, Amplitudes 2021, Niels Bohr Institute
- Member, International Advisory Committee, Amplitudes 2022, Charles University, Prague
- Member, External Canvassing Committee, École Normale Supérieure, 2021–2022
- Member, Organizing Committee, SchwingerFest2022 $g - 2$, UCLA, June 2022
- External Member, W2 Professor Appointment Committee, JGU Mainz, 2022
- Member and then Chair, Sakurai Prize committee, American Physical Society, 2021–2022
- Member, International Advisory Committee, Amplitudes 2023, CERN, Geneva
- Panel Member, Research Quality Assessment at Niels Bohr Institute, University of Copenhagen, December 2023
- Co-organizer, program on Solving $\mathcal{N} = 4$ Super-Yang-Mills Theory via Scattering Amplitudes, Simons Center for Geometry and Physics, Jan.–March 2024
- Member, International Advisory Committee, Amplitudes 2024, IAS, Princeton
- Interim Chair, SLAC PPA faculty, Aug. 1 to Dec. 31, 2024
- Lead Organizer of Remembering Bj: a Symposium in Honor of James Bjorken, November 9, 2024
- Co-organizer, program on What is Particle Theory?, Kavli Institute for Theoretical Physics, Jan.–April 2025
- Member, International Advisory Committee, Amplitudes 2025, Seoul

Public Outreach

- Organized tour of SLAC for 200 Caltech alumni, June 2001
- San Mateo County Science Fair judge, February 2002
- Moderator for first DOE regional Science Bowl at SLAC, February 12, 2005
- Co-organizer of SLAC Public Lecture Series, 2005 to 2010
- Wrote SLAC Today article on recent developments in $\mathcal{N} = 4$ super-Yang-Mills theory, October 5, 2006
- Wrote SLAC Today article on recent developments in $\mathcal{N} = 8$ supergravity, March 29, 2007

- Delivered SLAC Public Lecture: “Hunting the Elusive Higgs Boson and the Origin of Mass,” December 11, 2007 (over 10,500 views on YouTube)
- Interviewed for “Science in Action,” short video about the Large Hadron Collider, shown at the California Academy of Sciences in San Francisco, September, 2008
- Public lecture at SETI, “Do we need string theory to quantize gravity?”, August 2011 (72,000 views on YouTube)
- Wrote Scientific American article with Zvi Bern and David Kosower on “Loops, trees, and the search for new physics,” cover article for May 2012 issue
- Talk on the Higgs boson for Caltech alumni, September 20, 2012.
- Talk on the Higgs boson for Stanford’s *Saturday university*, October 4, 2012.
- Video chat with high school students in Palencia, Spain, December, 2012.
- Talk on the Higgs boson for Stanford’s *Classes without quizzes*, January 26, 2013.
- Guest post, “Amplitudes: the untold story of loops and legs”, on Sean Carroll’s blog, “The Preposterous Universe”, October, 2013.
- Led question and answer session after screening of the movie “Particle Fever” in San Jose, March, 2014.
- Organizer, KITP Teachers’ Conference on The Higgs Boson and Beyond, May 21, 2016
- Public Lecture: “Hunting the Elusive Higgs Boson and the Origin of Mass,” Zhejiang University, Hangzhou, China, March 28, 2018.
- Helped create video about the energy-energy correlation in QCD for SLAC’s YouTube Channel, published June 6, 2018 (over 5,600 views).
- Interviewed for popular book by Graham Farmelo, “The Universe Speaks in Numbers”, 2019
- Public Lecture: “Journey to the Heart of Matter,” Trinity College Dublin, Ireland, July 4, 2019
- Talk: “Journey to the Heart of Matter” to Caltech Physics Club (virtual), October 16, 2020
- Interviewed for *Quanta* article by Natalie Wolchover, “What is a Particle?”, November, 2020
- Participated in podcast *Scientific Sense* with Gil Eapen, on the connection between gravity and subnuclear forces, November 4, 2021
- Interviewed for *Quanta* article by Katie McCormick, “Particle Physicists Puzzle Over a New Duality”, May, 2022

- Moderated “A chat about the future of particle physics”, public discussion with Nima Arkani-Hamed (IAS) and Beate Heinemann (DESY), August 8, 2023
- Public Lecture: “Voyage from Outer Space to Inner Space: from Gravitational Waves to the Higgs Boson,” Kavli Institute for Theoretical Physics, Feb. 20, 2025