

CURRICULUM VITAE

Howard E. Haber
Distinguished Professor of Physics
Department of Physics
University of California, Santa Cruz

EMPLOYMENT

2020–present	Research Professor of Physics, Department of Physics, UC Santa Cruz
1990–2020	Professor of Physics, Department of Physics, UC Santa Cruz
1989–1990	Associate Professor of Physics, Department of Physics, UC Santa Cruz
1988–1989	Assistant Professor of Physics, Department of Physics, UC Santa Cruz
1984–1988	Adjunct Assistant Professor of Physics, Department of Physics, UC Santa Cruz
1982–1984	Assistant Research Physicist/Visiting Assistant Professor, UC Santa Cruz
1980–1982	Postdoctoral Research Associate, University of Pennsylvania
1978–1980	Postdoctoral Research Associate, Theoretical Physics Group, Lawrence Berkeley Laboratory
1975–1978	Research Assistant, University of Michigan
1973–1978	Teaching Assistant, University of Michigan

EDUCATION

Ph.D., Physics	University of Michigan, 1978
S.M., Physics	Massachusetts Institute of Technology, 1973
S.B., Physics	Massachusetts Institute of Technology, 1973
S.B., Math	Massachusetts Institute of Technology, 1973

ACADEMIC WEB PAGE OF HOWARD E. HABER

<http://scipp.ucsc.edu/~haber/>

HONORS AND AWARDS

2023	American Physical Society Outstanding Referee
2018	Simons GGI Visiting Scientist Fellowship, The Galileo Galilei Institute for Theoretical Physics, Arcetri, Florence, Italy
2017	Co-recipient of the American Physical Society J.J. Sakurai Prize for Theoretical Particle Physics (\$10,000, shared among the four recipients)
2015	Received the honorary designation of Distinguished Professor of Physics

2013	Selected (with Abe Seiden) to deliver the UCSC Faculty Research Lecture in February, 2014
2013	Finalist for an Excellence in Teaching Award, chosen by the Committee on Teaching of the UCSC Faculty Senate
2009	Alexander von Humboldt Research Award, € 60,000
1998	Frontier Fellow, Fermilab
1995	Scientific Associate, CERN
1993	elected Fellow of the American Physical Society
1985–1988	Department of Energy Outstanding Junior Investigator

PROFESSIONAL ORGANIZATIONS

American Physical Society
 American Association of Physics Teachers
 Sigma Xi, University of California, Santa Cruz Chapter
 Mathematical Association of America

PROFESSIONAL SERVICE

2015–present	Member of the International Advisory Committee of the Higgs Hunting Conference, Orsay, France
2013–present	Member of the International Advisory Committee of the International Workshop on Higgs as a Probe of New Physics (HPNP)
2013–present	Honorary Member, Aspen Center for Physics
2009–present	Member, International Advisory Committee, Workshop on Multi-Higgs Models, Lisbon, Portugal
2007–present	Member of the Particle Data Group
1997–present	Member of the Board of Editors, <i>European Physical Journal C</i>
2022–2023	Member of the Committee of Visitors (COV) for the Division of Physics at the National Science Foundation
2022	Member of the Aspen Center for Physics Admissions Committee
2021	Mail-in reviewer for research grant proposals to the FY2021 Department of Energy Comparative Review of the University HEP Theory Program
2019	Member, National Science Foundation High Energy Physics Theory and Cosmology Panel
2001–2019	Member of the International Advisory Board of the International Symposium on Radiative Corrections (RADCOR)
2018	Mail-in reviewer for theoretical HEP proposals to the FY2018 DOE Office of Science Early Career Research Program
2018	Member of the Aspen Center for Physics Presidential Search Committee
2017	Member of the American Physical Society J.J. Sakurai Prize Selection Committee
2016–2017	Member of the Division of Particles and Fields Mentoring Award Selection Committee

2016 Chair of the Aspen Center for Physics Presidential Search Committee

2015-2018 Member of the Advisory Committee to the Fermilab Distinguished Scholars Program (FDSP)

2015 Member of the Advisory Committee to HEPAP to formulate a charge to the Subcommittee on Respective Roles and Responsibilities (RR&R)

2015 Member, Department of Energy FY16 University Theory Program Comparative Review Panel

2015 Member, National Science Foundation High Energy Physics Theory and Cosmology Panel

2014 Member, Department of Energy FY15 University Theory Program Comparative Review Panel

2014 Member of the P5 Rollout Campaign Committee

2013–2018 Member of the Dean’s Advisory Committee to evaluate the Laboratory for Nuclear Science at MIT

2013–2015 Elected Secretary/Treasurer of the Division of Particles and Fields of the American Physical Society

2013 Member, Colloquium Committee, Aspen Center for Physics

2011–2012 Member, Admissions Committee, Aspen Center for Physics

2011 Member, Program Committee for the International Workshop on Future Linear Colliders (LCWS11)

2011 Member, International Advisory Committee for the SUSY 2011 Conference

2010–2011 Member, Executive Committee of the Trustees, Aspen Center for Physics

2010 Member, Local Organizing Committee for the SUSY-10 Conference

2010 Member, National Science Foundation High Energy Physics Theory and Cosmology Panel

2007 Member, Program Committee, American Linear Collider Physics Group Workshop 2007 (ALCPG07)

2007 Candidate for Vice-Chair of the Division of Particles and Fields

2005–2011 Trustee, Aspen Center for Physics

2006 Member, Department of Energy Panel to Review Outstanding Junior Investigator (OJI) grants in particle physics

2006 Chair of the American Physical Society J.J. Sakurai Prize Selection Committee

2005 Vice-chair of the American Physical Society J.J. Sakurai Prize Selection Committee

2002–2004 Member, Editorial Board of Physical Review D

2002–2004 elected Member, Executive Committee of the Division of Particles and Fields of the American Physical Society

2001–2002 Member, International Scientific Advisory Committee for the SUSY-07 Conference

2001 Member, NSF Panel to Review Theoretical Physics Grants

1998–2001 Corporate Secretary, Aspen Center for Physics

1996–2000	Member, SLAC Experimental Program Advisory Committee
1996–1997	Scientific Secretary, Aspen Center for Physics
1995–1996	Assistant Scientific Secretary, Aspen Center for Physics
1994–1997	Member, Board of Editors, <i>Zeitschrift für Physik C</i>
1993–2013	General Member, Aspen Center for Physics
1992–2006	Outside consultant to the Particle Data Group
1989–1992	Divisional Associate Editor of <i>Physical Review Letters</i>
December, 1989	Member of a National Science Foundation Panel to select recipients of the Presidential Young Investigator Awards in Physics

REFEREE

2011–present	Peer-review Referee for the Israel Science Foundation grant proposals.
1985–present	Peer-review Referee for Department of Energy grant proposals.
1984–present	Peer-review Referee for National Science Foundation grant proposals.
1980–present	Peer-review referee for professional journals: <i>Physical Review Letters</i> , <i>Physical Review D</i> , <i>Physics Letters B</i> , <i>Nuclear Physics B</i> , <i>Physics Reports</i> , <i>International Journal of Modern Physics A</i> , <i>Modern Physics Letters A</i> , <i>Zeitschrift für Physik C</i> , <i>European Physical Journal C</i> , <i>JHEP</i> , <i>SciPost Physics</i> , <i>Proceedings of Science</i> , and <i>Europhysics Letters</i> .

PANELS AND WORKING GROUPS

2017	co-convener of the Higgs/EW/BSM session of the Americas Workshop on Linear Colliders 2017 (AWLC2017)
2015–2016	co-convener of the Higgs session of the KITP workshop, “Experimental Challenges for the LHC Run II”
2014	co-convener of the Higgs/Electroweak Symmetry Breaking Working Group, Americas Workshop on Linear Colliders (AWLC14)
2014	founding member of the Precision SUSY Higgs Mass Calculation Initiative
2013	co-convener of the Higgs/EWSB Working Group, International Conference on Future Linear Colliders (LCWS-13)
2007	co-convener of the Higgs Working Group for the Workshop on “The LHC early phase for the ILC”
2005–2006	co-convener of the CP violation in 2HDM working group, Workshop on CP Studies and Non-Standard Higgs Physics (CPNSH)
April, 2004	co-convener of the Higgs and Electroweak Symmetry Breaking Working Group, International Conference on Linear Colliders (LCWS-04)
2003–2004	co-editor of the LHC/ILC Study Group
2000–2004	co-convener of the Higgs Working Group, American Linear Collider Physics Group
July, 2001	co-convener of the Snowmass 2001 Working Group on Electroweak Symmetry Breaking

October, 1998	co-convener of the “Is it really top? Is it only top?” Discussion Group, Top-Quark Physics for Tevatron Run II Thinkshop
March–Dec., 1998	co-convener of the Higgs Working Group, Tevatron Run II Workshop
June–July, 1996	co-convener of the Light Higgs Boson Working Group, Snowmass Workshop on New Directions for High Energy Physics
1995	co-convener of the Higgs Boson Working Group, European Workshop on Future e^+e^- Linear Colliders
1994–1995	co-convener of the <i>Electroweak Symmetry Breaking and Beyond the Standard Model Working Group</i> , for the DPF Long Range Planning Study
1990–1991	member of SLAC working group on the Next Linear Collider
January, 1989	co-leader of <i>Higgs Boson Working Group</i> at the Workshop on High Energy Physics Phenomenology, Tata Institute for Fundamental Research, Bombay, India
1987–1988	member of SLAC panel studying Opportunities and Requirements for Experimentation at a Very High-Energy e^+e^- Collider
July, 1987	co-leader of <i>Non-minimal Higgs Boson Working Group</i> at the 1987 Berkeley Workshop on the SSC
March–Aug., 1985	leader of <i>Beyond the Standard Model Working Group</i> at the 1985 Oregon Workshop on Supercollider Physics
June–July, 1984	leader of <i>New W’s and Z’s Working Group</i> at the 1984 Snowmass Workshop on the SSC

SELECTED LIST OF PUBLICATIONS

Books

1. *From Spinors to Supersymmetry*, H.K. Dreiner, H.E. Haber, and S.P. Martin (Cambridge University Press, Cambridge, UK, 2023).
2. *The Higgs Hunter’s Guide*, J.F. Gunion, H.E. Haber, G.L. Kane, and S. Dawson, Frontiers in Physics Lecture Note Series #80, (Addison-Wesley Publishing Company, Redwood City, CA, 1990); paperback edition: (Westview Press, Boulder, CO, 2000).

Peer-reviewed Articles in Professional Journals (2018–2024)

1. Supersymmetry, Part I (Theory), B.C. Allanach and H.E. Haber, in *Review of Particle Physics*, S. Navas *et al.* [Particle Data Group], *Physical Review D* **110**, 030001 (2024).
2. Classes of complete dark photon models constrained by Z -Physics, M.P. Bento, H.E. Haber and J.P. Silva, *Physics Letters B* **850**, 138501 (2024).
3. Higgs Boson Physics: The View Ahead, H.E. Haber, Letters in High Energy Physics, LHEP-451 (2023).
4. Tree-level Unitarity in $SU(2)_L \times U(1)_Y \times U(1)_{Y'}$ Models, M.P. Bento, H.E. Haber and J.P. Silva, *JHEP* **2310**, 083 (2023).

5. Accommodating Hints of New Heavy Scalars in the Framework of the Flavor-Aligned Two-Higgs-Doublet Model, J.M. Connell, P.M.Ferreira and H.E. Haber, *Phys. Rev. D* **108**, 055031 (2023).
6. P-even, CP-violating Signals in Scalar-Mediated Processes, H.E. Haber, V. Keus and R. Santos, *Phys. Rev. D* **106**, 095038 (2022).
7. A natural mechanism for a SM-like Higgs boson in the 2HDM without decoupling, H.E. Haber, PoS (DISCRETE2020-2021) 010.
8. Exceptional regions of the 2HDM parameter space, H.E. Haber and J.P. Silva, *Phys. Rev. D* **103**, 115012 (2021).
9. Higgs-mass predictions in the MSSM and beyond, P. Slavich, S. Heinemeyer, E. Bagnaschi, H. Bahl, M. Goodsell, H.E. Haber, et al., *Eur. Phys. J. C* **81**, 5 (2021).
10. A natural mechanism for approximate Higgs alignment in the 2HDM, P. Draper, A. Ekstedt and H.E. Haber, *JHEP* **2105**, 235 (2021).
11. A tale of three diagonalizations, H.E. Haber, *Int. J. Mod Phys. A* **36**, 2130002 (2021).
12. Useful relations among the generators in the defining and adjoint representations of $SU(N)$, H.E. Haber, *SciPost Phys. Lect. Notes* **21** (2021).
13. Basis-independent treatment of the complex 2HDM, R. Boto, T.V. Fernandes, H.E. Haber, J.C. Romão and J.P. Silva, *Phys. Rev. D* **101**, 055023 (2020).
14. Symmetries and Mass Degeneracies in the Scalar Sector, H.E. Haber, O.M. Ogreid, P. Osland and M.N. Rebelo, *JHEP* **1901**, 042 (2019).
15. Multi-Higgs doublet models: the Higgs-fermion couplings and their sum rules, M.P. Bento, H.E. Haber, J.C. Romão and J.P. Silva, *JHEP* **1810**, 143 (2018).

Top cited publications (with over 1000 citations on the INSPIRE database)

1. The Search for Supersymmetry: Probing Physics Beyond the Standard Model, H.E. Haber and G.L. Kane, *Physics Reports* **117**, 75 (1985).
2. Can the Mass of the Lightest Higgs Boson of the Minimal Supersymmetric Model be Larger than m_Z ?, H.E. Haber and R. Hempfling, *Phys. Rev. Lett.* **66**, 1815 (1991).
3. Higgs Bosons in Supersymmetric Models – I, J.F. Gunion and H.E. Haber, *Nucl. Phys. B* **272**, 1 (1986) [Erratum: *Nucl. Phys. B* **402**, 567 (1993)].
4. The CP-conserving two-Higgs-doublet model: The approach to the decoupling limit, J.F. Gunion and H.E. Haber, *Phys. Rev. D* **67**, 075019 (2003).